

# ACCOUNTING

Associate in Applied Science (AAS)

Program Code: 10-101-1

our graduates  
INDEMAND

2016/2017



[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as an Accounting graduate, to be able to:

- Process financial transactions throughout the accounting cycle.
- Analyze financial and business info to support planning and decision making.
- Perform payroll preparation, reporting, and analysis tasks.
- Perform cost accounting preparation, reporting, and analysis tasks.
- Perform individual tax accounting preparation, reporting, and analysis tasks.
- Identify internal controls to reduce risk.
- Adapt accounting processes and principles to a government and/or not-for-profit environment.
- Design an accounting system for a business.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term		16 credits
1010111	Accounting I	4
1010123	Income Tax Accounting	3
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3

Term		17-18 credits
10101113	Accounting II	4
10101120	Payroll Accounting	3
10101129	Accounting: Computerized	3
10103124	Excel-Intermediate	1
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

Term		16 credits
10101115	Accounting III	4
10101128	Managerial Accounting	3
10101131	Governmental Accounting	3
10102104	Business Law	3
10809195	Economics	3

Term		19 credits
10101117	Accounting IV	4
10101125	Cost Accounting	3
10101130	Accounting Systems	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

**Total credits 68-69**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		7 credits
10101111	Accounting I	4
10103106	Microsoft Office-Introduction	3

Term		7 credits
10101113	Accounting II	4
10102101	Intro to Business	3

Term		6-7 credits
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3

Term		7 credits
10101123	Income Tax Accounting	3
10101115	Accounting III	4

Term		7 credits
10101117	Accounting IV	4
10101125	Cost Accounting	3

Term		6 credits
10809195	Economics	3
10809166	Intro to Ethics: Theory & Application	3

Term		6 credits
10101128	Managerial Accounting	3
10102104	Business Law	3

Term		6 credits
10101120	Payroll Accounting	3
10101129	Accounting: Computerized	3

Term		6 credits
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

Term		4 credits
10101131	Governmental Accounting	3
10103124	Excel-Intermediate	1

Term		6 credits
10101130	Accounting Systems	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

**Total credits 68-69**





## Business Law

**10102104 ..... 3 credits**

This course introduces the student to the basic foundation of laws and regulatory systems applicable to the business environment. Students examine the UCC, contract torts, agency law, and business and cybercrime. Students apply business legal theory in conjunction with ethical decision making through practical application.

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Cost Accounting

**10101125 ..... 3 credits**

Accumulates production costs for materials, labor, and overhead for job order or process costing systems. Determines and records variances from standard. Computes various cost-volume-profit relationships for control and decision making.

*Prerequisite: Accounting II 10101113*

## Developmental Psychology

**10809188 ..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Economics

**10809195 ..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Governmental Accounting

**10101131 ..... 3 credits**

Basic concepts, techniques, and terminology of fund accounting as utilized by governmental entities are emphasized. Institutional accounting for educational institutions and hospitals, and the uniqueness of accounting for not-for-profit organizations and agencies, are also studied.

*Prerequisite: Accounting II 10101113*

## Income Tax Accounting

**10101123 ..... 3 credits**

Applies current tax laws in preparing individual tax returns and supporting forms and schedules.

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Managerial Accounting

**10101128 ..... 3 credits**

Develops managerial and finance analytical and decision-making skills. Develops an appreciation of the financial statements as a framework for controlling the activities of a business entity as well as the ability to do financial statement analysis and forecasting and make recommendations for appropriate courses of action based on the results. Examines the methodology and develops the skills to manage leverage, working capital, and long-term financing. Examines the American financial system and how the business entity functions within it. Develops an appreciation for the skills needed to determine the time value of money. Prepares cash flow, operating, and capital budgets.

*Prerequisite: Accounting II 10101113*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Payroll Accounting

**10101120 ..... 3 credits**

Develops a working knowledge of payroll legislation, payroll records, and payroll accounting. Payroll accounting is accomplished through manual and automated methods.

*Corequisites: Accounting I 10101111 and Microsoft Office-Introduction 10103106*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# ADMINISTRATIVE PROFESSIONAL

Associate in Applied Science (AAS)

Program Code: 10-106-6

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## OFFICE SUPPORT SPECIALIST



Mid-State's Office Support Specialist program develops students into key members of an office team. The program emphasizes document preparation and the effective use of personal interactions and ever-changing technology to support your role as the central communications link in an office. You'll experience hands-on learning through the organization of high-profile events. You'll also learn to handle multiple projects and deadlines, manage time, solve problems, and be helpful in nature—all in high demand by employers.

Graduates of the Office Support Specialist technical diploma may advance into the Administrative Professional program.

**Technical Diploma**

**Total Credits: 36-37**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Administrative Assistant, Clerk, Customer Service Representative, General Office Clerk, Office Assistant, Program Assistant, and Receptionist

In general, there is growing demand for these careers. Example: General Office Clerk career has grown by 2% over the last two years and is expected to grow by 2% over the next 10 years. Currently 38,770 General Office Clerks are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## CUSTOMER RELATIONSHIP PROFESSIONAL



Mid-State's Customer Relationship Professional program develops students into important members of a call center or customer service team. The program focuses on communicating with customers to help them navigate past challenges to fulfill their needs, emphasizing active listening, effective verbal communication, and customer service skills. Through hands-on projects, you will learn telephone etiquette, how to respond appropriately to customers, and how to perform quick problem-solving analysis while exceeding customer expectations.

Graduates of the Customer Relationship Professional technical diploma may advance into the Office Support Specialist program or the Administrative Professional program.

**Technical Diploma**

**Total Credits: 12**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Account Representative, Client Services Specialist, Contact Center Agent, Customer Service Representative, and Customer Care Representative

In general, there is growing demand for these careers. Example: Customer Service Representative career has remained the same over the last 2 years and is expected to grow by 10% over the next 10 years. Currently 24,869 Customer Service Representatives are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Accounting, Business Management, Court Reporting, IT Network Specialist, IT Software Developer, Marketing, and Supervisory Management

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as an Administrative Professional graduate, to be able to:

- Demonstrate effective workplace communications.
- Apply technology skills to business and administrative tasks.
- Perform routine administrative procedures.
- Manage administrative projects.
- Maintain internal and external relationships.
- Model professionalism in the workplace.

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The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure program outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Administrative Professional program outcomes are measured in the TSA-designated courses Administrative Office Procedures and Supervised Field Experience.

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## PROGRAM PROGRESSION

In order to maintain a passing status and progress in the program, students must:

- Receive a grade of “C” or better in Administrative Office Procedures and Supervised Field Experience.

## MOBILE DEVICE ENHANCEMENT

To support your hands-on learning and give you an edge in today’s digital workplace, Administrative Professional program students are required to purchase an iPad device. Students accepted into the program will receive specific details about purchasing the mobile device (financial aid available).

## STUDENT HANDBOOK

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## academic career plan

Term/Year	Credits	Term/Year	Credits

## SAMPLE FULL TIME CURRICULUM OPTION

Term		18-19 credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10106157	Document Formatting	3
10106160	Proofreading & Editing	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		<b>18 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1
10103134	Access-Intermediate	1
10106140	Business Information Management	3
10106150	Administrative Office Procedures	3
10106172	Digital Communication Technology	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
<b>Term</b>		<b>18 credits</b>
10106106	Quality Customer Service	3
10106162	Graphics & Print Media	3
10106180	Advanced Software Applications	3
10809195	Economics	3
10809122	Intro to American Government <b>-or-</b>	
10809196	Intro to Sociology	3
	Elective	3
<b>Term</b>		<b>14 credits</b>
10104107	Social Media Marketing	3
10106135	Supervised Field Experience	2
10809166	Intro to Ethics: Theory & Application	3
10809172	Introduction to Diversity Studies	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
		<b>Total credits 68-69</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
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## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10102101	Intro to Business	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		<b>6-7 credits</b>
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		<b>6 credits</b>
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Term</b>		<b>9 credits</b>
10106157	Document Formatting	3
10106160	Proofreading & Editing	3
10106150	Administrative Office Procedures	3
<b>Term</b>		<b>6 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1
10103134	Access-Intermediate	1
10106140	Business Information Management	3
<b>Term</b>		<b>6 credits</b>
10809122	Intro to American Government <b>-or-</b>	
10809196	Intro to Sociology	3
10809172	Introduction to Diversity Studies	3
<b>Term</b>		<b>6 credits</b>
10106180	Advanced Software Applications	3
10809195	Economics	3
<b>Term</b>		<b>6 credits</b>
10106106	Quality Customer Service	3
10106172	Digital Communication Technology	3
<b>Term</b>		<b>6 credits</b>
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
	Elective	3
<b>Term</b>		<b>6 credits</b>
10106162	Graphics & Print Media	3
10809166	Intro to Ethics: Theory & Application	3
<b>Term</b>		<b>5 credits</b>
10104107	Social Media Marketing	3
10106135	Supervised Field Experience	2
		<b>Total credits 68-69</b>



## Access-Intermediate

**10103134** ..... **1 credit**

Students develop forms, reports, and queries.

*Prerequisite: Microsoft Office-Introduction 10103106 or Access-Beginning 10103133*

## Administrative Office Procedures

**10106150** ..... **3 credits**

Develops professional skills and attitudes needed in a global business environment. Skills include time management, problem solving, and decision making while working independently and as part of a team. Tasks such as electronic mail, calendaring, meeting and event planning, domestic and international travel, and project management and minute taking are included. Familiarity with office machines is required.

*Corequisites: Written Communication 10801195 and Microsoft Office-Introduction 10103106*

## Advanced Software Applications

**10106180** ..... **3 credits**

This course integrates multiple advanced software applications by utilizing concepts such as importing/exporting, linking/embedding, and copying/pasting. Students manage information and apply critical thinking skills to create professional documents simulating real-world projects.

*Prerequisites: Microsoft Office-Introduction 10103106, Word-Intermediate 10103114, Excel-Intermediate 10103124, and Access-Intermediate 10103134*

## Business Information Management

**10106140** ..... **3 credits**

Following commonly used ARMA rules, the student applies basic filing methods to paper and database filing systems. Methods to permanently archive data are also covered.

*Corequisite: Microsoft Office-Introduction 10103106*

## Career Development

**10102130** ..... **3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

**10804107** ..... **3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems,

applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Developmental Psychology

**10809188** ..... **3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Digital Communication Technology

**10106172** ..... **3 credits**

The course introduces the student to digital and communication technology used in the office today, including digital cameras, digital video cameras, video conferencing, web conferencing, and multimedia presentations. The content focuses on understanding communication technologies and how they impact employees.

*Corequisite: Microsoft Office-Introduction 10103106*

## Document Formatting

**10106157** ..... **3 credits**

The competencies for this course cover formatting styles of business letters, business and academic reports, memos, tables, business meeting documents, itineraries, legal documents, and business forms. The course also includes drill work for improving keying speed and accuracy. Minimum typing speed of 30 wpm required (alphabetic keys only).

*Corequisite: Microsoft Office-Introduction 10103106*

## Economics

**10809195** ..... **3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Employment Strategies

**10801199** ..... **3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include

personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Graphics & Print Media

**10106162 ..... 3 credits**

This course develops skill to effectively create graphics and design publications. Students produce print and media, design and lay out print jobs using the most appropriate software package for the job.

*Corequisite: Microsoft Office-Introduction 10103106*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll

# course descriptions

in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.  
*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Proofreading & Editing

**10106160 ..... 3 credits**

This course is designed to sharpen proofreading and editing skills. Competencies cover detecting and editing errors in keying, spelling, capitalization, plurals, possessives, punctuation, numbers, grammar, sentence structure, and formatting. Documents are edited for clarity, conciseness, and completeness.

*Corequisite: Microsoft Office-Introduction 10103106*

## Quality Customer Service

**10106106 ..... 3 credits**

This course addresses sensitivity in communicating with customers and co-workers. International communications, teamwork, working relationships, and telephone skills are also addressed.

## Social Media Marketing

**10104107 ..... 3 credits**

This course addresses how social media has transformed

marketing communications from traditional mass media to individualized marketing. Using social media tools such as Facebook, YouTube, Twitter, LinkedIn, and more, this class explores the different methodologies for social media marketing. Topics addressed include creating social media, integrating social media as part of a marketing campaign, the concept of viral marketing, ethical and potential legal concerns that have arisen over these forms of communication, and how organizations and individuals have successfully applied social media marketing.

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Supervised Field Experience

**10106135 ..... 2 credits**

This course integrates Administrative Professional classroom study with specific off-campus occupational experiences at selected training sites. An organized plan of experiences built around office competencies is planned, supervised, and evaluated by the instructor and cooperating business trainer.

*Prerequisite: Completion of at least 24 credits of Computer Software 10103 and/or Administrative Professional 10106 courses or consent of instructor.*

## Word-Intermediate

**10103114 ..... 1 credit**

Students create columns, lists, and a table of contents. Desktop publishing, templates, and mail merge are also covered.

*Prerequisite: Microsoft Office-Introduction 10103106 or Word-Beginning 10103113*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

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Stevens Point, WI 54481  
715.344.3063

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500 32nd Street North  
Wisconsin Rapids, WI 54494  
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# AUTOMOTIVE MAINTENANCE TECHNICIAN

Technical Diploma

Program Code: 31-404-3

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



# automotive technician career pathway

## AUTOMOTIVE MAINTENANCE TECHNICIAN



Mid-State's Automotive Maintenance Technician program prepares students for entry-level automotive repair work with special emphasis on mechanical relationships, basic engine performance, and suspension systems. You'll learn from industry experts to test and maintain basic automotive systems. You'll also apply the techniques learned in lecture in an automotive shop laboratory setting, with access to state-of-the-art hand and power tools and complex electrical diagnostic equipment. Graduates will have the confidence to start their careers in automotive repair facilities and retail service centers.

Graduates of the Automotive Maintenance Technician technical diploma may advance into the Automotive Technician program.

**Technical Diploma**

**Total Credits: 26**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Automotive Apprentice, Automotive Parts Sales/Service Technician, Automotive Service Attendant, and Tire and Lubrication Technician

In general, there is growing demand for these careers. Example: Automotive Service Attendant career has grown by 3% over the last two years and is expected to grow by 11% over the next 10 years. Currently 847 Automotive Service Attendants are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## AUTOMOTIVE TECHNICIAN



Mid-State's Automotive Technician program gives students the experience and skills they need to diagnose and repair today's vehicles. The program emphasizes engine and transmission repair, the drive train and axles, suspension and steering systems, brakes, electrical systems, heating and air conditioning, and engine performance. You'll receive instruction from industry experts and have access to state-of-the-art equipment, including a variety of hand and power tools and complex electrical diagnostic equipment. Hands-on learning and opportunities to diagnose and repair cars for real customers will have you ready to enter the workforce with confidence.

**Technical Diploma**

**Total Credits: 66**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Automotive and Truck Technician, Automotive Master Mechanic, Automotive Parts Salesperson, Maintenance Technician, Service Station Technician, and Small Engine Technician

In general, there is growing demand for these careers. Example: Automotive Master Mechanic career has grown by 4% over the last two years and is expected to grow by 11% over the next 10 years. Currently 7,111 Automotive Master Mechanics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

UW-Stout, BA Business or Automotive (Tech Ed Teacher)

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTION

### RELATED PROGRAM

Diesel & Heavy Equipment Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).



## PROGRAM OUTCOMES

Employers will expect you, as an Automotive Maintenance Technician graduate, to be able to:

- Service brake and suspension systems.
- Perform all tire related activities.
- Service all lubrication and fluid systems.
- Prepare service and part orders.

## PROTECTIVE CLOTHING

Students are required to purchase three “Mid-State Automotive Technician Student” uniform shirts. These shirts are available the first week of class for approximately \$30 each. Students are also required to wear safety glasses at all times in the lab. Acquisition of safety glasses is the responsibility of the student.

## REQUIRED EQUIPMENT

Students need to purchase a Fluke 177 or Fluke 88V multimeter and test lead set before the start of the second term. They are available for purchase through the campus Bookstore for approximately \$270.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION



Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).



# academic career plan

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Braking Systems-Automotive

**32404308** ..... 5 credits

Fundamentals of vehicle braking systems, including drum and disc on hydraulic and air systems are studied. Power and anti-skid systems, are included with emphasis on troubleshooting and component replacement and reconditioning.

*Prerequisite: Admission to Automotive Technician 324042 or Automotive Maintenance Technician 314043 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

### Electrical Systems-Auto

**32404311** ..... 5 credits

This is the study of construction, function, and principles of operation of starting motors, charging systems, and controls. Basic electronics, including capacitance, inductance, series and parallel circuits, magnetism and Ohm's Law, wiring schematics, soldering techniques, and use of diagnostic equipment, are covered. Vehicle control and accessory systems are studied.

*Corequisite: Intro to Electronics 10605108*

### Engine Repair

**32404324** ..... 5 credits

This course provides a general overview of engine types and operating characteristics. Course emphasis includes the diagnosis and repair of cylinder heads, valve train components, and engine blocks and related components. Engine support systems are covered, such as the lubrication systems, cooling system, ignition system, and fuel and exhaust systems.

*Prerequisite: Admission to Automotive Technician 324042 or Auto Maintenance Technician 314043 programs*

### Intro to Electronics

**10605108** ..... 2 credits

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications

of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65*

### Metal Fabrication

**10462116** ..... 3 credits

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

### Service Practices in Transportation Industry

**32404375** ..... 1 credit

This course introduces the student to common tools, terminology, and service practices in the transportation service field. Safety, environmental concerns, and basic customer relations are covered. Service shop management practices and the use of automated work order, parts ordering, and time management concepts are included.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, or Diesel & Heavy Equipment Technician 324121 programs*

### Suspension & Steering Systems

**32404307** ..... 5 credits

Highlighted in this course is an analysis of construction and working principles of chassis components. Frames, suspension systems, steering gears and linkages, wheels and tires, and wheel alignment are included. Special attention given to products used in servicing chassis components.

*Prerequisite: Admission to Automotive Technician 324042 or Automotive Maintenance Technician 314043 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

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# AUTOMOTIVE TECHNICIAN

Technical Diploma

Program Code: 32-404-2

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





# automotive technician career pathway

## AUTOMOTIVE TECHNICIAN



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UW-Stout,  
BA Business or  
Automotive  
(Tech Ed Teacher)

For more information  
and additional  
opportunities, go to  
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**Technical Diploma**

**Total Credits: 66**

**Salary information:**  
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**Careers:** Automotive and Truck Technician, Automotive Master Mechanic, Automotive Parts Salesperson, Maintenance Technician, Service Station Technician, and Small Engine Technician

In general, there is growing demand for these careers. Example: Automotive Master Mechanic career has grown by 4% over the last two years and is expected to grow by 11% over the next 10 years. Currently 7,111 Automotive Master Mechanics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## AUTOMOTIVE MAINTENANCE TECHNICIAN



Mid-State's Automotive Maintenance Technician program prepares students for entry-level automotive repair work with special emphasis on mechanical relationships, basic engine performance, and suspension systems. You'll learn from industry experts to test and maintain basic automotive systems. You'll also apply the techniques learned in lecture in an automotive shop laboratory setting, with access to state-of-the-art hand and power tools and complex electrical diagnostic equipment. Graduates will have the confidence to start their careers in automotive repair facilities and retail service centers.

Graduates of the Automotive Maintenance Technician technical diploma may advance into the Automotive Technician program.

**Technical Diploma**

**Total Credits: 26**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Automotive Apprentice, Automotive Parts Sales/Service Technician, Automotive Service Attendant, and Tire and Lubrication Technician

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You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAM

Diesel & Heavy Equipment Technician

For estimated tuition and fees,  
visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as an Automotive Technician graduate, to be able to:

- Diagnose, service, and repair automotive systems.
- Proficiently operate tools and equipment common to the industry.
- Practice safety procedures.
- Apply theoretical concepts to mechanical repair.
- Comply with regulations that impact the automotive service industry.

## PROTECTIVE CLOTHING

Students are required to purchase three “Mid-State Automotive Technician Student” uniform shirts. These shirts are available the first week of class for approximately \$30 each. Students are also required to wear safety glasses at all times in the lab. Acquisition of safety glasses is the responsibility of the student.

## REQUIRED EQUIPMENT

Students need to purchase a Fluke 177 or Fluke 88V multimeter and test lead set before the start of the second term. They are available for purchase through the campus Bookstore for approximately \$270.

## STUDENT HANDBOOK

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## Automatic Transmissions

**32404323 ..... 5 credits**

This course provides coverage of vehicle automatic transmission diagnosis and repair. Course emphasis includes gear systems, operating principles, component diagnosis, maintenance and adjustment, and servicing of transaxle system components.

*Prerequisites: Electrical Systems-Auto 32404311 and Applied Fluid Power 32404330*

## Braking Systems-Automotive

**32404308 ..... 5 credits**

Fundamentals of vehicle braking systems, including drum and disc on hydraulic and air systems are studied. Power and anti-skid systems, are included with emphasis on troubleshooting and component replacement and reconditioning.

*Prerequisite: Admission to Automotive Technician 324042 or Automotive Maintenance Technician 314043 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Career Development

**10102130 ..... 3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Electrical Systems-Auto

**32404311 ..... 5 credits**

This is the study of construction, function, and principles of operation of starting motors, charging systems, and controls. Basic electronics, including capacitance, inductance, series and parallel circuits, magnetism and Ohm's Law, wiring schematics, soldering techniques, and use of diagnostic equipment, are covered. Vehicle control and accessory systems are studied.

*Corequisite: Intro to Electronics 10605108*

## Electronic Control System Programming

**10404101 ..... 3 credits**

This course introduces students to fundamental electronic control programming logic, terminology, and design. Students learn basic programming and digital control techniques to complete control tasks that are analogous to control tasks found in modern automobiles.

*Prerequisite: Intro to Electronics 10605108*

## Employment Strategies

**10801199 ..... 3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## Engine Repair

**32404324 ..... 5 credits**

This course provides a general overview of engine types and operating characteristics. Course emphasis includes the diagnosis and repair of cylinder heads, valve train components, and engine blocks and related components. Engine support systems are covered, such as the lubrication systems, cooling system, ignition system, and fuel and exhaust systems.

*Prerequisite: Admission to Automotive Technician 324042 or Auto Maintenance Technician 314043 programs*

## Fuel Control System-Auto

**32404326 ..... 5 credits**

This course provides an introduction to vehicle ignition systems, fuel systems, air induction systems, emission control systems, and engine electrical systems. Course emphasis focuses on problem diagnosis, component testing, and repairs for domestic as well as import vehicles. A review of engine operation and related servicing is also provided.

*Prerequisite: Admission to Automotive Technician program 324042*

## Heating/Air Conditioning

**32404322** ..... **3 credits**

This course provides an introduction to vehicle air conditioning systems. System components, operating characteristics, component testing, diagnosis, and repair are covered in detail for popular system types. Includes servicing of engine cooling systems as well as diagnosis and servicing of vehicle heating systems.

*Prerequisite: Admission to Automotive Technician 324042 or Diesel & Heavy Equipment Technician 324121 programs*

## Hybrid Systems-Auto

**32404320** ..... **1 credit**

This course includes a general overview of hybrid vehicle systems, including motor, inverter, and CVT operation. Also included is an overview of hybrid safety requirements and demonstration of proper high voltage lockout procedures.

*Corequisites: Automatic Transmissions 32404323, Advanced Electricity 3240431, and Fuel Control Systems-Auto 32404326*

## Intro to Electronics

**10605108** ..... **2 credits**

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Manual Transmissions

**32404325** ..... **5 credits**

This course provides coverage of manual transmission problem diagnosis and repair. Study includes clutch, drive shaft, and universal joint diagnosis and servicing. Additional topics include rear axle servicing as well as four-wheel drive diagnosis and repair.

*Corequisite: Automatic Transmissions 32404323*

## Metal Fabrication

**10462116** ..... **3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Service Practices in Transportation Industry

**32404375** ..... **1 credit**

This course introduces the student to common tools, terminology, and service practices in the transportation service field. Safety, environmental concerns, and basic customer relations are covered. Service shop management practices and the use of automated work order, parts ordering, and time management concepts are included.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, or Diesel & Heavy Equipment Technician 324121 programs*

## Suspension & Steering Systems

**32404307** ..... **5 credits**

Highlighted in this course is an analysis of construction and working principles of chassis components. Frames, suspension systems, steering gears and linkages, wheels and tires, and wheel alignment are included. Special attention given to products used in servicing chassis components.

*Prerequisite: Admission to Automotive Technician 324042 or Automotive Maintenance Technician 314043 programs and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*





# BARBER TECHNOLOGIST

Technical Diploma

Program Code: 30-502-5

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Barber Technologist graduate, to be able to:

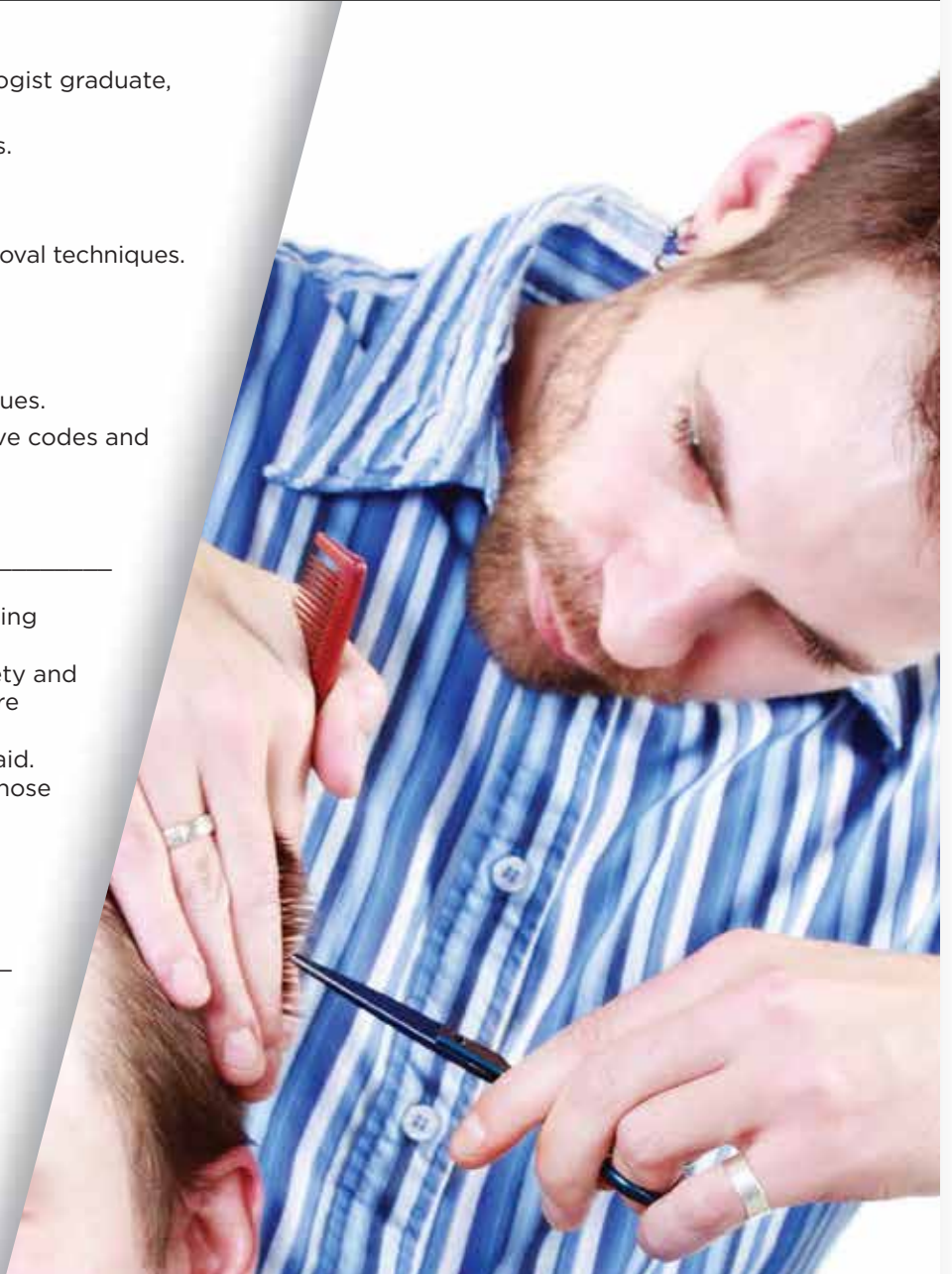
- Apply safety and infection control procedures.
- Identify hair and scalp disorders.
- Perform haircutting services.
- Demonstrate shaving and other facial hair removal techniques.
- Perform male facial procedures.
- Perform texture services.
- Perform hair color services.
- Demonstrate hairstyling and finishing techniques.
- Adhere to the current Wisconsin administrative codes and statutes for barbers.
- Demonstrate interpersonal skills for success.

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This program meets the Wisconsin state barbering requirement of 1,000 hours of training and is regulated by the Wisconsin Department of Safety and Professional Services. Federal regulations require programs for licensure to use clock hours in all areas of administering Title IV federal financial aid. Financial aid and scholarships are available to those who qualify.

Students must purchase a kit comprised of required tools and supplies. The cost of the kit is approximately \$1,100.

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## Barber Client Services 1

**30502730 ..... 2 credits**

This course introduces client services performed by the barber. Emphasis is on hair and scalp analysis, shampooing, haircutting techniques, shaving, and chemical services. Students apply knowledge and skills to provide all barber services on customers in the on-campus salon.

*Prerequisites: Haircutting for Barbers 30502701, Facial Hair & Skin Care Services for Barbers 30502702, Introduction to the Barber Profession 30502703; Corequisites: Hair coloring for Barbers 30502704, Chemical Texturing for Barbers 30502705, Hairstyling for Barbers 30502706*

## Barber Client Services 2

**30502731 ..... 2 credits**

Students explore client services performed by the barber. Emphasis is on hair and scalp analysis, shampooing, haircutting techniques, shaving, facial services, and chemical services. Students apply knowledge and skills to provide all barber services on customers in the on-campus salon.

*Prerequisite: Barber Client Services 1 30502730*

## Barber Client Services 3

**30502732 ..... 2 credits**

Students practice building speed and accuracy in client services performed by the barber. Emphasis is on haircutting techniques, shaving, facial services, and chemical services. Students apply knowledge and skills to provide all barber services on customers in the on-campus salon.

*Corequisite: Barber Client Services 2 30502731*

## Barber Client Services 4

**30502733 ..... 2 credits**

Students practice building speed and accuracy in client services performed by the barber. Emphasis is on haircutting techniques, shaving, facial services, and chemical services. Students apply knowledge and skills to provide all barber services on customers in the on-campus salon.

*Corequisite: Barber Client Services 3 30502732*

## Barber Client Services 5

**30502734 ..... 2 credits**

This course provides students with opportunities to acquire barbering skills in preparation for entry-level, licensed employment. Emphasis is on providing services with speed and accuracy, including hair and scalp analysis, shampooing, haircutting, shaving, facial services, and chemical services. Students apply knowledge and skills to provide all barber services on customers in the client lab and complete preparation for the Wisconsin state barber licensing exam.

*Corequisite: Barber Client Services 4 30502733*

## Business Management for Barbers

**30502722 ..... 1 credit**

This course includes business and management principles for barbers, barbering rules and regulations, and career strategies.

*Prerequisite: Admission to Barber Technologist program 305025 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Chemical Texturing for Barbers

**30502705 ..... 2 credits**

This course provides an overview of permanent waving, including various wrap techniques, hair relaxing applications, reformation curls, and chemical blow-out services.

*Prerequisite: Admission to Barber Technologist program 305025*

## Facial Hair & Skin Care Services for Barbers

**30502702 ..... 2 credits**

This course includes how to apply facial physiology and skin analysis in facial hair design, hair removal, facial massage, and facial treatment.

*Prerequisite: Admission to Barber Technologist program 305025 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Haircoloring for Barbers

**30502704 ..... 2 credits**

This course includes the theory and chemistry of color mixing as well as procedures, including lightening, cap, foiling, and corrective color.

*Prerequisite: Admission to Barber Technologist program 305025*

## Haircutting for Barbers

**30502701 ..... 4 credits**

This course introduces haircutting theory and terminology and provides students with practice in basic and advanced haircutting techniques as well as trend cuts.

*Prerequisite: Admission to Barber Technologist program 305025 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Hairstyling for Barbers

**30502706 ..... 2 credits**

This course emphasizes wet and dry hairstyling and includes hair analysis, shampooing, conditioning, reconditioning, scalp and hair treatments, blow drying, finger waves, pin curls, roller setting, thermal styling, and hair replacement techniques.

*Prerequisite: Admission to Barber Technologist program 305025*

## Introduction to the Barber Profession

**30502703 ..... 2 credits**

This course provides an overview of the barbering profession, safety and decontamination in the barbershop, properties and disorders of the skin and scalp, and related science theory.

*Prerequisite: Admission to Barber Technologist program 305025 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*







# BUSINESS MANAGEMENT

Associate in Applied Science (AAS)

Program Code: 10-102-3

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)

# business management career pathway

## BUSINESS MANAGEMENT



Mid-State's Business Management program provides a broad business background that prepares individuals to work in middle management or run a business. Students develop general technical and interpersonal skills related to management, finance, operations, customer service management, ethics, and much more. Guest speakers, field trips, business tours, and professional organization presentations are combined with hands-on simulations, mock interviews, and projects for local businesses. Students may choose a specialization track, such as entrepreneurship or health care management.



### bachelor's degree opportunities

Lakeland College,  
BA Business Management  
University of Phoenix,  
BS Management  
For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 68-69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Account Executive, Account Manager, Administrative Support Workers, Assistant Manager, Business Entrepreneur, Customer Service Representative, Department Supervisor, First Line Supervisors of Office and Administrative Support Workers, Floor Supervisor, Health Care Supervisor, Human Resource Assistant, Inside Sales or Account Representative, Insurance Representative, Lead Worker, Office Manager, Operations Manager, Production Supervisor, Project Manager, Purchasing Assistant, Service Manager, Store Leader, Team Leader, and Technical Recruiter

In general, there is growing demand for these careers. Example: First Line Supervisors of Office and Administrative Support Workers career has grown by 1% over the last two years and is expected to grow by 12% over the next 10 years. Currently 11,896 First-Line Supervisors of Office and Administrative Support Workers are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Accounting, Administrative Professional, Court Reporting, IT Network Specialist, IT Software Developer, Marketing, Office Support Specialist, and Supervisory Management

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Business Management graduate, to be able to:

- Plan the operations of a business across functional areas.
- Organize resources to achieve the goals of the organization.
- Direct individuals and/or processes to meet organizational goals.
- Control business processes.

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The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure program outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Business Management program outcomes are measured in the TSA-designated course Business Decision Making.

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## PROGRAM PROGRESSION

In order to maintain a passing status and progress in the program, students must:

- Receive a grade of “C” or better in the Business Decision Making course.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>16 credits</b>
10102101	Intro to Business	3
10102147	Principles of Management	3
10103106	Microsoft Office-Introduction	3
10104102	Marketing Principles	4
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term 16-17 credits</b>		
10101111	Accounting I	4
10102110	Employment Law	3
10196193	Human Resource Management	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10804107	College Mathematics	3
<b>-or-</b>		
10804118	Intermediate Algebra with Applications	4
<b>-or-</b>		
10804189	Introductory Statistics	3
<b>Term 18 credits</b>		
10102104	Business Law	3
10102120	Customer Service Management	3
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
10102180	International Business	3
10196191	Supervision	3
10809195	Economics	3
<b>Term 18 credits</b>		
10101128	Managerial Accounting <b>-or-</b>	
10102117	Business Finance	3
10102131	Entrepreneurial Management	3
10102160	Business Decision Making	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Total credits 68-69</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

<b>Term</b>		<b>9 credits</b>
10102101	Intro to Business	3
10102147	Principles of Management	3
10103106	Microsoft Office-Introduction	3
<b>Term 10 credits</b>		
10101111	Accounting I	4
10102110	Employment Law	3
10196193	Human Resource Management	3
<b>Term 10 credits</b>		
10104102	Marketing Principles	4
10102180	International Business	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term 9-10 credits</b>		
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809195	Economics	3
10804107	College Mathematics	3
<b>-or-</b>		
10804118	Intermediate Algebra with Applications	4
<b>-or-</b>		
10804189	Introductory Statistics	3
<b>Term 9 credits</b>		
10102120	Customer Service Management	3
10196191	Supervision	3
10102104	Business Law	3
<b>Term 9 credits</b>		
10102131	Entrepreneurial Management	3
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Term 6 credits</b>		
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
10809122	Intro to American Government <b>-or-</b>	
10809196	Intro to Sociology <b>-or-</b>	
10809172	Introduction to Diversity Studies	3
<b>Term 6 credits</b>		
10101128	Managerial Accounting <b>-or-</b>	
10102117	Business Finance	3
10102160	Business Decision Making	3
<b>Total credits 68-69</b>		



## BUSINESS MANAGEMENT SPECIALIZATIONS

Prospective students seeking a Business Management associate degree specialization should list it under “Program/Major Choice” on their Mid-State Application. Those who wish to declare a specialization after acceptance into the Business Management program should see their student success counselor. Students pursuing an Entrepreneurship or Health Care Management specialization will complete courses in the first column in place of the courses in the Business Management program noted in the second column in the charts on the right. The specialization is indicated as a subplan on your Mid-State transcript.

## ENTREPRENEURSHIP SPECIALIZATION

Complete These Courses		In Place of These Courses	
10145185	Organizing Your Small Business	10102131	Entrepreneurial Management
10145186	Financial Management for Your Small Business	10102117	Business Finance
10145187	Marketing Your Small Business	10104102	Marketing Principles
10145188	Entrepreneurial Service Management	10102120	Customer Service Management
10145189	Writing a Business Plan for Your Small Business	10102131	Entrepreneurial Management
10103124	Excel-Intermediate		

## HEALTH CARE MANAGEMENT SPECIALIZATION

Complete These Courses		In Place of These Courses	
10501101	Medical Terminology	10102110	Employment Law
10501109	Medical Law, Ethics, and Professionalism		
10530125	Organization of Healthcare	10102180	International Business
10530150	Introduction to Health Information Technology	10105160	Business Law
10102120	Customer Service Management	10102120	Customer Service Management
10102147	Principles of Management	10102147	Principles of Management
10196191	Supervision	10196191	Supervision
10196193	Human Resource Management	10196193	Human Resource Management

## academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## Accounting I

**1010111..... 4 credits**

A beginning course designed especially for majors or those who need a strong foundation in accounting principles. Develops the accounting cycle of journaling, posting, adjusting, closing, and reporting. It emphasizes service and merchandising sole proprietorships in developing the accounting cycle. Explores issues for accounting for cash, accounts and notes receivable, inventories, and fixed assets.

## Business Decision Making

**10102160..... 3 credits**

This course develops skill to enable students to make individual decisions and participate in and facilitate group decisions in pursuit of the goals and objectives of an organization. Students analyze decision making environments; employ a systematic decision-making process; use creative and analytic thinking tools for information gathering and analysis; employ ethical and social standards; contribute in group decision-making; and facilitate the group decision-making process.

*Prerequisites: Twelve Business Management 10102 credits, Human Resources Management 10196193, and Supervision 10196191;*

*Corequisite: Business Finance 10102117 (Business Finance 10102117 may not be used to satisfy the 12 Business Management 10102 credits)*

## Business Finance

**10102117..... 3 credits**

This course introduces the basic concepts needed for firms to efficiently control the flow of money within a business to balance profitability with risk. Students determine the financial impact of quality programs on a company, analyze financial statements using ratio analysis and industry comparison data, determine break-even points and leverage, compare alternatives for short- and long-term financing, explore options for global financing, and prepare a cash budget and pro forma financial statements for a firm. Prerequisite: Accounting I 1010111

## Business Law

**10102104..... 3 credits**

This course introduces the student to the basic foundation of laws and regulatory systems applicable to the business environment. Students examine the UCC, contract torts, agency law, and business and cybercrime. Students apply business legal theory in conjunction with ethical decision making through practical application.

## Career Development

**10102130..... 3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

**10804107..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Customer Service Management

**10102120..... 3 credits**

The learner applies the skills and tools necessary to manage and measure the customer service function. Learners practice quality customer service, develop customer service plans, train and develop staff in quality customer service, measure the effectiveness of customer service, and lead continuous improvement of customer service.

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Economics

### 10809195 ..... 3 credits

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Employment Law

### 10102110 ..... 3 credits

Introduces a broad scope of employment laws and provides the opportunity to apply these laws to the employment arena. Laws relating to anti-discrimination are covered, including the Civil Rights Act, ADEA, and ADA; wage and hour regulation, including FLSA; employer-provided pensions, including ERISA; health insurance, including COBRA; and unemployment and worker's compensation insurance.

## Employment Strategies

### 10801199 ..... 3 credits

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

### 10801136 ..... 3 credits

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Entrepreneurial Management

### 10102131 ..... 3 credits

Designed to introduce students to the concept of entrepreneurship. Students study entrepreneurial

practices primarily by developing a business plan for a venture of their choice. This includes comparing ways of going into business, and developing marketing, legal, financial, products/services, management, and operations plan for a small business of their choice. Entrepreneurial behavior within companies is examined.

*Prerequisite: Twelve Business Management 10102 credits or 12 Supervisory Management 10196 credits or a combination of Business Management 10102 and Supervisory Management 10196 credits that total 12*

## Entrepreneurial Service Management

### 10145188..... 3 credits

Brings together the elements of a successful business with a strategic plan that focuses on servicing customers with a winning attitude, performance, teamwork, and competition.

## Excel-Intermediate

### 10103124 ..... 1 credit

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Financial Management for Your Small Business

### 10145186 ..... 3 credits

Emphasizes the importance of good record-keeping systems, reports, and the records necessary for a small business. Financial analysis techniques are explored through hands-on income statements and cash flow projections for the small business. Financial and other technical support resources are identified throughout the course.

## Human Resource Management

### 10196193..... 3 credits

Apply skills and tools necessary to perform human resource functions in an organization. Each learner demonstrates skill in following EEOC laws; writing job descriptions; recruiting, selecting, and orienting employees; developing policies and procedures; developing and conducting training; designing performance appraisal plans; developing employee development plans; and selecting compensation and benefit strategies

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## International Business

**10102180 ..... 3 credits**

This course introduces topics concerning international business while illustrating its scope and importance. Topics include the impact of geography, trade protectionism, culture, legal structure, politics, and currency on business dealings. Students research a particular country in depth.

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*





## Marketing Your Small Business

**10145187..... 3 credits**

Enables prospective or existing business owners/managers to implement and evaluate a marketing plan for their small business. Students develop a marketing plan for a selected small business. Components of the plan include market research, customer focus, quality, pricing, and advertising.

## Medical Law, Ethics, and Professionalism

**10501109..... 2 credits**

Prepares students to display professionalism and perform within ethical boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues.

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Microsoft Office-Introduction

**10103106..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Organization of Healthcare

**10530125..... 2 credits**

This course examines the organization and delivery of healthcare services, external standards, regulations, initiatives, payment and reimbursement systems, and healthcare providers and disciplines.

## Organizing Your Small Business

**10145185..... 3 credits**

Explores the components of small business ownership by examining a variety of small business startup and operation scenarios. Students assess their own readiness to begin the entrepreneurial adventure.

## Principles of Management

**10102147..... 3 credits**

This course introduces the student to the job of management in organizations. An understanding of the roles and tasks of all levels of management in the functions of organizational planning, staffing, leading, and controlling is developed.

## Speech

**10801198..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Supervision

**10196191..... 3 credits**

Apply skills and tools necessary to perform the functions of a contemporary frontline leader. Students engage in operational planning, analyze organizational structures, review the staffing process, employ techniques to enhance employee personal and group effectiveness, and develop control techniques to measure effectiveness in the above areas.







# CENTRAL SERVICE TECHNICIAN

Technical Diploma

Program Code: 30-534-1

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## CENTRAL SERVICE TECHNICIAN



Mid-State's hands-on Central Service Technician program prepares students to work with supplies and equipment related to surgery, obstetrics, emergency departments, and other patient care settings. Effective communication is vital within this multi-service area. The curriculum includes online instruction, lab, and clinical experience. The clinical portion of the course places students at a minimum of two sites. Students learn the principles of standard precautions, asepsis, disinfection, and sterilization procedures. Course completion leads to a technical diploma and eligibility for certification exams.

Graduates of the Central Service Technician technical diploma may advance into the Surgical Technologist program.

**Technical Diploma**

**Total Credits: 19-22**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Central Processing or Instrument Technician, Central Service Aide, Central Service Technician, Central Service Technologist, Materials Manager, Medical Equipment Preparer, and Processing/Distributions Technician

In general, there is growing demand for these careers. Example: Medical Equipment Preparer career has declined by 4% over the last two years but is expected to grow by 15% over the next 10 years. Currently 434 Medical Equipment Preparers are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## SURGICAL TECHNOLOGIST



The Surgical Technologist program at Mid-State prepares graduates to work as part of the surgical team in operating rooms, providing instruments and supplies to the surgeon. You'll also learn skills and techniques used in central service with instrument processing. Instruction encompasses both classroom and lab instruction. At five weeks into the program you will gain hands-on clinical experience, including in surgery, ambulatory centers, central service, and other related areas. After successful completion of the program and certification exam, you will be a Certified Surgical Technologist (CST).

**Technical Diploma**

**Total Credits: 38-40**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Ambulatory Surgery Technician, Cath Lab Surgical Technologist, Central Service Technician, Dental Office Assistant, Emergency Room Technician, Materials Manager, Surgical Technologist, and Veterinary Surgery Assistant

In general, there is growing demand for these careers. Example: Surgical Technologist career has grown by 1% over the last two years and is expected to grow by 19% over the next 10 years. Currently 1,127 Surgical Technologists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

## OTHER OPTIONS

### RELATED PROGRAMS

Medical Assistant and Phlebotomy Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Central Service Technician graduate, to be able to:

- Apply knowledge of the different roles and responsibilities of a central service technician.
- Apply principles of standard precautions and asepsis.
- Perform disinfection and sterilization procedures.
- Perform within legal and ethical boundaries.
- Effectively communicate with members of the health care team.

## ADDITIONAL ENTRY CRITERIA

To apply to the Central Service Technician program, please submit the following document to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a central service technician is available at [mstc.edu/programs/central-service-technician](http://mstc.edu/programs/central-service-technician). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.









## Applied Microbiology

**31806311..... 2 credits**

Directs the learner's understanding of aseptic techniques, antimicrobial methods, specimen collection, preparation of cultures, body defenses against microorganisms, the infectious process, and the transmission of disease-causing organisms. Students learn such techniques as standard and transmission based precautions, sanitization, disinfection, sterilization, preparation of cultures, and microscopic slide preparations with simple staining and gram staining.

*Prerequisites: Human Body in Health and Disease 10509102 or General Anatomy & Physiology 10806177*

## Central Service

**30534301..... 5 credits**

This course guides the student in achieving the knowledge and skills necessary to function as a central service technician. Students learn to clean, sterilize, and assemble equipment, supplies, and instruments, and perform record-keeping procedures, including orders, charges, and inventory.

*Prerequisite: Admission to Central Service Technician program 305341*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better; or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Human Body in Health and Disease

**10509102 ..... 3 credits**

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis, and prevention of common diseases.

## Medical Law, Ethics, and Professionalism

**10501109..... 2 credits**

Prepares students to display professionalism and perform within ethical boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues.

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Microbiology

**10806197..... 4 credits**

Examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms, and the medical impact of microbes in the environment, industry, and biotechnology are also addressed.

*Prerequisite: General Anatomy & Physiology 10806177, General Biology 10806114, or Plant Biology 10806184 with a grade of "C" or better*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Student Success in Allied Health

**10501123 ..... 1 credit**

Learners explore success strategies for allied health programs, including time management, study skills, test preparation and test-taking skills, planning, and stress management.

*Prerequisite: Admission to Central Service 305341 or Surgical Technologist 315121 programs*







# CIVIL ENGINEERING TECHNOLOGY-HIGHWAY TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-607-4

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## CIVIL ENGINEERING TECHNOLOGY-HIGHWAY TECHNICIAN



Unique in the Wisconsin Technical College System, Mid-State's Civil Engineering Technology-Highway Technician program prepares students to work in the construction of public projects like roads, bridges, parking structures, and stormwater management systems. This important work also includes railroad, pipeline, power line, dam, canal, wastewater treatment facility, and airport construction. Through hands-on exercises and a capstone design project, you'll learn how to support the work of civil engineers, designers, surveyors, and city planners. You'll also receive training in surveying, soils, construction material testing, computer drafting, estimating, site design, mapping, and inspection procedures.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 68**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** CAD Specialist, Civil Engineering Technician, Construction Grade Supervisor, Draftsperson, Engineering Specialist and Technician, Environmental/Water Quality Technician, Estimator, Inspector/Quality Control, Materials Technician, Right-of-Way Technician, Sales-Construction (Equipment-Supplies), Soils Tester, Solid Waste/Landfill Technician, Structural and Utility Technician, and Surveyor (Construction-Land)

Regional demand for skilled technicians has grown over the last two years.

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Electrical Power Engineering Technician and Instrumentation & Controls Engineering Technology

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Civil Engineering Technology-Highway Technician graduate, to be able to:

- Design civil engineering layouts.
- Understand safety requirements for the civil engineering field.
- Acquire civil engineering technology knowledge to aid in obtaining appropriate certifications.
- Exhibit CAD skills.
- Apply theoretical and practical concepts to surveying practices.
- Work cooperatively in groups.
- Acquire working knowledge of instruments used in the civil engineering field.
- Understand quantities and materials used in the civil engineering technology area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.





## SAMPLE FULL TIME CURRICULUM OPTION

Term	18 credits
10103123 Excel-Beginning	1
10103124 Excel-Intermediate	1
10607118 Land Records	1
10607145 Soils	3
10607155 Intro to Surveying	2
10623100 Problem Solving & Critical Thinking	1
10623106 Intro to AutoCAD	2
10801136 English Composition 1 <b>-or-</b>	
10801195 Written Communication	3
10804118 Intermediate Algebra with Applications	4
Term	17 credits
10607110 Cemented Aggregate Mixtures	4
10607150 Civil Engineering Drafting I	3
10607156 Surveying-Total Station	3
10804196 Trigonometry with Applications	3
10806154 General Physics 1	4
Term	17 credits
10607117 GIS Fundamentals	2
10607160 Civil Engineering Drafting II	2
10607170 Storm Water Management	3
10607171 Highway Surveying	2
10607174 GPS for Surveyors	2
10804195 College Algebra with Applications	3
10809166 Intro to Ethics: Theory & Application <b>-or-</b>	
10809195 Economics	3
Term	16 credits
10607149 Highway Bridges, Medians, & Barriers	3
10607166 Construction Estimating & Management	3
10607167 Inspection	2
10607180 Civil Engineering Capstone	2
10801196 Oral/Interpersonal Communication <b>-or-</b>	
10801198 Speech	3
10809188 Developmental Psychology <b>-or-</b>	
10809198 Intro to Psychology	3
<b>Total credits 68</b>	

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### NOTES:

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## SAMPLE PART-TIME CURRICULUM OPTION

Term	6 credits
10103123 Excel-Beginning	1
10103124 Excel-Intermediate	1
10607118 Land Records	1
10623100 Problem Solving & Critical Thinking	1
10623106 Intro to AutoCAD	2
Term	9 credits
10607155 Intro to Surveying	2
10804118 Intermediate Algebra with Applications	4
10801136 English Composition 1 <b>-or-</b>	
10801195 Written Communication	3
Term	8 credits
10607145 Soils	3
10607117 GIS Fundamentals	2
10804196 Trigonometry with Applications	3
Term	10 credits
10607110 Cemented Aggregate Mixtures	4
10607150 Civil Engineering Drafting I	3
10801196 Oral/Interpersonal Communication <b>-or-</b>	
10801198 Speech	3
Term	8 credits
10607160 Civil Engineering Drafting II	2
10607170 Storm Water Management	3
10804195 College Algebra with Applications	3
Term	10 credits
10607156 Surveying-Total Station	3
10806154 General Physics 1	4
10809188 Developmental Psychology <b>-or-</b>	
10809198 Intro to Psychology	3
Term	7 credits
10607171 Highway Surveying	2
10607174 GPS for Surveyors	2
10809166 Intro to Ethics: Theory & Application <b>-or-</b>	
10809195 Economics	3
Term	10 credits
10607149 Highway Bridges, Medians, & Barriers	3
10607166 Construction Estimating & Management	3
10607167 Inspection	2
10607180 Civil Engineering Capstone	2
<b>Total credits 68</b>	





## College Algebra with Applications

**10804195 ..... 3 credits**

This course covers those skills needed for success in calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatorics, and the binomial theorem.

*Prerequisite: Trigonometry with Applications 10804196 with a grade of "C" or better*

## Construction Estimating & Management

**106071663 ..... 3 credits**

Goals and performance of quantity takeoff, cost estimation, resource leveling, estimating labor, and contract interpretation are presented. Project bidding, construction techniques, and equipment capabilities are evaluated.

*Prerequisites: Microsoft Office-Introduction 10103106, Problem Solving and Critical Thinking 10623100, and Intro to AutoCAD 10623106*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Economics

**10809195 ..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Beginning

**10103123..... 1 credit**

Develop skill to create and modify spreadsheets using commands, functions, and formulas. Popular spreadsheet applications include general ledger, budgets, inventory control, and sales records. Essentially, any data that can be represented in rows and columns is a candidate for an electronic spreadsheet application.

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## General Physics 1

**10806154 ..... 4 credits**

Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

*Corequisite: Trigonometry with Applications 10804196*

## GIS Fundamentals

**10607117 ..... 2 credits**

This course is an introduction to geographic information systems (GIS) and how they are used to document and convey information that has a spatial component. Students use GIS software to create, manipulate, and present geographic information.

*Prerequisite: Intro to AutoCAD 10623106*

## GPS for Surveyors

**10607174..... 2 credits**

Basic operation of survey-grade GPS equipment and equipment limitations are explored. Emphasis is on data collection, stakeout, and performing calculations with a hand-held data collector. Interaction of design team and surveyors is discussed.

*Prerequisite: Intro to Surveying 10607155*

## Highway Bridges, Medians, & Barriers

**10607149 ..... 3 credits**

The processes, considerations, and safety aspects of constructing and maintaining highway bridges, medians, and barriers are covered. Includes investigation of structural loads, stress factors, and valid design procedures for these critical components of today's modern roads and highways.

*Prerequisite: Highway Surveying 10607171; Corequisite: Inspection 10607167*

## Highway Surveying

**10607171 ..... 2 credits**

Principles of geometric design of highways, including horizontal curves, vertical curves, super elevation, and station/offset orientation. Also includes basic design principles of airports, railways, and pipelines. Evaluating existing traffic and designing for future needs are included.

*Prerequisites: Trigonometry with Applications 10804196, Civil Engineering Drafting I 10607150, and Intro to Surveying 10607155*

## Inspection

**10607167 ..... 2 credits**

Concerns construction inspection and its importance, the role of the inspector, requirements for a good inspector, and general duties of the inspector. Emphasis is on concrete and asphalt inspection.

*Prerequisite: Intro to Surveying 10607155*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading Comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Surveying

**10607155 ..... 2 credits**

Covers fundamental principles of surveying and the use of surveying instruments in the application of these principles. Topics include measurement of horizontal distances, care and use of survey equipment, note keeping, differential leveling, angular measurement, and surveying field procedures. Actual field problems supplement classroom instruction.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intermediate Algebra with Applications 10804118 and Intro to AutoCAD 10623106*

## Land Records

**10607118 ..... 1 credit**

This course focuses on the interpretation of land documents; this includes property descriptions, the Public Land Survey System, meridians, angle measurements, and line direction formats used by surveyors.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intro to Surveying 10607155*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Problem Solving & Critical Thinking

**10623100 ..... 1 credit**

Introductory course in problem setup, organization, and solution. Identification of given and unknown values, equation setup, unit conversions, and use of significant figures. Introduction to physical science and working with units of force, area, volume, time, and distance in metric and imperial systems. This course is designed to help you be successful in technical and engineering classes and should be taken during your first semester of enrollment.

## Soils

**10607145 ..... 3 credits**

This course covers the general classification and properties of soil and subsurface materials. Subsurface exploration soil tests and hydraulic principles are covered as used in the field of civil engineering. Laboratory techniques are developed for testing and classifying soil and aggregate.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intermediate Algebra with Applications 10804118*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Storm Water Management

**10607170 ..... 3 credits**

Emphasis is on storm water management, calculations, planning, and design. Topics include open channel and pressure flow; storage and treatment facility design concepts; and regulation, permitting, and enforcement for sanitary and storm water ordinances.

*Prerequisite: Civil Engineering Drafting I 10607150*

## Surveying-Total Station

**10607156 ..... 3 credits**

Advanced principles of surveying and use of surveying instruments are covered. Topics include land surveying, calculation and layout of vertical and horizontal curves, and topographic surveys using transits and total stations. The data collected is downloaded onto computers for use in Civil Engineering Drafting I. Actual field problems supplement classroom instruction.

*Prerequisite: Intro to Surveying 10607155; Corequisites: Trigonometry with Applications 10804196 and Civil Engineering Drafting I 10607150*

## Trigonometry with Applications

**10804196 ..... 3 credits**

Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's Theorem, polar coordinates, and vectors.

*Prerequisite: Intermediate Algebra with Applications 10804118 with a grade of "C" or better*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300

# CORRECTIONS & COMMUNITY ADVOCACY

Associate in Applied Science (AAS)

Program Code: 10-504-2

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[mstc.edu](http://mstc.edu)





## CORRECTIONS & COMMUNITY ADVOCACY



The Corrections & Community Advocacy program at Mid-State teaches the operations and management of adult/juvenile correctional institutions, probation/parole, community advocacy agencies, special needs populations, alcohol and other drug abuse, and mental health services. Experienced faculty emphasize professionalism and integrity needed to work in jails, prisons, juvenile detention facilities, halfway houses, and shelter care facilities. You'll experience a blend of classroom theory, simulation, and occupational observation, setting you up for success in this field. Our state-of-the-art facilities include a reproduction of a secure detention facility to allow you to develop your skills in a safe yet challenging environment.



### bachelor's degree opportunities

Lakeland College, BA Criminal Justice

UW-Oshkosh, BAS Public Safety emphasis in Leadership and Organizational Studies

UW-Oshkosh, BS Human Services Leadership

UW-Whitewater, Criminology emphasis in Law Enforcement and Investigation

Viterbo, BA Criminal Justice

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 68**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Correctional Officer, Home Detention Specialist, Juvenile Detention Officer, Psychiatric Care Technician, Shelter Care Worker, Victim/Witness Coordinator, Clerk of Courts Assistant, Child Support Case Manager, Probation and Parole Agent, and Social and Human Services Assistants

In general, there is growing demand for these careers. Examples: Correctional Officers career has grown by 2% over the last two years and is expected to grow by 1% over the next 10 years. Currently 4,470 Correctional Officers and Jailers are employed in the region. Social and Human Service Assistants career has grown by 3% over the last two years and is expected to grow by 12% over the next 10 years. Currently 4,527 Social and Human Service Assistants are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTION

### RELATED PROGRAM

Criminal Justice-Law Enforcement

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Corrections & Community Advocacy graduate, to be able to:

- Think critically.
- Manage emergencies.
- Communicate effectively.
- Demonstrate professionalism.
- Conduct investigations.
- Interact with others.
- Demonstrate tactical skills (applies to occupational certifications).

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You may be eligible to enter the jail officer certification track. Successful completion of the certification track provides the education and hands-on training required by the Wisconsin Law Enforcement Standards Board to become certifiable as a jail/co-located officer.

Anyone with a felony conviction cannot become a corrections officer without a governor's pardon. A lengthy criminal history or numerous moving traffic violations may hinder opportunities for employment.

Successful graduates will have completed Department of Justice Law Enforcement Standards Board requirements for both Jail Officer and Co-located Officer.

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## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a jail officer is available at [mstc.edu/programs/criminal-justice-corrections](http://mstc.edu/programs/criminal-justice-corrections). Contact the disability services coordinator in the Student Services Office to receive assistance.

## PROGRAM PROGRESSION

In order to successfully complete the program, students must:

- Receive a grade of “C” or better in all courses required for graduation. Please note that the ability to repeat courses is dependent upon availability in courses.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.

### SAMPLE FULL TIME CURRICULUM OPTION

Term		15 credits
10504112	Court Procedures	3
10504156	Child Advocacy	3
10504157	Motivational Interviewing	3
10504158	Basic Mediation	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
Term		17-18 credits
10504159	Interpersonal Violence/Victimology	3
10504175	Understanding Substance Abuse	4
10504176	Corrections/Correctional Institutions	4
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
Term		18 credits
10504128	Telecommunications	2
10504177	Certification in Corrections	5
10504178	Juvenile Supervision	2
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809122	Intro to American Government	3
10809166	Intro to Ethics: Theory & Application	3
Term		18 credits
10504162	CCA-Service Readiness	3
10504116	Probation & Parole	3
10504132	Advanced Relational Skills	3
10504144	Wellness in Corrections	3
10504179	Management of Adult Population	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
		<b>Total credits 68-69</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### SAMPLE PART-TIME CURRICULUM OPTION

Term		12-13 credits
10504112	Court Procedures	3
10504156	Child Advocacy	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
Term		11 credits
10504175	Understanding Substance Abuse	4
10504176	Corrections/Correctional Institutions	4
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
Term		12 credits
10504128	Telecommunications	2
10504177	Certification in Corrections	5
10504178	Juvenile Supervision	2
10809166	Intro to Ethics: Theory & Application	3
Term		12 credits
10504116	Probation & Parole	3
10504144	Wellness in Corrections	3
10504159	Interpersonal Violence/Victimology	3
10809122	Intro to American Government	3
Term		12 credits
10504157	Motivational Interviewing	3
10504158	Basic Mediation	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
Term		9 credits
10504162	CCA-Service Readiness	3
10504132	Advanced Relational Skills	3
10504179	Management of Adult Population	3
		<b>Total credits 68-69</b>

# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Advanced Relational Skills

**10504132..... 3 credits**

This course uses scenario-based instruction to prepare students in the use of specific techniques and processes that are required for effective communication in today's professional criminal justice professions. Emphasis is given to those communication skills that enhance professional interactions within service professions.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

### Basic Mediation

**10504158..... 3 credits**

Students learn how to handle conflict in which two or more parties agree to meet with an impartial third party to try to resolve their dispute. This course offers basic mediation training through role-playing, lectures, exercises, case histories, and demonstrations of disputes and dispute resolution. This training is designed for occupations requiring resolution of disagreements.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

### CCA-Service Readiness

**10504162 ..... 3 credits**

This course is intended to assist students in their efforts to secure employment upon graduation. Students complete a basic resume, cover letter, interview thank-you letter, and a standard law enforcement or corrections application. Students prepare for a criminal justice career interview and participate in a mock interview with current practitioners from law enforcement or corrections agencies. Students

complete guided self-study online then gather for one hour of live classroom discussion weekly.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

### Certification in Corrections

**10504177..... 5 credits**

Learners participate in the State of Wisconsin Jail Preparatory Training program, which includes the following topics: Introduction to Corrections, Principles of Subject Control, Maintain Jail Security, Jail Hostage Response, Professional Communication Skills, Ethics and Ethical Decision Making, Admit and Release Inmates, Inmate Supervision and Behavior Control, Supervision of Special Needs Inmates/Crisis Intervention, Prepare Reports, Correctional Law, Jail Health Care, Cardio-Pulmonary Resuscitation, Jail Fire Safety, Application: Scenarios/Simulations, and Testing/Evaluation. Once learners successfully complete this course, they are certifiable by the State of Wisconsin to work in a county jail. This is primarily a lab-based class.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

### Child Advocacy

**10504156 ..... 3 credits**

Learners receive an introduction to the concepts of child advocacy with an emphasis on the public service professional's role in identifying and managing situations involving child abuse and neglect. This course provides learners with an overview of the field of child advocacy. The role of child advocate is explored in different professions. Ethical, legal, and professional responsibilities are explored. It takes a multi-disciplinary team approach in

examining family problems as they relate to poverty, drug abuse, and violence. The family system is also examined. Students complete guided self-study online then gather for two hours of live classroom discussion weekly.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Corrections/Correctional Institutions

**10504176..... 4 credits**

This course examines the history and current trends of the correctional system in the United States. Students analyze the changing philosophies of corrections and review the programs available to offenders at various stages of their involvement in the criminal justice system. Chain of command, management practices, personnel needs, types of offenders, organizational theories, policymaking, and the role of correctional personnel are addressed. Students complete guided self-study online then gather for two hours of live classroom discussion weekly.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Court Procedures

**10504112 ..... 3 credits**

This course examines the court system, including procedures from incident of arrest to final disposition. The stages of a criminal trial are examined in depth. The authority of law enforcement officials to arrest and/or detain a subject is reviewed. Constitutional, federal, state, and civil laws as they apply to this criminal process are presented. Victims' rights are examined.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 10504 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Interpersonal Violence/Victimology

**10504159 ..... 3 credits**

Learners explore interpersonal violence, which is abuse that occurs between people who know each other and can occur within or outside a family setting. One person uses power and control over another through physical, sexual, or emotional threats or actions, economic control, isolation, or other kinds of coercive behavior. Some different types of interpersonal violence include physical abuse, bullying, dating/relationship violence, gang violence, and sexual violence. Students complete guided self-study online then gather for two hours of live classroom discussion weekly.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*



## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Juvenile Supervision

**10504178..... 2 credits**

Learners review theories of adolescent development, history of juvenile court, the Wisconsin Juvenile Code, and the Wisconsin Administrative Code as it applies to juvenile offenders. Learners become familiar with procedures to admit/release adolescents in secure detention. Additionally, learners apply strategies for effective supervision, protection, and discipline of juveniles and adolescents, including those classified as special-needs offenders, in secure detention settings. Once student meets all requirements of this course, he/she is certifiable to work in a Juvenile Detention Co-Located facility in the State of Wisconsin.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Management of Adult Population

**10504179..... 3 credits**

Learners review the importance of positively working with the incarcerated adult population. This requires they practice constructive interaction skills, including positive behavior control, dispute resolution, and incident debriefing. Learners explore belief systems, social pressure, moral problems, decision making, and the consequences of decisions.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*



## Motivational Interviewing

**10504157..... 3 credits**

Learners are introduced to motivational interviewing (MI) theory and research, including how and why behavior changes. Learn the basic practice elements of MI and the fundamental processes of engaging, focusing, evoking, and planning with clients. Motivational Interviewing is a collaborative, person-centered, guiding conversation style that helps strengthen a person's own motivation to change.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on their Accuplacer reading comprehension exam and 60-80 on their Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Reading.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Probation & Parole

**10504116 ..... 3 credits**

Analyzes modern probation and parole practices and services; examines current probation procedures and the case law affecting those decisions; and reviews the advantages of community-based treatment, special programs, and the use of non-professionals. Through learning activities, students are exposed to a portion of the "daily life" of a probation & parole agent.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Telecommunications

**10504128..... 2 credits**

Prepares learners to embrace emergency communications as a profession; describe legal and ethical issues regarding telecommunicator responsibility and accountability; apply enhanced 9-1-1, computer-aided dispatch and map reading techniques; apply proper call receiving guidelines; demonstrate effective emergency radio communications techniques; interpret police computer information system data; perform telecommunications record-keeping functions; demonstrate effective crisis management skills in techniques to alleviate stress in emergency communications; and perform simulated dispatch functions.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Understanding Substance Abuse

**10504175..... 4 credits**

Learners examine the problems of drug abuse and issues across the spectrum, including the latest thoughts about prevention and awareness. This course provides an understanding of the origins and current status of drug use, including special situations addressed for a person who may be experiencing problems with substance abuse. Assessment, intervention, rehabilitation, and recovery are also introduced. Students complete guided self-study online then gather for two hours of live classroom discussion weekly.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Wellness in Corrections

**10504144 ..... 3 credits**

Learners develop and apply the skills and abilities needed to deal constructively with stressors in the correctional field. Focus is on assessing individual stressors, analyzing the impact of stress, reducing stressors, and developing stress-coping mechanisms. Coping mechanisms include assertion, anger management, conflict resolution, time management, relaxation activities, and exercise and diet planning.

*Prerequisite: Admission to Criminal Justice-Corrections & Community Advocacy program 105042*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300

# COSMETOLOGY

Technical Diploma

Program Code: 31-502-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## PROGRAM OUTCOMES

Employers will expect you, as a Cosmetology graduate, to be able to:

- Apply safety and sanitation procedures.
- Adhere to the current Wisconsin administrative codes and statutes for cosmetology.
- Demonstrate interpersonal skills for success.
- Perform haircutting services.
- Perform shampoo services.
- Perform skin care services.
- Perform texture services.
- Perform hair color services.
- Demonstrate hairstyling and finishing techniques.
- Perform nail services.
- Develop strategies to market products and services.

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Most classes are offered in a face-to-face format. Theory of General Science is offered only in an online format. Work on mannequins, other students, and in an on-campus salon completes the practical component of your training.

Students must purchase a kit of required tools and supplies. The cost of the kit is approximately \$1,700 and must be purchased for use on the first day of class.

Students who successfully complete the program will meet the Wisconsin requirement of 1,550 hours of theoretical and practical instruction. Federal regulations require programs for licensure to use clock hours in all areas of administering Title IV federal financial aid. Financial aid and scholarships are available to those who qualify.

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## FUNCTIONAL ABILITIES

Students must have good fine motor skills, especially finger dexterity, as well as good hand/eye coordination and 20/40 vision in best eye with 70 degrees to each side for peripheral vision, as determined by the Department of Transportation.

## PROGRAM PROGRESSION

In order to progress in and successfully complete the program, students must repeat core courses (courses numbered 31-502-xxx) not completed with a grade of "C" or better prior to progressing in core courses or other courses with co- or prerequisites.

Please note that the ability to repeat courses is dependent upon availability of courses. Students may be required to apply for program re-entry in order to repeat courses.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION

Term		15 credits
31502334	Hairstyling	3
31502335	Haircutting	3
31502336	Chemical Texture Services	3
31502337	Nail Technology	1
31502338	Salon Services I	1
31502340	Facials	1
31502347	Haircolor	3

Term		12 credits
31502316	Theory of General Sciences	1
31502342	Capstone Experience	3
31502343	Salon Services II	4
31502344	Salon Services III	4

Term		6 credits
31502349	Summer Salon Services IV	3
31502350	Summer Salon Services V	3

**Total credits 33**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits



## Capstone Experience

**31502342 ..... 3 credits**

Students prepare for the state board exam and for securing a job. Students complete a mock assessment of all state board practical and written concepts, including state law. Students prepare for their job search and for working with the business side of the cosmetology industry

*Corequisites: Salon Services II 31502343, Facials 31502340, and consent of instructor*

## Chemical Texture Services

**31502336 ..... 3 credits**

This course includes the basics of safe and sanitary permanent waving and chemical hair relaxing. History and product knowledge of these chemical services as well as advanced techniques and procedures that define current trends in the salon are included.

*Prerequisites: Admission to Cosmetology program 315021*

## Facials

**31502340 ..... 1 credit**

Students learn the different types of skin. Structure and functions of the skin are studied and basic facial techniques applied. Students study microdermabrasion, laser hair removal, and chemical peels. They also perform basic skin waxing techniques, removal of superfluous hair, makeup application, false eyelash application, and skin analysis.

*Prerequisite: Admission to Cosmetology program 315021*

## Haircolor

**31502347 ..... 3 credits**

This course covers haircolor basics, which includes the law of color, the color wheel, and the theory behind these concepts. Students identify chemicals used in haircolor and discover the differences between temporary, semi/demi, and permanent color. Students mix and apply color while developing skills and building client consultation techniques. Application methods governed by the state board regulations is studied. The study of bleach theory and complete lightening applications, including foiling, is taught. Students experience advanced color formulations, color placement techniques and color correction procedures.

*Prerequisites: Admission to Cosmetology program 315021*

## Haircutting

**31502335 ..... 3 credits**

This course involves designing haircuts, understanding form and applying various haircutting techniques. Students perform various haircuts including blunt, uniform, increased, and graduated haircuts. Students also perform men's haircuts including razor cutting, shear over comb, clipper cutting clipper over comb, short tapered, and flattops. Trimming techniques used for men's facial hair including shaving, beards, mustaches and side burns are also emphasized and practiced.

*Prerequisite: Admission to Cosmetology Program 315021*

## Hairstyling

**31502334 ..... 3 credits**

This course emphasizes wet and dry hairstyling to include rollers, air-forming, thermal styling, hair straightening, finger waving, pin curls, hair analysis, shampooing, scalp treatments, braiding, long hair design, and hair pressing. Fundamentals of thermal styling and comb-outs are performed. Practical aspects of hair enhancements, including wigs and hair pieces, are performed.

*Prerequisites: Admission to Cosmetology program 315021*

## Nail Technology

**31502337 ..... 1 credit**

Students achieve skills in manicuring, pedicuring, and nail enhancement services, which include polish application and massage techniques. Students study nail shape and safe and sanitary use of nail care products. Paraffin hand dips, advanced polish techniques, and various nail art applications are practiced.

*Prerequisites: Admission to Cosmetology program 315021*

## Salon Services I

**31502338 ..... 1 credit**

This course promotes beginning-level concentrated student development of skills and proficiencies by providing a wide range of client-related services. Emphasis is placed on client consultations, proper business practices, professional attitudes, and refining techniques that ensure entry-level preparedness for the Wisconsin licensing exam.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34; Corequisites: Haircolor 31502347, Hairstyling 31502334, Haircutting 31502335, Chemical Texture Services 31502336, and Nail Technology 31502337*

## Salon Services II

**31502343 ..... 4 credits**

This course builds on Salon Services I by promoting student development of skills and proficiencies in delivering a wide range of client-related services. Emphasis is placed on client consultations, proper business practices, professional attitudes, and refining techniques that will ensure entry-level preparedness for the Wisconsin licensing exam. Students complete this course by working in an on-campus salon environment

*Prerequisite: Salon Services I 31502338*

## Salon Services III

**31502344 ..... 4 credits**

This course builds on techniques practiced in Salon Services I and II, concentrating on student development of skills and proficiencies by providing a wide range of client-related services. Emphasis is placed on client consultations, proper business practices, professional attitudes, and refining techniques that will ensure entry-level preparedness for the Wisconsin licensing exam. Students complete this course by working in the on-campus salon environment.

*Prerequisite: Salon Services I 31502338*







# COURT REPORTING

Associate in Applied Science (AAS)

Program Code: 10-106-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)







## **PROGRAM OUTCOMES**

Employers will expect you, as a Court Reporting graduate, to be able to:

- Develop proficiency in machine shorthand using real-time theory.
- Develop a personal dictionary and read, translate, and edit transcripts using CAT (computer-assisted transcription) software.
- Produce salable transcripts on a real-time translation system.
- Demonstrate knowledge of proper reporting procedures and responsibilities for freelance and official reporting.
- Demonstrate knowledge of legal and medical concepts and terminology.
- Demonstrate knowledge of the professional reporting organizations and methods of gaining certification as a registered professional reporter.

## **GRADUATION REQUIREMENT**

Three 5-minute timings must be passed in each of the following categories with a minimum of 95 percent accuracy:

- Two-voice testimony @ 225 wpm.
- Jury charge @ 200 wpm.
- Literary @ 180 wpm.

Judicial Reporting Procedures and Judicial Reporting Internship must be taken within 18 months of graduation.



## ADMISSIONS PROCEDURES

To apply to the Court Reporting program, please submit the following documents to Lakeshore Technical College:

1. Complete a WTCS application form and return it with the \$30 non-refundable application fee. Check is payable to LTC.
2. Complete the Accuplacer or ACT test. Minimum scores required:
  - Reading-Accuplacer score of 55
  - Sentence Skills-Accuplacer score of 70
  - Arithmetic-Accuplacer score of 50
  - ACT equivalents for above scores are acceptable

You may take the Accuplacer again if you did not meet the required scores. Additional options, including coursework and tutoring, are also available to assist you. Contact the Student Services Office on your local campus to learn about your options. To schedule an Accuplacer test, contact your local Campus Office.

Written Communication, mathematics courses, and some science courses have placement requirements. Please refer to the course description section in the back of the catalog, listed under General Education, for course specific information.

3. Submit an official copy of all academic transcripts, including high school, college or university, and HSED/GED.
4. Program advising session.
5. Notification of Laptop/Steno Rental Requirement form.
6. Authorization to Release Confidential Information for Shared Programs form.
7. Upon receipt of the above materials, you will be accepted to Lakeshore Technical College. LTC will then notify you of additional program requirements.

**Lakeshore Technical College • Admissions**  
1290 North Avenue  
Cleveland, WI 53015-1414

**Mid-State Technical College • Admissions**  
500 32nd Street North  
Wisconsin Rapids, WI 54494

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION

Term		15 credits
10170106	Realtime Reporting 1	5
10170144	Realtime Reporting Orientation	1
10170160	Legal Terminology	1
10170184	English for Realtime Reporters	1
10170804	Realtime Reporting 1 Lab	1
10801195	Written Communication	3
10809198	Intro to Psychology	3

Term		17 credits
10170105	Realtime Reporting 2	5
10170159	Realtime Reporting Technology	2
10170805	Realtime Reporting 2 Lab	1
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies	3
10809196	Intro to Sociology	3

Term		2 credits
10170108	Realtime Reporting Speed Development	2

Term		19 credits
10170109	Literary 1-Advanced	2
10170128	Jury Charge 1-Advanced	2
10170156	Testimony 1-Advanced	3
10170809	Literary 1 Lab-Advanced	1
10170828	Jury Charge 1 Lab-Advanced	1
10170859	Testimony 1 Lab-Advanced	1
10804106	Intro to College Math <b>-or-</b>	
10804123	Math w/ Business Apps	3
10806112	Principles of Sustainability	3
10809195	Economics	3

Term		15 credits
10170111	Literary 2-Advanced	2
10170129	Jury Charge 2-Advanced	2
10170141	Court Reporting Procedures	2
10170145	Court Reporting Internship	1
10170157	Testimony 2-Advanced	3
10170171	Medical Reporting & Terminology	2
10170811	Literary 2 Lab-Advanced	1
10170829	Jury Charge 2 Lab-Advanced	1
10170857	Testimony 2 Lab-Advanced	1

**Total Credits 69**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### College Mathematics

#### **10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

### Court Reporting Internship

#### **10170145 ..... 1 credit**

Prepares the student to write machine shorthand verbatim for a minimum of 40 hours of actual writing time in the courtroom, classroom, and deposition environment under the supervision of a working reporter, includes preparing a 40-page transcript, and summarizing the internship experience in a narrative report.

*Prerequisite: 10106108 or 10170108 Realtime Reporting Speed Development, 10106128 or 10170128 Jury Charge I-Advanced,*

*10106109 or 10170109 Literary I-Advanced, 10106156 or 10170156 Testimony I-Advanced. Corequisite: 10106129 or 10170129 Jury Charge II-Advanced, 10106111 or 10170111 Literary II-Advanced and 10106157 or 10170157 Testimony II-Advanced*

### Court Reporting Procedures

#### **10170141 ..... 2 credits**

Introduces the student to reporting procedures for which reporters are responsible in the courtroom, deposition, and real-time reporting environment, including preparing salable transcripts, researching legal citations, and developing professional development plans.

### Economics

#### **10809195 ..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## English for Realtime Reporters

**10170184 ..... 1 credit**

Enhances the student's ability to use proper English grammar, spelling, punctuation, capitalization, and vocabulary techniques in the transcription of the spoken word.

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading Comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Jury Charge I-Advanced

**10170128..... 2 credits**

Prepares the student to write jury charge material at 160 words per minute for three minutes and transcribe at least three timings with a minimum of 95 percent accuracy and prepare salable transcripts.

*Prerequisite: 10170121 Jury Charge 1-Beginner or 10106121 Jury Charge 1-Beginner or Condition: Minimum of 130 WPM met*

## Jury Charge II-Advanced

**10170129 ..... 2 credits**

Prepares the learner to write jury charge material at 200 words per minute for five minutes and transcribe at least three timings with a minimum of 95 percent accuracy and prepare salable transcripts.

*Prerequisite: 10170122 Jury Charge 2-Beginner or 10106122 Jury Charge 2-Beginner or Condition: Minimum of 180 WPM met*

## Legal Terminology

**10170160 ..... 1 credit**

Provides the student with the ability to spell, pronounce, and define legal terms.

## Literary 1-Advanced

**10170109 ..... 2 credits**

Prepares the learner to write literary material at 150 words per minute for three minutes, transcribe at least three timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts.

*Prerequisite: 10170113 Literary 1-Beginner or 10106113 Literary 1-Beginner or Condition: Minimum of 130 WPM met*

## Literary 2-Advanced

**10170111 ..... 2 credits**

Prepares the learner to write literary material at 180 words per minute for five minutes, transcribe at least three timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts.

*Prerequisite: 10170114 Literary 2-Beginner or 10106114 Literary 2-Beginner or Condition: Minimum of 160 words per minute met*



## Math w/ Business Apps

**10804123..... 3 credits**

Covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, math concepts applied to the purchasing/buying process, math concepts applied to the selling process, and basic statistics with business/consumer applications.

*Prerequisite: Accuplacer Math minimum score of 79 or equivalent or 10834109 Pre-Algebra and Corequisite: 10838105 Intro Reading and Study Skills or Condition: Reading Accuplacer minimum score of 74 or equivalent or 610061 Agribusiness/Agronomy Basic program admissions requirements met*

## Medical Reporting/Terminology

**10170171..... 2 credits**

Prepares the student to write medical terminology in machine shorthand using appropriate medical terminology from material dictated at a minimum speed of 150 wpm for five minutes with a minimum of 95 percent accuracy. The student will research medical information, prepare salable transcripts, and submit timings.

*Prerequisite: 10170156 Testimony I-Advanced or 10106156 Testimony I-Advanced*

## Oral/Interpersonal Communication

**10801196..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Principles of Sustainability

**10806112..... 3 credits**

Prepares the student to develop sustainable literacy; analyze the interconnections among the physical and biological sciences and environmental systems; summarize the effects of sustainability on health and well-being; analyze connections among social, economic, and environmental systems; employ energy conservation strategies to reduce the use of fossil fuels; investigate alternative energy options; evaluate options to current waste disposal and recycling in the US; and analyze approaches used by your community to promote and implement sustainability.

## Realtime Reporting I

**10170106..... 5 credits**

Prepares the learners to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting I Lab is required.

*Condition: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirements met*

## Realtime Reporting II

**10170105..... 5 credits**

Prepares the learner to write multi-syllabic words, punctuation and special symbols, short forms and phrases, prefixes and suffixes, numbers, frequently used words and phrases, contractions using the Z-rule, and the "Flagged Alphabet." Apply realtime conflict elimination principles. Apply realtime theory and write dictation using a realtime theory at a minimum speed of 100 wpm. Concurrent registration in Realtime Reporting II Lab is required.

## Realtime Reporting I Lab

**10170804..... 1 credit**

Prepares the learner to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting I is required.

*Corequisite: 10170106 Realtime Reporting I or 10106104 Realtime Reporting I and Condition: 101701 Broadcast Captioning or 101702 Court Reporting or 101061 Judicial Reporting program requirement met*

## Realtime Reporting II Lab

**10170805..... 1 credit**

Expands the learner's ability to write multi-syllabic words, punctuation and special symbols, short forms and phrases, prefixes and suffixes, numbers, frequently used words and phrases, contractions using the Z-rule, and the "Flagged Alphabet." Apply realtime conflict elimination principles. Apply realtime theory and write dictation using a realtime theory. Concurrent registration in Realtime Reporting II is required.

*Corequisite: 10170105 Realtime Reporting II or 10106105 Realtime Reporting II*

## Realtime Reporting Orientation

**10170144..... 1 credit**

Prepares the student to use computer-assisted, real-time transcription software, Windows, e-mail, a steno machine, and a laptop in writing machine shorthand in court reporting and to complete and submit required coursework.

*Condition: 101701 Broadcast Captioning or 101702 Court Reporting program requirements met*

## Realtime Reporting Speed Development

**10170108..... 2 credits**

Further develops skills acquired in Realtime Reporting II on literary and testimony material beginning at 100 wpm. Scheduled during the summer term, students must pass two, 3-minute timings at a minimum speed of 110 words per minute.

*Prerequisite: 10170105 Realtime Reporting II or 10106105 Realtime Reporting II*



# CRIMINAL JUSTICE-LAW ENFORCEMENT

Associate in Applied Science (AAS)

Program Code: 10-504-6

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)







## PROGRAM OUTCOMES

Employers will expect you, as a Criminal Justice-Law Enforcement graduate, to be able to:

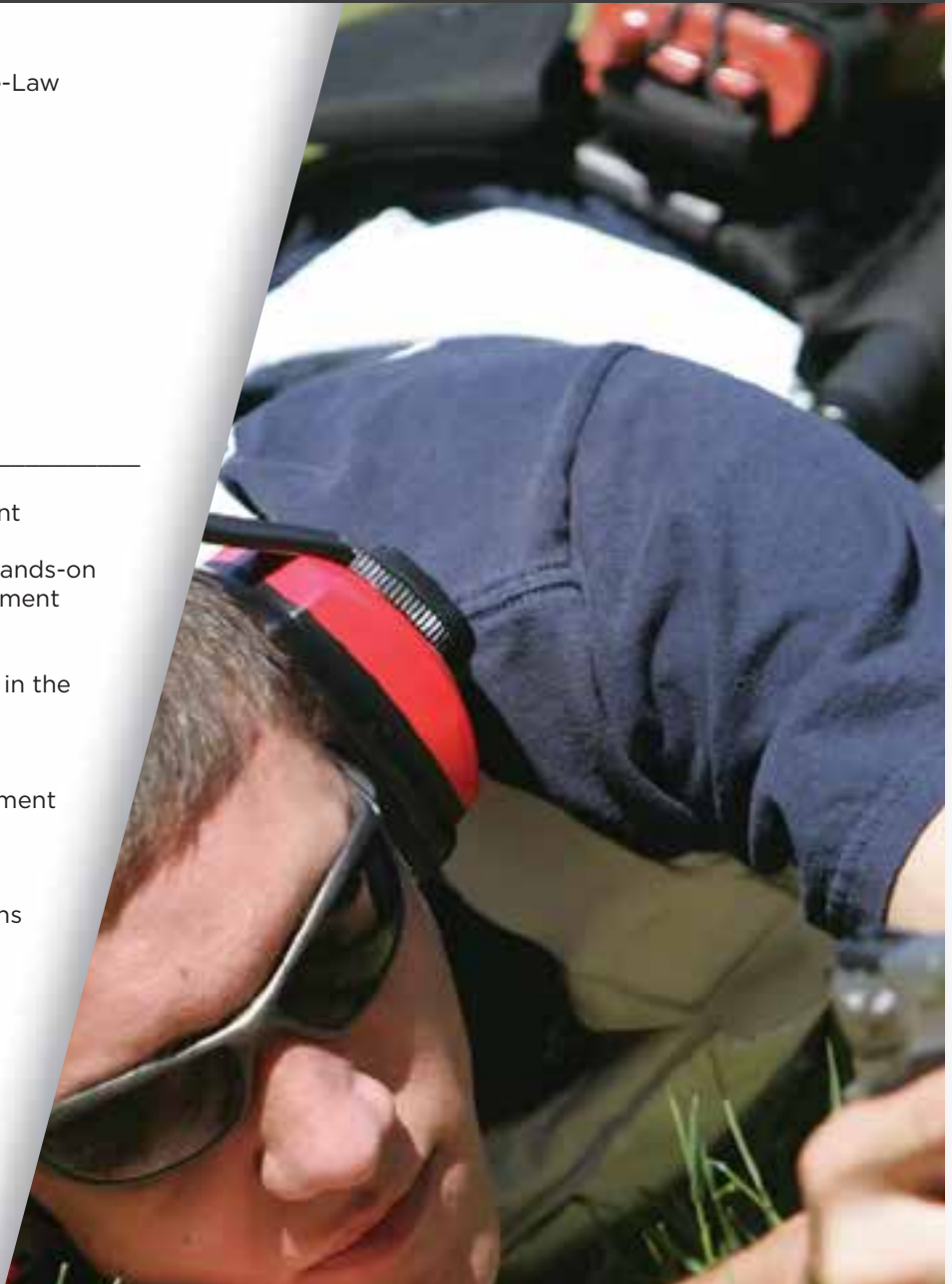
- Think critically.
- Manage emergencies.
- Communicate effectively.
- Demonstrate professionalism.
- Conduct investigations.
- Interact with others.
- Demonstrate tactical skills (applies to occupational certifications).

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You may be eligible to enter the law enforcement certification track. Successful completion of the certification track provides the education and hands-on training required by the Wisconsin Law Enforcement Standards Board to become certifiable as a law enforcement officer. Entrance and exit physical readiness standards must be met to participate in the Certification Track.

Anyone with a felony conviction or a domestic abuse conviction cannot become a law enforcement officer without a governor's pardon. Numerous moving traffic violations or a lengthy criminal history or mental illness that prevents the applicant from performing essential job functions may hinder opportunities for employment.

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# academic career plan

Term/Year	Credits	Term/Year	Credits

## course descriptions

### Advanced Investigations

**10504710 ..... 3 credits**

Students learn and apply the skills from the Phase III topics outlined in the WI Department of Justice 720 Academy. Topics include: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Testifying in Court, and Crimes. Student learning occurs through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

### Advanced Tactics

**10504705 ..... 4 credits**

Students learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Physical Fitness, Defense and Arrest Tactics (DAAT), and Firearms II. Student learning occurs through lecture, on-campus lab activities, and independent physical exercise.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

### Basic Investigations

**10504703 ..... 3 credits**

Students learn and apply the skills from the Phase I topics outlined in the WI Department of Justice 720 Academy. Topics include: Constitutional Law, Crimes, Juvenile Law, Interviews, Report Writing, and Evidence. Student learning occurs through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

### Basic Patrol Response

**10504701 ..... 3 credits**

Through classroom lecture, on-campus lab, and WI Department of Justice integration activities, students learn and apply skills addressed in the following Department of Justice 720 Academy Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, TraCS, Traffic Law Enforcement, and First Aid/CPR/AED.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

### Basic Tactics

**10504702 ..... 3 credits**

In this course, students will learn and apply the skills from Phase I topics outlined in the WI Department of Justice 720 Academy. Topics include: Fundamentals of Firearms, DAAT, Vehicle Contacts, Officer Wellness, and Physical Fitness. Student learning occurs through lecture, on-campus lab activities, independent physical fitness activities, and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

### College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one

variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## **Contemporary Issues in Law Enforcement 10504115 ..... 3 credits**

A study into the topic of modern police issues related to law enforcement and community attitudes based on official interaction and how they relate to police community relations as well as community policing. This course builds a strong basis for the discussion of ethical decision making, the need for a professional mindset as well as providing insight to the perceptions of community members. A second component to this class includes community volunteerism. Through the course of the semester students identify community organizations in need of volunteers and complete 20 hours of service with one of the organizations.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## **Criminal Court Process 10504120 ..... 3 credits**

A research based exploration into the court systems and processes in our federal, state, and municipal courts. Students locate court cases and report on the outcome of the cases as well as the procedural maneuvering involved in the court process. This course brings a basic awareness of the full gamut of the workings of our courts, which enhances the students understanding as it relates to their everyday life as well as the criminal justice profession.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## **Developmental Psychology 10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## **Emergency Vehicle Response 10504706 .....2**

In this course, students will learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## **English Composition 1 10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## **Final Scenario Evaluation 10504180 ..... 2 credits**

This course is the final step and the last training activity for students who are seeking Wisconsin Department of Justice (DOJ) law enforcement credentials. During this course, six DOJ training (practice) scenarios and four DOJ testing scenarios are presented. Both the training scenarios and the testing scenarios include non-use-of-force, use-of-force, and use-of-deadly-force situations. In order to obtain law enforcement credentials, each student must demonstrate basic law enforcement skills, articulate specific knowledge, and pass the final four scenarios.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## **Intermediate Algebra with Applications 10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## **Intermediate Investigations 10504707..... 3 credits**

Students learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Constitutional Law II, Crimes II, Domestic, and Report Writing. Student learning occurs through lecture and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## Intermediate Patrol Response

**10504704 ..... 3 credits**

Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase II topics: Professional Communication Skills II, Incident Command Systems and NIMS, Hazardous Materials and WMD, Tactical Response, Crisis Management, and Tactical Emergency Casualty Care.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Criminal Justice

**10504700 ..... 3 credits**

Students focus on the following Phase I key topics as addressed in the Wisconsin Department of Justice Academy 720 curriculum framework. Topics include: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication. Student learning occurs through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Law Enforcement

**10504114 ..... 3 credits**

This course presents an overview of the duties and responsibilities of a law enforcement officer. Major skills and services performed by patrol officers are explored in order to provide students with a realistic understanding of the occupation. Students learn basic professional police communication skills police officers use every day when interacting with victims, complainants, and witnesses. The class explores investigations, traffic enforcement, the use of force, including defense and arrest tactics, and firearms basics.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression



analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Law Enforcement Qualification

**10504149 ..... 3 credits**

Students who wish to participate in the Wisconsin DOJ training that leads to law enforcement certifiable status—a credential that is required in order to become a police officer in the State of Wisconsin—must complete the Wisconsin Department of Justice preparatory law enforcement officer training or certification track requirements including a physical fitness test, a background investigation, an oral interview, and medical screening. This course is a prerequisite for the Criminal Justice-Law Enforcement certification track that begins in the second semester. The physical fitness test along with other screening tools must be satisfactorily completed during this course in order to participate in second-semester courses as a Law Enforcement Certification Track student.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Physical Fitness

**30504320 ..... 1 credit**

Through classroom lecture and on-campus lab, students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements.

*Prerequisite: Admission to Criminal Justice-Law Enforcement Academy program 305041 and must successfully complete the application process*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring

evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Telecommunications for Law Enforcement

**10504118 ..... 3 credits**

A hands-on course in practical application of telecommunications technology as well as an introduction to protocol. Students gain experience utilizing our hand-held and mobile radios by practicing basic communications exercises. Students learn about different telecommunications call types and handling protocols. Though telecommunications is addressed in the regular curriculum, this course takes the understanding beyond that which is essential for entry-level law enforcement response. Also includes components of the Patrol Procedures class, such as familiarity with squad cars, operating the equipment, and maintenance/care of the vehicle.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046 and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Traffic Response

**10504709 ..... 3 credits**

Students learn and apply the skills from the Phase III topics outlined in the WI Department of Justice 720 Academy. Topics include: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, Operating While Intoxicated (OWI), Standardized Field Sobriety Testing (SFST), and Report Writing. Student learning occurs through lecture and on-campus lab activities.

*Prerequisite: Admission to Criminal Justice-Law Enforcement program 105046*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# CUSTOMER RELATIONSHIP PROFESSIONAL

Technical Diploma

Program Code: 30-106-8

our graduates  
INDEMAND

2016/2017

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TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## CUSTOMER RELATIONSHIP PROFESSIONAL



Mid-State's Customer Relationship Professional program develops students into important members of a call center or customer service team. The program focuses on communicating with customers to help them navigate past challenges to fulfill their needs, emphasizing active listening, effective verbal communication, and customer service skills. Through hands-on projects, you will learn telephone etiquette, how to respond appropriately to customers, and how to perform quick problem-solving analysis while exceeding customer expectations.

Graduates of the Customer Relationship Professional technical diploma may advance into the Office Support Specialist program or the Administrative Professional program.

**Technical Diploma**

**Total Credits: 12**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Account Representative, Client Services Specialist, Contact Center Agent, Customer Service Representative, and Customer Care Representative

In general, there is growing demand for these careers. Example: Customer Service Representative career has remained the same over the last 2 years and is expected to grow by 10% over the next 10 years. Currently 24,869 Customer Service Representatives are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## OFFICE SUPPORT SPECIALIST



Mid-State's Office Support Specialist program develops students into key members of an office team. The program emphasizes document preparation and the effective use of personal interactions and ever-changing technology to support your role as the central communications link in an office. You'll experience hands-on learning through the organization of high-profile events. You'll also learn to handle multiple projects and deadlines, manage time, solve problems, and be helpful in nature—all in high demand by employers.

Graduates of the Office Support Specialist technical diploma may advance into the Administrative Professional program.

**Technical Diploma**

**Total Credits: 36-37**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Administrative Assistant, Clerk, Customer Service Representative, General Office Clerk, Office Assistant, Program Assistant, and Receptionist

In general, there is growing demand for these careers. Example: General Office Clerk career has grown by 2% over the last two years and is expected to grow by 2% over the next 10 years. Currently 38,770 General Office Clerks are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Accounting, Business Management, Court Reporting, IT Network Specialist, IT Software Developer, Marketing, and Supervisory Management

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## ADMINISTRATIVE PROFESSIONAL



Graduates of Mid-State's Administrative Professional program are known for being adaptable and well prepared for today's workforce. Students learn to prepare correspondence and work with customers, prepare research reports, handle private or confidential records, and more. The program emphasizes fundamental knowledge of software applications, customer service skills, and the expert operation of a variety of office technology and equipment. You'll experience hands-on learning through the organization of high-profile events.

**Associate in Applied Science**

**Total Credits: 68-69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

### bachelor's degree opportunities

Lakeland College,  
BA Specialized Administration

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

**Careers:** Administrative Professional, Customer Service Representative, Legal Secretary, Medical Secretary, Office Assistant, Program Assistant, Receptionist, and Secretary

In general, there is growing demand for these careers. Example: Secretary career has grown by 2% over the last two years and is expected to grow by 15% over the next 10 years. Currently 14,783 Secretaries and Administrative Assistants are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## PROGRAM OUTCOMES

Employers will expect you, as a Customer Relationship Professional graduate, to be able to:

- Demonstrate effective workplace communications.
- Maintain internal and external relationships.
- Model professionalism in the workplace.
- Demonstrate hands-on ability in the use of business hardware and software.
- Communicate orally in an effective manner.
- Demonstrate proper written and oral communications.
- Demonstrate customer service skills as a Customer Relationship Professional.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## academic career plan

Term/Year	Credits
Term/Year	Credits

## SAMPLE FULL TIME CURRICULUM OPTION

Term		12 credits
10103106	Microsoft Office-Introduction	3
10106106	Quality Customer Service	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10809172	Introduction to Diversity Studies	3
<b>Total credits</b>		<b>12</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. **For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).**

## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10103106	Microsoft Office-Introduction	3
10106106	Quality Customer Service	3
<b>Term</b>		
		<b>6 credits</b>
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10809172	Introduction to Diversity Studies	3
<b>Total credits</b>		<b>12</b>

## course descriptions

### English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

### Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

### Quality Customer Service

**10106106 ..... 3 credits**

This course addresses sensitivity in communicating with customers and co-workers. International communications, teamwork, working relationships, and telephone skills are also addressed.

### Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

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Wisconsin Rapids, WI 54494  
715.422.5300



# DIESEL AND HEAVY EQUIPMENT TECHNICIAN

Technical Diploma

Program Code: 32-412-1

our graduates  
INDEMAND

2016/2017

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[mstc.edu](http://mstc.edu)





# Diesel & Heavy Equipment Technician career pathway

## DIESEL & HEAVY EQUIPMENT TECHNICIAN



Graduates of Mid-State's Diesel & Heavy Equipment Technician program have the knowledge and skills to confidently locate and repair mechanical and electrical problems in trucks, buses, construction equipment, farm equipment, and industrial machinery. Through hands-on classroom learning and training on state-of-the-art equipment, you will learn to perform preventive maintenance and troubleshooting procedures, rebuild components, and respond to field service calls. You'll also participate in field trips, tours, and equipment demonstrations, and you'll get real-world experience by maintaining Mid-State's vehicle fleet and operating onsite equipment.

**Technical Diploma**

**Total Credits: 63**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Agricultural Machinery Technician, Auto Technician, Bus and Truck Mechanics and Diesel Engine Specialists, Chassis Repair Technician, Construction and Heavy Equipment Technician, Diesel or Heavy Equipment Technician, Engine Repair Technician, Fleet Maintenance Technician, Heavy Equipment Parts Salesperson, and Industrial Equipment Technician

In general, there is growing demand for these careers. Example: Bus and Truck Mechanics and Diesel Engine Specialists careers have grown by 2% over the last two years and is expected to grow by 10% over the next 10 years. Currently 3,215 Bus and Truck Mechanics and Diesel Engine Specialists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

Ferris State University,  
BS Heavy Equipment Service Engineering Technology

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAM

Automotive Technician

### RELATED APPRENTICESHIP

ABC Heavy Equipment Operator

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Diesel & Heavy Equipment Technician graduate, to be able to:

- Practice safe working procedures.
- Diagnose, service, and repair diesel powered equipment.
- Comply with federal, state, and local regulations.
- Proficiently operate tools and equipment common to the industry.
- Diagnose, service, and repair electrical systems.
- Apply theoretical concepts to mechanical.

## PROTECTIVE CLOTHING

Students are required to wear school uniform shirts while working in the diesel shop. Uniform shirts can be purchased from the Wisconsin Rapids Campus Bookstore. Students are also required to provide and wear leather work shoes with oil-resistant soles.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.





# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Advanced Electricity-Diesel

**32412311 ..... 5 credits**

This course provides advanced training in the theory, operating principles, and diagnosis and repair of vehicle electronic/electrical systems. Emphasis includes vehicle ignition, starting, charging, and lighting system problem diagnosis, and repairs related to the truck, construction, and heavy equipment industries.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*

### Applied Science

**32806351 ..... 2 credits**

This survey course in basic physics is designed for students in the Automotive Technician, Diesel & Heavy Equipment Technician, and Machine Tool Technician programs. Topics are specially selected to provide students with basic support material for principles applied in the above listed programs. Topics covered include basic measurement skills; problem solving; motion; forces and energy transfer in linear and rotary systems; properties of solids, liquids, and gases; temperature and heat; and basic DC electricity.

*Prerequisite: College Mathematics 10804107*

### Braking Systems-Diesel

**32412308 ..... 5 credits**

Fundamentals of vehicle braking systems are studied, including drum and disc on hydraulic and air systems. Power and anti-skid systems are included with emphasis on troubleshooting and component replacement and reconditioning.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

### Capstone-Live Diesel Repair

**32412330 ..... 2 credits**

Students have the opportunity to work on "live" diagnostic and repair projects and have their knowledge skills assessed across a wide spectrum of projects provided by business and industry. Work orders, troubleshooting, parts ordering, installation, and quality checks are elements included to provide real-life experiences as students prepare to begin a diesel and heavy equipment career.

*Prerequisites: Engine Repair 32412324 and Fuel Systems and Alternative Fuels 32412327; Corequisites: Engine Performance and Emissions-Diesel 32412310 and Advanced Electricity-Diesel 32412311*

## Career Development

### 10102130 ..... 3 credits

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

### 10804107 ..... 3 credits

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Drive Trains

### 32412312 ..... 4 credits

The course provides training in the proper diagnosis and repair of clutches, manual transmissions, drive shafts and universal joints, and drive axles. Coverage of track-type vehicle service is also included. Diagnostic and service procedures apply to the truck, construction, and heavy equipment industries.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*

## Electrical Systems

### 32412313 ..... 4 credits

This is the study of construction, function, and principles of operation of starting motors, charging systems, and controls. Basic electronics, including capacitance, inductance, series and parallel circuits, magnetism and Ohm's Law, wiring schematics, soldering techniques, and use of diagnostic equipment, are covered. Vehicle control and accessory systems are studied.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*

## Employment Strategies

### 10801199 ..... 3 credits

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## Engine Performance & Emissions-Diesel

### 32412310 ..... 5 credits

This course provides an introduction to ignition systems, fuel systems, air induction systems, exhaust systems, emission control systems, and engine electrical systems. Course emphasis includes the proper diagnosis and repair of system components as related to the truck, construction, and heavy equipment industry. A review of engine operation and related servicing is provided.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*

## Engine Repair

### 32404324 ..... 5 credits

This course provides a general overview of engine types and operating characteristics. Course emphasis includes the diagnosis and repair of cylinder heads, valve train components, and engine blocks and related components. Engine support systems are covered, such as the lubrication systems, cooling system, ignition system, and fuel and exhaust systems.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*

## Fuel Systems & Alternative Fuels

### 32412327 ..... 5 credits

This course provides detailed coverage of the principles of operation as well as the components and diagnostic procedures for modern diesel engines. Course emphasis includes fuel injection and pump timing procedures.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 324121*



## Heating/AC-Diesel

**32412303 ..... 3 credits**

This course introduces students to the theory and operation of the heating and air conditioning systems found in transportation, farm, and heavy equipment industries. Students learn how to inspect, diagnose, and repair heat and air conditioning systems found in their field. Students have the opportunity to acquire their state of Wisconsin HVAC certification through a written test and hands-on evaluation. This class offers experience in installation, operation, and repair of auxiliary power units found on today's modern trucks. Not only will students learn about heating and air conditioning for operator comfort, they have the opportunity to learn how to inspect, service, and repair refrigerated units found on today's semi trailers and shipping containers.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician program 32412 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Intro to Electronics

**10605108 ..... 2 credits**

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65*

## Metal Fabrication

**10462116 ..... 3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Mobile Hydraulics Repair

**10462121 ..... 3 credits**

Designed for students required to take a course on hydraulics found in diesel technology and heavy equipment programs. This class takes a practical approach to the understanding of fluid power/hydraulic systems. Instead of concentrating on the design issues of fluid power systems, this class approaches hydraulics more like a technician would approach a system that requires maintenance or troubleshooting. Nearly all aspiring technicians receive training in this subject, which is one of seven areas of study recognized by NATEF in diesel technology. Coverage includes a study of terminology, industrial standards, symbols, and basic circuitry design as related to fluid power. Examples are drawn from actual equipment that is relevant to the program of study, whether it be heavy truck, earth-moving, or agricultural equipment.

## Preventive Maintenance-Diesel

**32412305 ..... 3 credits**

This course provides an introduction to vehicle preventive maintenance and inspection. The focus is on maintaining and inspecting the engine system, cab and hood, electrical and electronics, and frame and chassis components. Students learn how to properly service vehicle systems and perform a visual inspection of all vehicle components. Students also learn how to properly document all maintenance and inspection findings.

## Service Practices in Transportation Industry

**32404375 ..... 2 credits**

This course introduces the student to common tools, terminology, and service practices in the transportation service field. Safety, environmental concerns, and basic customer relations are covered. Service shop management practices and the use of automated work order, parts ordering, and time management concepts are included.

*Prerequisite: Admission to Automotive Technician 324042 or Diesel & Heavy Equipment Technician 324121 programs*

## Suspension & Steering Systems

**32404307 ..... 5 credits**

Highlighted in this course is an analysis of construction and working principles of chassis components. Frames, suspension systems, steering gears and linkages, wheels and tires, and wheel alignment are included. Special attention given to products used in servicing chassis components.

*Prerequisite: Admission to Automotive Technician 324042 or Automotive Maintenance Technician 314043 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*



# EARLY CHILDHOOD EDUCATION

Associate in Applied Science (AAS)

Program Code: 10-307-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)







## PROGRAM OUTCOMES

Employers will expect you, as an Early Childhood Education graduate, to be able to:

- Apply child development theory to practice.
- Cultivate relationships with children, families, and the community.
- Assess child growth and development.
- Use best practices in teaching and learning.
- Demonstrate professionalism.
- Integrate health, safety, and nutrition practices.

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Students enrolling in the Early Childhood Education program will have the opportunity to complete coursework towards specific registry credentials, including preschool, infant/toddler, inclusion, and administration.

Students enrolled in practicum courses will combine classroom learning experiences with eight to twelve hours per week of purposeful experience in local early childhood centers working with children from infancy through school age.

## ADDITIONAL ENTRY CRITERIA

To apply to the Early Childhood Education program, please submit the following document to Mid-State Admissions:

Submit the Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as an early childhood education provider is available at [mstc.edu/programs/early-childhood-education](http://mstc.edu/programs/early-childhood-education). Contact the disability services coordinator in the Student Services Office to receive assistance.







## SAMPLE FULL TIME CURRICULUM OPTION

Term		21 credits
10307148	Foundations of Early Childhood Education	3
10307167	Health, Safety, & Nutrition	3
10307174	Practicum 1	3
10307178	Art, Music, & Language Arts	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Term 15-16 credits</b>		
10307179	Child Development	3
10307188	Guiding Children's Behavior	3
10307192	Practicum 2	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10809122	Intro to American Government	3
<b>Term 18 credits</b>		
10307151	Infant & Toddler Development	3
10307187	Children with Differing Abilities	3
10307194	Math, Science, & Social Studies	3
10307197	Practicum 3	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
	Elective	3
<b>Term 15 credits</b>		
10307166	Curriculum Planning	3
10307195	Family & Community Relationships	3
10307198	Administering an Early Childhood Education Program	3
10307199	Practicum 4	3
10809166	Intro to Ethics: Theory & Application <b>-or-</b>	
10809195	Economics	3
<b>Total Credits 69-70</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10307178	Art, Music, and Language Arts	3
10307148	Foundations of Early Childhood Ed	3
<b>Term 6 credits</b>		
10307179	Child Development	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Term 6 credits</b>		
10307151	Infant and Toddler Development	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
<b>Term 6 credits</b>		
10307188	Guiding Children's Behavior	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term 6-7 credits</b>		
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Term 6 credits</b>		
10307167	Health, Safety, & Nutrition	3
10809122	Intro to American Government	3
<b>Term 6 credits</b>		
10307174	Practicum 1	3
10307194	Math, Science, & Social Studies	3
<b>Term 9 credits</b>		
10307166	Curriculum Planning	3
10307192	Practicum 2	3
10809166	Intro to Ethics: Theory & Application <b>-or-</b>	
10809195	Economics	3
<b>Term 9 credits</b>		
10307197	Practicum 3	3
10307187	Children with Differing Abilities	3
	Elective	3
<b>Term 9 credits</b>		
10307195	Family & Community Relationships	3
10307198	Administering an Early Childhood Education Program	3
10307199	Practicum 4	3
<b>Total credits 69-70</b>		



## **Administering an Early Childhood Education Program**

**10307198..... 3 credits**

This three-credit course focuses on the administration of an early childhood education program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze the components of an ECE facility, design an ECE program, analyze the aspects of personnel supervision, outline financial components of an ECE program, apply laws and regulations related to an ECE facility, and advocate for the early childhood profession.

*Prerequisite: Completion of 12 Early Childhood (307) credits*

## **Art, Music, & Language Arts**

**10307178..... 3 credits**

This three-credit course focuses on beginning-level curriculum development in the specific content areas of art, music, and language arts. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play as it relates to art, music, and language arts; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze caregiving routines as curriculum; create developmentally appropriate language, literature, and literacy activities; create developmentally appropriate art activities; and create developmentally appropriate music and movement activities.

*Prerequisite: Minimum Accuplacer scores: Reading 55, Sentence Skills 60, Arithmetic 34*

## **Child Development**

**10307179..... 3 credits**

This three-credit course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; and examine the role of brain development in early learning (ages 3-8).

## **Children with Differing Abilities**

**10307187..... 3 credits**

This three-credit course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; work collaboratively through the consultation process to embed intervention in natural-based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; and cultivate partnerships with families who have children with developmental differences.

*Prerequisite: Minimum Accuplacer scores: Reading 55, Sentence Skills 60, Arithmetic 34*

## **College Mathematics**

**10804107..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*



## Curriculum Planning

**10307166..... 3 credits**

This three-credit course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, examine the critical role of play as it relates to curriculum planning, establish a developmentally appropriate environment, integrate Developmentally Appropriate Practice (DAP) into curriculum, develop activity plans that promote child development and learning, develop curriculum plans that promote child development and learning across all content areas, and analyze early childhood curriculum models.

*Prerequisite: Art, Music, & Language Arts 10307178 or Math, Science, & Social Studies 10307194*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Economics

**10809195 ..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 .....3.00**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Family & Community Relationships

**10307195..... 3 credits**

In this three-credit course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends, and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; and work collaboratively with community resources.

## Foundations of Early Childhood Education

**10307148..... 3 credits**

This three-credit course introduces you to the early childhood profession. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, investigate the history of early childhood education, examine regulatory requirements for early childhood education programs in Wisconsin, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, and explore early childhood curriculum models.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Guiding Children's Behavior

**10307188..... 3 credits**

This three-credit course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, summarize early childhood guidance principles, analyze factors that affect the behavior of children, practice positive guidance strategies, develop guidance strategies to meet individual needs, and create a guidance philosophy. This course meets the requirements for the Pyramid Model training.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Health, Safety, & Nutrition

**10307167..... 3 credits**

This three-credit course examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; apply strategies to prevent Shaken Baby Syndrome (SBS); and incorporate health, safety, and nutrition concepts into the children's curriculum.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Infant & Toddler Development

**10307151..... 3 credits**

In this three-credit course you study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze development of infants and toddlers (conception to three years), correlate prenatal and postnatal conditions with development, summarize child development theories, analyze the role of heredity and the environment, examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through age three), and examine caregiving routines as curriculum.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Math, Science, & Social Studies

**10307194..... 3 credits**

This three-credit course focuses on beginning-level curriculum development in the specific content areas of math, science, and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play as it relates to math, science, and social studies; establish a developmentally appropriate environment for math, science, and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; and create developmentally appropriate social studies activities.

*Prerequisite: Art, Music, & Language Arts 10307178 or Child Development 10307179*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Practicum 1

**10307174 ..... 3 credits**

In this three-credit practicum course you learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor/student; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children and adults; analyze how Wisconsin Early Learning Standards provide a framework of guiding principles, developmental expectations, and program and performance standards to delineate the five developmental domains that embody delivery of quality education and care to young children; incorporate Wisconsin Early Learning Standards with the principles of developmentally appropriate practice, intentionality, and the teaching cycle to examine child development; evaluate program integration of Wisconsin Early Learning Standards into the teaching cycle of ongoing assessment, planning and curriculum goals, and implementation; identify specific goals and learning and assessment activities to promote the development of a focus child utilizing the Wisconsin Early Learning Standards; and develop a plan for child learning utilizing the performance standards, developmental continuum, and developmental domains from the WMELS that is based on experiential learning.

*Prerequisite: Admission to Early Childhood Education program 103071. Students must meet the state administrative code requirements to be in an Early Childhood Education setting (including both prior coursework and Caregiver Background Check).*

## Practicum 2

**10307192..... 3 credits**

In this three-credit practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: identify children's growth and development, maintain the standards for quality early childhood education, practice strategies that support diversity and anti-bias perspectives, implement student teacher-developed activity plans, identify the elements of a developmentally appropriate environment, implement positive guidance strategies, demonstrate professional behaviors, utilize caregiving routines as curriculum, utilize positive interpersonal skills with children, and utilize positive interpersonal skills with adults.

*Prerequisites: Admission to Early Childhood Education program 103071 and Practicum 1 10307174*

## Practicum 3

### 10307197 ..... 3 credits

In this three-credit practicum course you will learn about and apply the course competencies in an actual child care setting. Course competencies include: assess children's growth and development, implement the standards for quality early childhood education, integrate strategies that support diversity and anti-bias perspectives, build meaningful curriculum, provide a developmentally appropriate environment, facilitate positive guidance strategies, evaluate one's own professional behaviors and practices, lead caregiving routines as curriculum; utilize positive interpersonal skills with children, and utilize positive interpersonal skills with adults.

*Prerequisite: Admission to Early Childhood Education Program 103071 and Practicum 2 10307192. Students must meet the state administrative code requirements to be in an Early Childhood Education setting (including both prior coursework and Caregiver Background Check). The CBC will be processed by the Early Childhood Education program coordinator prior to the student being eligible to participate in the Practicum 3 field experience. See additional information outlined in the Mid-State Catalog regarding practicum requirements.*

## Practicum 4

### 10307199 ..... 3 credits

In this three-credit practicum course you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; and explore professional options in early childhood education.

*Prerequisite: Practicum 3 10307197*

## Speech

### 10801198 ..... 3 credits

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Written Communication

### 10801195 ..... 3 credits

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*







# ELECTRICAL POWER ENGINEERING TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-605-5

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## ELECTRICAL POWER ENGINEERING TECHNICIAN



Unique in the Wisconsin Technical College System, Mid-State's Electrical Power Engineering Technician program prepares graduates to maintain vital energy systems that harness fossil, hydro, and nuclear energy sources. You'll learn the principles of high-voltage energy transmission and how to analyze instrument readings. You also learn how to locate equipment, design wiring layouts, route new power lines, specify materials, troubleshoot equipment and systems, and much more. You'll gain hands-on experience operating a bucket truck and take field trips to electrical power generation facilities, dispatch centers, substations, and motor repair facilities.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 67**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Distribution Estimator; Electrical and Electronics Repairers–Powerhouse, Substation, and Relay; Engineering Technician; First Class Meter Person; Instrument Technician; Nuclear Equipment Attendant; Power Plant Operator; and Transmission Design Technician

In general, there is growing demand for these careers. Example: Electrical and Electronics Repairers–Powerhouse, Substation, and Relay career has remained the same over the last two years but is expected to grow by 19% over the next 10 years. Currently 56 Electrical and Electronics Repairers, Powerhouse, Substation, and Relay are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAM

Civil Engineering Technology-Highway Technician and Instrumentation & Controls Engineering Technology

### RELATED APPRENTICESHIP

Metering Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as an Electrical Power Engineering Technician graduate, to be able to:

- Demonstrate safe work practices around electrical power systems, whether self-directed or operating as part of a team.
- Interpret and comply with relevant codes, regulations, and standards.
- Identify various electrical power sources and differentiate operational characteristics.
- Assess and describe operation of integrated electrical power delivery systems.
- Apply power measurement, monitoring, and recording techniques, and explain output.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.









## Electrical Circuits II

**10605110** ..... **3 credits**

This course continues the study of AC/DC circuits started in Electrical Circuits I. Advanced DC circuit analysis techniques, such as Thevenin's Theorem and Node analysis, are introduced. AC circuit analysis includes discussion on voltage and power theorems used in the analysis of circuits consisting of both resistance and reactance. The complex plane and construction of phasor diagrams are also discussed. The course concludes with an introduction to electronic filter circuits used in transmission and communication equipment. Approximately 50% of the course is spent in the laboratory applying the principles and theory presented in the classroom.

*Prerequisite: Electrical Circuits I 10605105 grade "C" or better;*  
*Corequisite: Trigonometry with Applications 10804196*

## Electrical Machines

**10605127** ..... **3 credits**

Designed to teach fundamentals of generators and motors. Covers DC and AC generators and motors.

*prerequisite: Electrical Circuits I 10605105 or Intro to Electronics 10605108*

## Electrical Power Distribution

**10605125** ..... **4 credits**

Designed to teach the principles of distribution systems and substations. Covers wire capacity, sag, guying, supporting structures, troubleshooting, insulators, lightning arresters, switches, and recloser and power circuit breakers. Students also do an exercise applying distribution standards of an actual utility to the building and design of a power line on paper.

*Prerequisites: Electrical Circuits I 10605105 and Electrical Power Generation 10605122*

## Electrical Power Generation

**10605122** ..... **4 credits**

A study of equipment and facilities utilized in the production of electricity. Topics include fuels, prime mover turbines, and generators. Emphasis is on safety controls, efficient production, and operational procedures. The course concludes with computer-simulated operation of a large power station boiler.

*Prerequisite: Electrical Power Science 10605120*

## Electrical Power Science

**10605120** ..... **3 credits**

An introduction to the field of electrical power technology. Covers the power generation process, transmission techniques, and networks. Topics include prime energy sources, converting raw energy into electrical energy, metering electricity, and disbursing electrical energy from generation plant to consumer.

## Electrical Power System Protective Relaying

**10605170** ..... **4 credits**

A study of controlling devices and systems utilized in generation, distribution, and transmission of electricity. Students study instrument transformers, protective relays, protective systems, power system standards, drawing

conventions, equipment rating terminology, insulation, circuit interrupting devices, grounding, and power system faults.

*Prerequisite: Electrical Machines 10605127*

## Electrical Power Transmission

**10605124** ..... **3 credits**

This course covers the basic principles of high-voltage transmission of electrical energy. Students are introduced to the concepts of active, reactive, and apparent power in electric power technology. Basic properties of single- and three-phase transformers and their importance to power transmission are discussed. The behavior of ideal and practical (or non-ideal) transformers are used as a building block to explain the electrical function of a transformer in many transmission circuits. Basic mechanical (e.g., supporting structures, line sag, galloping and the effect of weather) and electrical (corona, pollution, insulation, lightning) requirements that must be met for successful power transmission over large distances are discussed. Approximately 50% of the course is spent in the laboratory working with equipment that simulates power transmission.

*Prerequisites: Electrical Machines 10605127 and Electrical Power Distribution 10605125*

## English Composition 1

**10801136** ..... **3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Physics 1

**10806154** ..... **4 credits**

Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

*Corequisite: Trigonometry with Applications 10804196*

## Intermediate Algebra with Applications

**10804118** ..... **4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to AutoCAD

**10623106** ..... **2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Ethics: Theory & Application

**10809166** ..... **3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198** ..... **3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Oral/Interpersonal Communication

**10801196** ..... **3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Problem Solving & Critical Thinking

**10623100** ..... **1 credit**

Introductory course in problem setup, organization, and solution. Identification of given and unknown values, equation setup, unit conversions, and use of significant figures. Introduction to physical science and working with units of force, area, volume, time, and distance in metric and imperial systems. This course is designed to help you be successful in technical and engineering classes and should be taken during your first semester of enrollment.

## Programmable Logic Controllers-Beginning

**10605117** ..... **3 credits**

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Speech

**10801198** ..... **3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Trigonometry with Applications

**10804196** ..... **3 credits**

Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's Theorem, polar coordinates, and vectors.

*Prerequisite: Intermediate Algebra with Applications 10804118 with a grade of "C" or better*

## Written Communication

**10801195** ..... **3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*





# EMERGENCY MEDICAL TECHNICIAN

Technical Diploma

Program Code: 30-531-3

our graduates  
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2016/2017



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# paramedic technician career pathway

## EMT-PARAMEDIC



Mid-State's EMT-Paramedic program provides the knowledge and skills needed to work competently as an entry-level EMT-paramedic. Students enter a joint core course cohort with Paramedic Technician degree students. Graduates earn a technical diploma upon successful completion of this program. This program consists of classroom lectures, practical skills lab, laboratory simulations, and hospital and pre-hospital clinical experiences. Upon successful completion, you will earn certifications in Advanced Cardiac Life Support, Prehospital Trauma Life Support, and Pediatric Advanced Life Support and be eligible to take the National Registry of Emergency Medical Technician written and practical examinations.

**Technical Diploma**

**Total Credits: 38**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician and Paramedic

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## PARAMEDIC TECHNICIAN



Mid-State's Paramedic Technician program prepares students with the knowledge and skills to work competently as an entry-level EMT-Paramedic. For this associate degree program students will complete two semesters of general and technical studies as well as two semesters of the core paramedic courses in a joint cohort with students in the EMT-Paramedic program. You will learn prehospital skills in the classroom, skills laboratory, hospital, and prehospital settings. Upon successful completion, you will earn certifications in Advanced Cardiac Life Support, Prehospital Trauma Life Support, and Pediatric Advanced Life Support and be eligible to take the National Registry written and practical examinations.

**Associate in Applied Science**

**Total Credits: 70**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician and Paramedic

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

UW-Oshkosh,  
BAS Fire and  
Emergency Response  
Management

UW-Stevens Point  
BS Health  
Science-Health  
Care Administration

For more  
information  
and additional  
opportunities, go to  
[mstc.edu/transfer](http://mstc.edu/transfer)

## PROGRAM OUTCOMES

Employers will expect you, as an Emergency Medical Technician graduate, to be able to:

- Demonstrate entry-level knowledge and skills required for State of Wisconsin EMT licensure.
- Accurately assess and provide appropriate pre-hospital basic life support treatment to ill and injured patients in a professional and competent manner.

## ADDITIONAL ENTRY CRITERIA

To apply to the Emergency Medical Technician program, please submit the following document to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as an emergency medical technician is available at [mstc.edu/programs/emergency-medical-technician](http://mstc.edu/programs/emergency-medical-technician). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work and current health care provider level CPR certification to a private vendor. Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the course and will not be able to advance in the program.

Prior to beginning a clinical experience in a health care agency or ambulance service, students must:

- Provide evidence of completion of the required health work within one month following the start of EMT Foundations (10531940).
- Hold a Department of Health Services EMS Training Center Training Permit at the EMT level.
- Provide evidence of current CPR at the health care professional level by a CPR organization specified under s. DHS 110.17(1).
- Obtain the required uniform for clinical experiences.
- Assume responsibility for clinical assignment(s) regardless of time and location, including transportation and other personal arrangements.

## PROGRAM PROGRESSION

In order to be eligible to take the National Registry of Emergency Medical Technician's examination, students must:

- Receive a minimum grade of "C" in the Emergency Medical Technician program.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>3 credits</b>
10531940	EMT Foundations	3
<b>Term</b>		<b>2 credits</b>
10531941	EMT Applications	2
		<b>Total credits 5</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## academic career plan

Term/Year	Credits

## course descriptions

### EMT Foundations

**10531940 ..... 3 credits**

Covers the basics of the Emergency Medical Technician certification course to include CPR, airways, anatomy, hazmat response requirements, lifting and moving patients, incident command, and other technical information. It is the first part of a two-course system to prepare students for national certification testing for Emergency Medical Technician.

*Prerequisite: Admission to Paramedic Technician 105311 or Emergency Medical Technician 305313 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

### EMT Applications

**10531941.....2**

This course covers the bulk of the Emergency Medical Technician certification course to include the handling of cervical and spine injuries, burn injuries, heart and breathing related problems, shock, and other trauma injuries. This course includes several lab days to practice and perfect skills, clinical time, and extensive hands-on activities. This course prepares students for national certification testing for EMT. To maintain National Registry certification eligibility this course must be finished the semester following the completion of EMT Foundations.

*Prerequisite: EMT Foundations 10531940*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# EMT-PARAMEDIC

Technical Diploma

Program Code: 31-531-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## EMT-PARAMEDIC



Mid-State's EMT-Paramedic program provides the knowledge and skills needed to work competently as an entry-level EMT-paramedic. Students enter a joint core course cohort with Paramedic Technician degree students. Graduates earn a technical diploma upon successful completion of this program. This program consists of classroom lectures, practical skills lab, laboratory simulations, and hospital and pre-hospital clinical experiences. Upon successful completion, you will earn certifications in Advanced Cardiac Life Support, Prehospital Trauma Life Support, and Pediatric Advanced Life Support and be eligible to take the National Registry of Emergency Medical Technician written and practical examinations.

**Technical Diploma**

**Total Credits: 38**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician and Paramedic

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## EMERGENCY MEDICAL TECHNICIAN



The Emergency Medical Technician (EMT) program at Mid-State prepares students with the knowledge and skills needed to work as an entry-level EMT. This hands-on 185-hour program consists of classroom lectures, practical skill labs, laboratory simulations, and pre-hospital clinical experiences. Successfully completing the program qualifies you to take the National Registry of EMT's certification exam required to apply for state licensure.

Graduates of the Emergency Medical Technician technical diploma may advance into either the EMT-Paramedic program or Paramedic Technician program.

**Technical Diploma**

**Total Credits: 5**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAM

Fire Protection Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).



## PROGRAM OUTCOMES

Employers will expect you, as a EMT-Paramedic graduate, to be able to:

- Prepare for incident response and EMS operations.
- Integrate pathophysiological principles and assessment findings for a variety of patient encounters.
- Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters.
- Communicate effectively with others.
- Demonstrate professional behavior.
- Meet state and national competency requirements for paramedic credentialing.

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The EMT-Paramedic program contains the same core courses (10-531) as the Associate Degree Paramedic Technician program. Completion of the Emergency Medical Technician program is required prior to beginning the Paramedic Technician core courses.

EMT-Paramedic is an 1150-hour program based upon the US Department of Transportation Administration/Wisconsin Bureau Local Health Support and EMS curriculum.

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## ADDITIONAL ENTRY CRITERIA

To apply to the EMT-Paramedic program, please submit the following document to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

Submit a current Wisconsin EMT license.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as an EMT-paramedic is available at [mstc.edu/programs/emergency-medical-technician](http://mstc.edu/programs/emergency-medical-technician). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work and current health care provider level CPR certification to a private vendor. Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the course and will not be able to advance in the program.

Prior to beginning a clinical experience in a health care agency or ambulance service, students must:

- a. Provide evidence of completion of the required health work within one month following the start of EMS Fundamentals (10531911).
- b. Hold a current State of Wisconsin EMT license.
- c. Hold a Department of Health Services EMS Training Center Training Permit at the paramedic level.
- d. Provide evidence of current CPR at the health care professional level by a CPR organization specified under s. DHS 110.17(1).
- e. Obtain the required uniform for clinical experiences.
- f. Assume responsibility for clinical assignment(s) regardless of time and location, including transportation and other personal arrangements.

## PROGRAM PROGRESSION

In order to maintain a passing status and progress in the EMT-Paramedic program, students must receive a grade of "C" or better in each of the paramedic core courses.

Failure to obtain a grade of "C" in any core course will prevent a student from progressing onto the next course in the sequence until they have retaken the course and achieved a grade of "C" or better.

This requirement also applies to the last class in the sequence, as a grade of "C" or better is required in all courses in order to retain eligibility to take the National Registry exam.

## STUDENT HANDBOOK

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## SAMPLE FULL TIME CURRICULUM OPTION

Blank area for the full-time curriculum option.

## SAMPLE PART-TIME CURRICULUM OPTION

Blank area for the part-time curriculum option.



**Please Note:**

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- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Advanced Resuscitation

**10531918..... 1 credit**

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

### EMS Career Fundamentals

**10531169..... 4 credits**

This course is designed to introduce the student to a variety of topics that are relevant to a successful career in EMS. Content focuses on employment readiness, organizational structure, leadership concepts, community involvement, and application of EMS research findings.

### EMS Fundamental

**10531911 ..... 2 credits**

Provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. Students obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations fosters the development of effective written and oral communications with colleagues and other health care professionals.

*Prerequisites: Admission to Paramedic Technician 105311 or EMT-*

*Paramedic 315311 programs and Wisconsin Emergency Medical Technician (or higher) license or a current National Registry of EMTs certification at the Emergency Medical Technician level or higher*

### EMS Operations

**10531922 ..... 1 credit**

Provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

### Paramedic Capstone

**10531923 ..... 1 credit**

Provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

### Paramedic Cardiology 1

**10531955 ..... 2 credits**

This course will provide the student with the basic knowledge to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment for the patient with cardiovascular disease.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Cardiology 2

**10531956..... 2 credits**

This course teaches the paramedic student knowledge and skills to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a variety of cardiovascular complaints.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Clinical/Field 1

**10531917..... 3 credits**

Provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences.

*Prerequisites: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs, Advanced Prehospital Pharmacology 10531914, and a current Wisconsin license at the Emergency Medical Technician (or higher) level*

## Paramedic Field Experience

**10531957..... 3 credits**

Provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in a field environment and through experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Field Leadership

**10531958..... 1 credit**

Provides the student with the opportunity to act as the field team leader in a field environment and through experiences with actual patients under the supervision of instructors or approved preceptors. Successful completion of this course requires the student to meet all team leader competency requirements at the paramedic level as defined by WI DHS EMS and the CoAEMSP.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Medical Emergencies

**10531919..... 4 credits**

Teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Medical Principles

**10531912..... 4 credits**

Addresses the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing paramedic students to the topics of shock,

immunology, and bleeding.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Respiratory Management

**10531915..... 2 credits**

Teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Trauma

**10531920..... 3 credits**

Teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Patient Assessment Principles

**10531913..... 3 credits**

Teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Prehospital Pharmacology

**10531914..... 3 credits**

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Special Patient Populations

**10531921..... 3 credits**

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*







# FARM BUSINESS & PRODUCTION MANAGEMENT

Technical Diploma

Program Code: 30-090-1

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Farm Business & Production Management graduate, to be able to:

- Develop a land and nutrient use plan.
- Develop a crop management plan.
- Identify economic principles and family/business goals.
- Identify and plan for emerging farm and agricultural issues and practices.
- Implement appropriate farm safety practices.
- Develop a farm marketing plan.
- Balance rations for farm livestock.
- Develop a livestock breeding health and management plan.
- Prepare and analyze farm business records.

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Students should be able to operate a calculator and understand basic math skills such as percentage, addition, subtraction, multiplication, and division. Students will be asked to draft budgets and calculate costs and returns on different farming enterprises.

The Farm Business & Production Management program runs from July through June annually. Courses in the program are offered at Mid-State's outreach centers, including Adams-Friendship, Almond, Amherst, Auburndale, Chili, and Vesper.

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## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function in farm business and production management is available in the Student Services Office. It is the student's responsibility to notify the disability services coordinator in the Student Services Office to receive assistance.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term	18 credits
30090381 Operating the Farm Business	3
30090382 Soils Management	3
30090383 Crop Management	3
30090384 Livestock Nutrition	3
30090385 Livestock Management	3
30090386 Farm Records & Business Analysis	3
<b>Total credits 18</b>	

Please Note:

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## academic career plan

Term/Year	Credits

## course descriptions

### Crop Management

**30090383..... 3 credits**

Instruction is provided on all phases of crop production, management, and economics. Specific topics relate to variety, selection, planning, pest control, harvesting, storage, safety, and marketing. Crop management emphasizes the analysis of the farm business and planning of cropping practices and strategies.

### Farm Records & Business Analysis

**30090386..... 3 credits**

Emphasizes the practical use of a farm record system in managing the farm through farm and financial analysis. Includes the establishment of farm business goals, selection and use of farm credit, farm business arrangements, farm estate planning, and farm income taxes. Instruction is provided on the use of computers and/or computer records and financial analysis of the farm business and finance strategy to meet the students' needs.

### Livestock Management

**30090385..... 3 credits**

Instruction is provided on the various phases of selection, breeding, herd health, raising of replacement stock, and marketing livestock and livestock products. Includes selection, operation, and maintenance of milking, feed, ventilation, manure handling, and equipment, and farm buildings. In addition, the livestock program is related to the total farm enterprise in a business analysis.

### Livestock Nutrition

**30090384..... 3 credits**

Emphasizes the skills, techniques, and concepts necessary for sound feeding management; determining feed values; economics of feed; nutritional terminology and requirements; feed consumption of livestock; understanding feed tag labels; and feed analysis reports for protein, energy, minerals, and vitamins.

### Operating the Farm Business

**30090381..... 3 credits**

Emphasizes management skills and concepts necessary for first-year student to continue farming in today's changing technology and farm business financing. It builds the foundation for other courses. Special emphasis is given to establishing and recording farm business and family goals. Students will organize and maintain farm business records and interpret and analyze records to assist in making sound farm management decisions. All competencies will be assessed using the student's farm or with simulations established by the instructor.

### Soils Management

**30090382..... 3 credits**

Instruction is provided on how to prepare and implement a land use plan, as well as how to take and understand soil testing procedures and reports. Students receive instruction to implement fertilizer recommendation and establish budgets. Included is instruction on the application of farm manure, chemicals, soil conservation practices, and the management and safe use of farm machinery and equipment.

#### ADAMS COUNTY CENTER

401 North Main  
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#### MARSHFIELD CAMPUS

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#### STEVENS POINT CAMPUS

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715.344.3063

#### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# FARM OPERATION

Technical Diploma

Program Code: 31-080-4

our graduates  
INDEMAND

2016/2017



[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Farm Operation graduate, to be able to:

- Balance rations for farm livestock.
- Create and/or revise a business plan.
- Implement appropriate farm safety practices.
- Evaluate environmental and economic impacts of farm practices.
- Discuss implications of farm practices on food safety.
- Determine proper procedures used in the establishment, growing, harvesting, and storage of crops.
- Plan for operation and maintenance of facilities and equipment.
- Setup or modify a livestock management plan.
- Identify credit needs and develop a plan for financing the operation.

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Students should be able to operate a calculator and understand basic math skills, such as percentage, addition, subtraction, multiplication, and division.

Farm Operation is a 36-week program and takes a minimum of two years to complete. The program is offered in two 18-week segments with start dates in November, January, and February. Each segment is broken into three six-week terms, running from November to April every school year. Classes are scheduled from 10:00 a.m. - 3:30 p.m., allowing time to complete morning and evening farm work at home.

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function in farm operations is available in the Student Services Office. It is the student's responsibility to notify the disability services coordinator in the Student Services Office to receive assistance.

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**Farm Computers**

**31080372 ..... 1 credit**

Introduces the use of computers on the farm and utilizing prepared farm management programs. Identifies considerations as to need for a computer on the home farm and how to select software and hardware.

**Farm Financial Analysis**

**10080140 ..... 3 credits**

This course identifies farm recordkeeping skills and provides the student opportunities to develop these necessary business skills for operating a successful farm business. These skills include recording livestock and crop information, calculating depreciation and capital gains, gathering federal and state tax form information, calculating inventories, developing budgets, formulating yearly credit needs, and conducting a financial farm business analysis.

**Farm Law**

**31080365 ..... 1 credit**

Procedures and practices to be followed in leasing and purchasing farms, methods of family farm transfer, and common legal problems that concern farmers are covered. Emphasis is on preventing disputes and developing an awareness of when legal assistance is needed.

**Farm Maintenance**

**31080320 ..... 2 credits**

Troubleshooting and problem solving the various maintenance issues that arise in farming operations. To include electrical, plumbing, fencing, machinery, and building maintenance and repair.

**Forage Crops**

**31080353 ..... 2 credits**

Attention to the adaptation, management, and utilization of recommended varieties of grasses and legumes, the establishment of both temporary and permanent pastures, the value of these crops as soil builders, and their use for feeding various classes of livestock.

**Livestock Production**

**31080316 ..... 1 credit**

Swine feeding, breeding, housing, and management are studied. The breeding herd, feeder pigs, and market hogs are considered for each of the above. The beef enterprise is studied from selection and breeding of the cow herd to marketing the finished animal.

**Marketing (Including Co-Ops)**

**31080367 ..... 1 credit**

Designed to provide authoritative information on basic principles of marketing for products generally common to members of the class. When, where, and how to market products and related information are included such as regulation and supervision of marketing-specific products, understanding market news, price cycles, and the use of cooperatives for marketing purposes.

**NOTES:**

Horizontal lines for taking notes.







# FIRE PROTECTION TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-503-2

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## FIRE PROTECTION TECHNICIAN



The Fire Protection Technician program at Mid-State turns students into real-life heroes. Graduates learn the knowledge and techniques needed to save life and property during fires, medical emergencies, and other hazards. This program will expose you to realistic simulations, inside and outside the classroom. You will train on our state-of-the-art burn tower, fire engines, and other high-tech equipment. Developed in partnership with local fire departments, this program ensures you have a competitive edge when starting your career, and local demand for highly skilled firefighters is rising.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 68**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Firefighter, Firefighter/EMT, Firefighter/Paramedic, Fire Inspector, and Special Hazards Technician

In general, there is growing demand for these careers. Example: Firefighter career has grown by 1% over the last two years and is expected to grow by 2% over the next 10 years. Currently 4,253 Municipal Firefighters are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

EMT-Paramedic and Paramedic Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Fire Protection Technician graduate, to be able to:

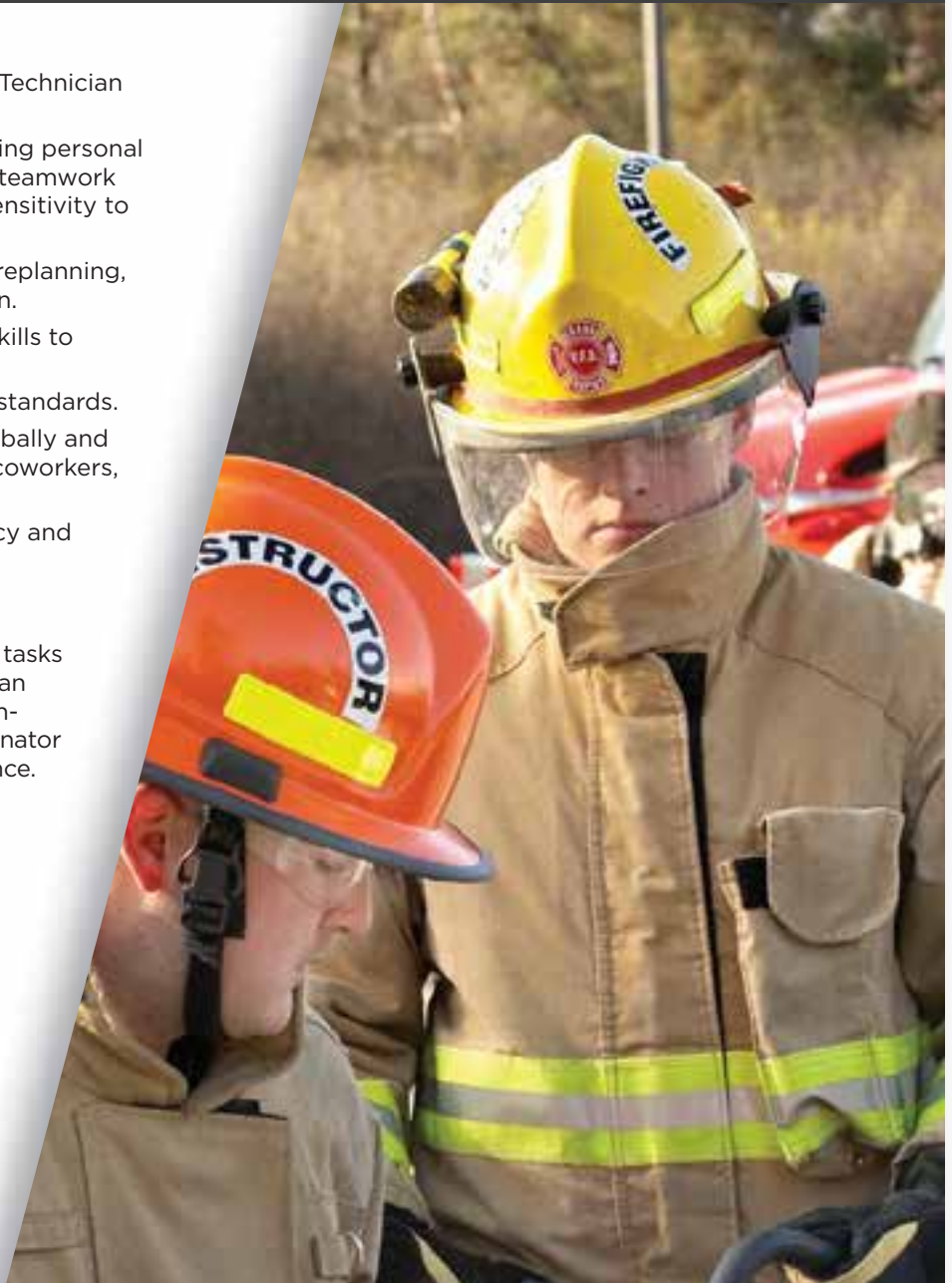
- Demonstrate professional conduct by displaying personal code of ethics, positive work ethic, flexibility, teamwork skills, physical fitness, safe procedures, and sensitivity to diverse cultures and individuals.
- Perform fire prevention activities, including preplanning, public education, inspection, and investigation.
- Apply incident management and mitigation skills to emergency incidents.
- Meet professional fire and EMS credentialing standards.
- Communicate clearly and effectively both verbally and through written documentation with clients, coworkers, other agencies, and supervisors.
- Apply critical thinking skills to both emergency and non-emergency situations.

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as an fire protection technician is available at [mstc.edu/programs/fire-protection-technician](http://mstc.edu/programs/fire-protection-technician). Contact the disability services coordinator in the Student Services Office to receive assistance.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.











this course must be finished the semester following the completion of EMT Foundations.

*Prerequisite: EMT Foundations 10531940*

## EMT Foundations

**10531940 ..... 3 credits**

Covers the basics of the Emergency Medical Technician certification course to include CPR, airways, anatomy, hazmat response requirements, lifting and moving patients, incident command, and other technical information. It is the first part of a two-course system to prepare students for national certification testing for Emergency Medical Technician.

*Prerequisite: Admission to Paramedic Technician 105311 or Emergency Medical Technician 305313 programs and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Fire Behavior & Combustion

**10503195..... 3 credits**

This course explores the theories and fundamentals of how and why fires start, spread, and are controlled.

*Prerequisite: Firefighting Principles 10503142*

## Fire Investigation

**10503157 ..... 3 credits**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes.

*Prerequisite: Firefighting Principles 10503142*

## Fire Prevention

**10503151 ..... 4 credits**

This course provides fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use and application of codes and standards, plans review, fire inspections, fire and life safety education, and fire investigation.

*Prerequisite: Firefighting Principles 10503142*

## Fire Protection Hydraulics

**10503194 ..... 3 credits**

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and solve water supply problems.

*Prerequisite: 10503142 Firefighting Principles*

## Fire Protection Systems

**10503193..... 3 credits**

This course provides information relating to the features of design and operation of fire alarm systems, water-based fire suppression systems, special hazard fire suppression systems, water supply for fire protection, and portable fire extinguishers.

*Prerequisite: Firefighting Principles 10503142*

## Fire Technology & Communications

**10503106 ..... 1 credit**

Learn various aspects of fire service communications, including dispatching, fire ground radio communications, 800 MHz radio systems, graphical information systems (GIS), global positioning systems (GPS), and other communications and related technologies. Gain exposure to new and emerging fire service technologies.

## Firefighting Principles

**10503142..... 4 credits**

Describes basic fire behavior techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for Firefighter I certification in the State of Wisconsin.

*Prerequisite: Principles of Emergency Services Safety and Survival 10503192*

## General Chemistry

**10806134 ..... 4 credits**

Covers the fundamentals of chemistry. Topics include the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; properties of water; acids, bases, and salts; and gas laws.

*Prerequisite: College Math 10804107 with a "C" or better or Intermediate Algebra with Applications 10804118 with a "C" or better or Accuplacer Algebra score of 57 or greater*

## Hazardous Materials Applications

**10503103 ..... 1 credit**

This course provides the knowledge and skills necessary for application of hazardous materials theory and in combination with the other hazardous materials courses within the curriculum will fulfill the necessary requirements for hazardous materials technician.

*Prerequisites: Hazardous Materials Awareness & Operations 10503153 and Hazardous Materials Chemistry 10503154*

## Hazardous Materials Awareness & Operations

**10503153..... 1 credit**

Examines characteristics relating to hazardous materials, including problems of recognition and mitigation. Prepares students to advance toward the hazardous materials technician level.

*Prerequisite: General Chemistry 10806134*

## Hazardous Materials Chemistry

**10503154..... 2 credits**

This course provides basic chemistry relating to the categories of hazardous materials, including recognition, identification, reactivity, and health hazards encountered by emergency services.

*Prerequisite: General Chemistry 10806134*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Principles of Emergency Services

**10503191 ..... 2 credits**

This course introduces the student to the organization and management of a fire and emergency services department and the relationship of government agencies to the fire service. Emphasis is placed on fire and emergency service, ethics, and leadership from the perspective of the company officer.

*Prerequisite: Admission to Fire Protection Technician program 105032*

## Principles of Emergency Services Safety and Survival

**10503192..... 3 credits**

This course introduces the basic principles and history related to the national firefighter life safety initiatives, focusing on the need for cultural and behavior change throughout the emergency services.

*Prerequisite: Admission to Fire Protection Program 105032*

## Strategies, Tactics, & Incident Management

**10503156..... 4 credits**

This course provides the principles of fire ground control through utilization of personnel, equipment, and extinguishing agents.

*Prerequisite: General Chemistry 10806134*

## Technical Reporting

**10801197 ..... 3 credits**

The student prepares and presents oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. Designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course.

*Prerequisite: Written Communication 10801195 with a grade "C" or better or English Composition I 10801136 with a grade "C" or better. Proficiency in word processing skills recommended.*

## Technical Rescue Principles

**10503101 ..... 3 credits**

This course exposes the student to labor-intensive requirements in team-based technical rescue. Students will be trained in auto extrication and to the technician level in rope rescue and confined space rescue.

*Prerequisite: Firefighting Principles 10503142*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*







# GERONTOLOGY

Associate in Applied Science (AAS)

Program Code: 10-544-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Gerontology graduate, to be able to:

- Identify and refer older adults to needed services.
- Understand complex service and community systems that provide services to older adults.
- Integrate knowledge of physical, social, psychological, and spiritual aspects of aging into provision of services.
- Demonstrate behaviors and conduct that honor safe, legal, and ethical gerontological practices.
- Advocate in the area of aging public policy.
- Develop ethical and cultural awareness related to aging.
- Communicate effectively.

## ADDITIONAL ENTRY CRITERIA

To apply to the Gerontology program, please submit the following documents to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

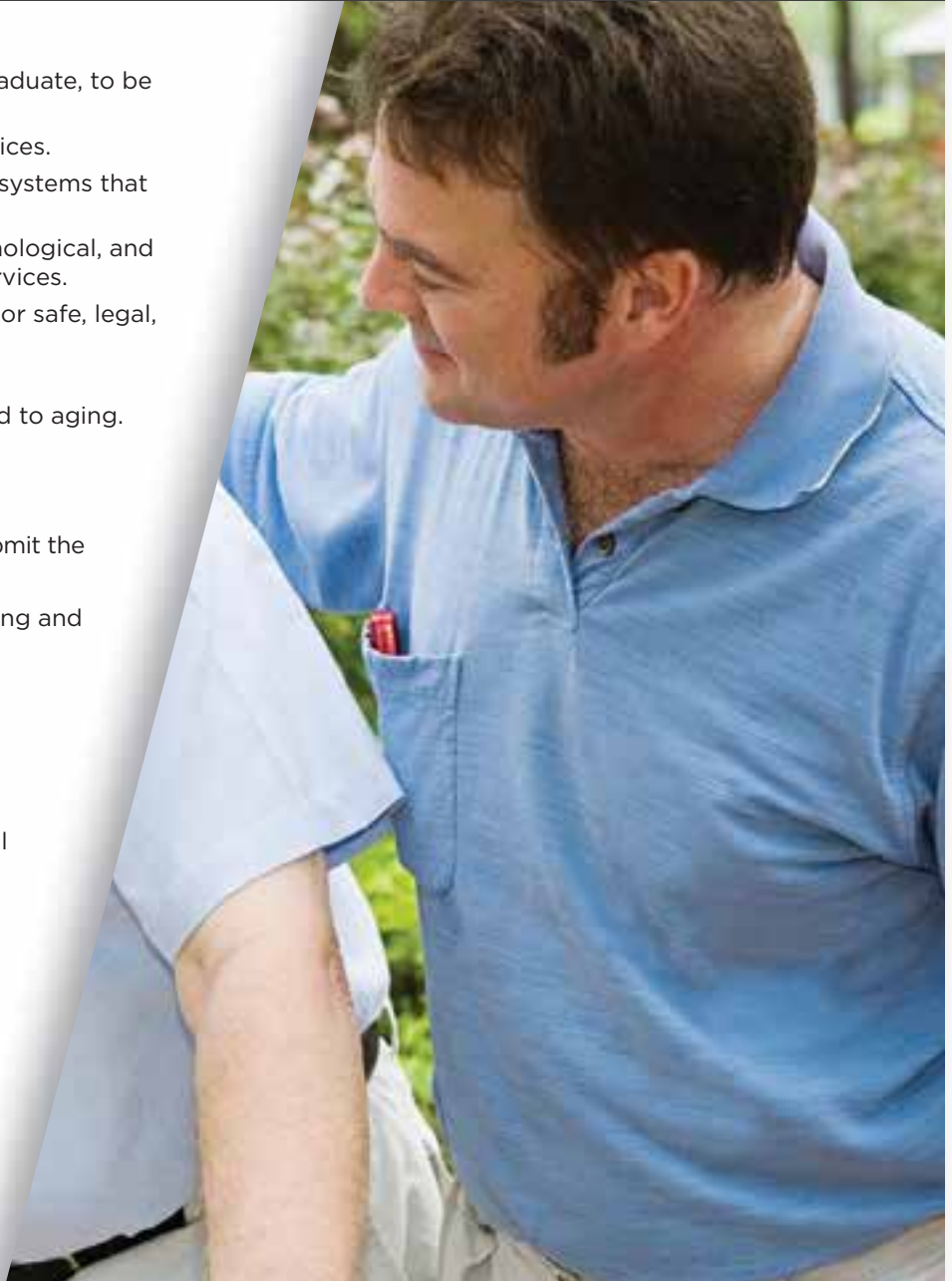
A list of specific physical, emotional, and mental tasks needed to function as a Gerontology graduate is available at [mstc.edu/programs/gerontology](http://mstc.edu/programs/gerontology). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.



## PROGRAM PROGRESSION AND COMPLETION

In order to progress in and successfully complete the program, students must:

- Repeat courses not completed with a “C” or better prior to progressing in core courses or other courses with co- or prerequisites.
- Receive a grade of “C” or better in all courses required for graduation.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.

### SAMPLE FULL TIME CURRICULUM OPTION

Term		15 credits
10103106	Microsoft Office-Introduction	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10809130	Intro to Social Gerontology	3
10809166	Intro to Ethics: Theory & Application	3
10809198	Intro to Psychology	3
Term		17 credits
10543139	Introduction to Dementia	2
10544102	Physical Aspects of Aging	3
10544103	Healthy Aging	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10804107	College Mathematics <b>-or-</b>	
10804189	Introductory Statistics	3
10809188	Developmental Psychology	3
Term		17 credits
10501110	Healthcare Communication Strategies	2
10544107	Legal & Financial Issues of Aging	3
10544108	Developing the Gerontology Professional	3
10809131	Death and Dying	3
10809172	Introduction to Diversity Studies	3
	Elective	3
Term		14 credits
10102101	Intro to Business	3
10544109	Programs & Services in Aging	3
10544111	Gerontology Internship	2
10809132	Generations & Diversity in Aging	3
	Elective	3
<b>Total credits 63</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10809130	Intro to Social Gerontology	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
Term		9 credits
10103106	Microsoft Office-Introduction	3
10809166	Intro to Ethics: Theory & Application	3
10809198	Intro to Psychology	3
Term		9 credits
10544102	Physical Aspects of Aging	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10804107	College Mathematics <b>-or-</b>	
10804189	Introductory Statistics	3
Term		8 credits
10543139	Introduction to Dementia	2
10544103	Healthy Aging	3
	Elective	3
Term		9 credits
10544107	Legal & Financial Issues of Aging	3
10809131	Death and Dying	3
10809172	Introduction to Diversity Studies	3
Term		6 credits
10809132	Generations & Diversity in Aging	3
10809188	Developmental Psychology	3
Term		8 credits
10501110	Healthcare Communication Strategies	2
10544108	Developing the Gerontology Professional	3
	Elective	3
Term		8 credits
10102101	Intro to Business	3
10544109	Programs & Services in Aging	3
10544111	Gerontology Internship	2
<b>Total credits 63</b>		





## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Generations & Diversity in Aging

**10809132..... 3 credits**

Generational study of experience and history on the value and societal expectations of each generation. Also covered are diversity trends among older adults including but not limited to race, ethnicity, culture, sexual orientation, and physical, cognitive, and developmental disabilities.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Gerontology Internship

**10544111 ..... 2 credits**

Students will integrate concepts from completed coursework through supervised work experiences in appropriate settings.

*Prerequisites: Intro to Social Gerontology 10809130, Healthy Aging 10544103, Physical Aspects of Aging 10544102, Intro to Dementia 10543139, Legal and Financial Issues of Aging 10544107, and Developing the Gerontology Professional 10544108; Corequisites: Programs & Services in Aging 10544109 and Generations & Diversity in Aging 10809132*

## Healthcare Communication Strategies

**10501110 ..... 2 credits**

Develops communication skills used in a variety of settings with diverse populations. Students understand and practice skills to enhance communication as service providers and team members. Develops ability to understand and empathize given new approaches to patient care and evolving technology.

## Healthy Aging

**10544103 ..... 3 credits**

Overview of practices to promote healthy aging. This course will address nutrition, physical activity, and prevention practices as well as medications commonly prescribed for the older adult. Emphasis is on practices to address current aging trends.

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading Comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Social Gerontology

**10809130 ..... 3 credits**

Review of aging in respect to social roles and processes. Topics include history of aging, demographics, family relationships, social supports, economics, retirement, widowhood, poverty, and politics of aging.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Introduction to Dementia

**10543139 ..... 2 credits**

This course introduces the student to the different types of dementia, the changes in physiology, and the signs and symptoms associated with the onset of dementia. The course will focus on the principles of communicating and providing care to individuals with memory loss and confusion while learning the best practices for dealing with behavior changes, challenges with the activities of daily living, and strategies to assist caregivers.

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Legal & Financial Issues of Aging

**10544107 ..... 3 credits**

Covers concepts and structures involved in the legal and financial realm of gerontology including Power of Attorney for Health Care/Finance, guardianships, trusts, reallocation of assets, spending down, Medicare/Medicaid benefits, supplemental insurance, Social Security, financial exploitation, and relevant governmental policy. Learners will be able to apply knowledge by learning advocacy techniques to benefit senior populations on a community, local, and federal level.

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Physical Aspects of Aging

**10544102 ..... 3 credits**

Study of normal and pathological changes occurring in the aging human body with special emphasis on age-related chronic disease. Includes analysis of biological theories of aging and cultural and ethnic influence on aging pathologies.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 34*

## Programs & Services in Aging

**10544109 ..... 3 credits**

Students learn resources available in the community, eligibility criteria, and how to access and coordinate services for seniors. Supplementing social networking and enhancing mental health functioning for the aging population are also discussed. Students will explore different career fields within gerontology.

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*





# HEALTH & WELLNESS PROMOTION

Associate in Applied Science (AAS)

Program Code: 10-546-2

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Health & Wellness Promotion graduate, to be able to:

- Provide evidence-based health and wellness direction to individuals and organizations.
- Design, develop, and implement health and wellness promotion activities and campaigns.
- Champion behavior modification interventions to promote sustainable health and wellness.
- Support the maintenance of health and wellness promotion for individuals and organizations.

## ADDITIONAL ENTRY CRITERIA

To apply to the Health & Wellness Promotion program, please submit the following documents to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a Health and Wellness Promotion graduate is available at [mstc.edu/programs/health-wellness-promotion](http://mstc.edu/programs/health-wellness-promotion). Contact the disability services coordinator in the Student Services Office to receive assistance.

## PRACTICUM-RELATED REQUIREMENTS

Prior to placement at a practicum site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Practicum sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate practicum experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the practicum course and will not be able to advance in the program.



## PROGRAM PROGRESSION AND COMPLETION

In order to maintain a passing status and progress in the program, students must:

- Repeat courses not completed with a “C” or better prior to progressing in core courses or other courses with co- or prerequisites.
- Receive a grade of “C” or better in all courses required for graduation.

Please note that the ability to repeat courses is dependent upon availability in courses. Students may be required to apply for program re-entry in order to repeat courses within the program’s instructional area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.

### SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>15 credits</b>
10103106	Microsoft Office-Introduction	3
10544103	Healthy Aging	3
10546100	Essential Concepts for Health and Wellness	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Term</b>		<b>16 credits</b>
10546101	Nutrition for Healthy Living	3
10546102	Behavior Change for Wellness	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10806177	General Anatomy & Physiology	4
10809198	Intro to Psychology	3
<b>Term</b>		<b>15 credits</b>
10102101	Intro to Business	3
10544102	Physical Aspects of Aging	3
10546103	Principles of Physical Conditioning	3
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology	3
<b>Term</b>		<b>15 credits</b>
10104102	Marketing Principles	4
10546104	Population Health & Wellness	3
10546105	Program Development, Implementation, & Evaluation	3
10546106	Health & Wellness Practicum Elective	2 3
		<b>Total credits 61</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### SAMPLE PART-TIME CURRICULUM OPTION

<b>Term</b>		<b>6 credits</b>
10546100	Essential Concepts for Health and Wellness	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		<b>9 credits</b>
10103106	Microsoft Office-Introduction	3
10102101	Intro to Business	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Term</b>		<b>6 credits</b>
10546101	Nutrition for Healthy Living	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
<b>Term</b>		<b>7 credits</b>
10806177	General Anatomy & Physiology	4
10544103	Healthy Aging	3
<b>Term</b>		<b>9 credits</b>
10544102	Physical Aspects of Aging	3
10546103	Principles of Physical Conditioning	3
10809198	Intro to Psychology	3
<b>Term</b>		<b>6 credits</b>
10546102	Behavior Change for Wellness	3
10809188	Developmental Psychology	3
<b>Term</b>		<b>10 credits</b>
10104102	Marketing Principles	4
10809166	Intro to Ethics: Theory & Application Elective	3 3
<b>Term</b>		<b>8 credits</b>
10546104	Population Health & Wellness	3
10546105	Program Development, Implementation, & Evaluation	3
10546106	Health & Wellness Practicum	2
		<b>Total credits 61</b>



# academic career plan

Term/Year	Credits	Term/Year	Credits

## course descriptions

### Behavior Change for Wellness

**10546102 ..... 3 credits**

This course examines the importance of understanding the theory of behavior change to assist others in overcoming barriers so they may achieve sustainable behavior change. A beginning skill set will be refined, including how to advise individuals on goal setting, strategy planning, and encouraging maintenance of health and wellness goals.

*Prerequisite: Essential Concepts of Health and Wellness 10546100*

### Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

### English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### Essential Concepts for Health and Wellness

**10546100 ..... 3 credits**

An introductory course, including basic health and wellness promotion principles at the individual level; basic principles include physical, mental, and spiritual. Students explore a holistic view of health and wellness concepts covering healthy lifestyle choices, managing stress, individual wellness perspective, and how economics can positively and negatively impact the health and wellness of an individual.

*Prerequisite: Admission to Health and Wellness Promotion program 105462 and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## General Anatomy & Physiology

**10806177** ..... **4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Health & Wellness Practicum

**10546106** ..... **2 credits**

Practical experience empowers the student to apply concepts from previous coursework to assist in the transition to the role of community health promoter. The practicum location is chosen in collaboration with faculty based on student interest and site availability. The student works closely with an approved preceptor and faculty to accomplish individualized learning goals.

*Prerequisites: Essential Concepts for Health & Wellness 10546100, Behavior Change for Wellness 10546102, Principles of Physical Conditioning 10546103, Nutrition for Healthy Living 10546101; Corequisites: Population Health & Wellness 10546104 and Program Development, Implementation, & Evaluation 10546105*

## Healthy Aging

**10544103** ..... **3 credits**

Overview of practices to promote healthy aging. This course will address nutrition, physical activity, and prevention practices as well as medications commonly prescribed for the older adult. Emphasis is on practices to address current aging trends.

## Intro to Business

**10102101** ..... **3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166** ..... **3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or

Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198** ..... **3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading Comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196** ..... **3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172** ..... **3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Marketing Principles

**10104102** ..... **4 credits**

Students study the practices and methods of manufacturers and distributors in the marketing of goods and services. Also emphasized are product planning, pricing strategies, distribution systems, channel activities, and the role of government as well as other factors influencing marketing today.

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Nutrition for Healthy Living

**10546101 ..... 3 credits**

Students learn concepts of healthy eating to facilitate the journey of good health across the lifespan. Healthy eating concepts focus on individual decision making and behavior change with sustainable interventions rooted in evidenced-based practice. Students investigate nutrition myth versus fact and explore how policy and environment impact nutritional choice.

*Prerequisite: Essential Concepts of Health and Wellness 10546100*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Physical Aspects of Aging

**10544102 ..... 3 credits**

Study of normal and pathological changes occurring in the aging human body with special emphasis on age-related chronic disease. Includes analysis of biological theories of aging and cultural and ethnic influence on aging pathologies.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## Population Health & Wellness

**10546104 ..... 3 credits**

The components and attributes of population health are examined, including economic and policy implications for population-based health promotion activities. The student will take a closer look at measures including interventions and programming that support the health of the community.

*Prerequisite: Essential Concepts of Health and Wellness 10546100*

## Principles of Physical Conditioning

**10546103 ..... 3 credits**

Quality of life improvement and encouraging others to maximize health and wellness potential through physical conditioning are emphasized. The effects of physical exercise on body systems and functioning are explored, including specific exercises for balance, endurance, strength, and weight loss. Special populations and considerations are highlighted throughout the course.

*Prerequisites: General Anatomy & Physiology 10806177 and Essential Concepts of Health and Wellness 10546100*

## Program Development, Implementation, & Evaluation

**10546105 ..... 3 credits**

The student will acquire the skill set to develop, implement, and evaluate a health and wellness promotion project at the individual or community level. Components of health and wellness promotion program building include the needs assessment, marketing principles, the role of leadership, continuous quality improvement, economics, and collaborations to ensure a successful program.

*Prerequisites: Essential Concepts for Health & Wellness 10546100, Behavior Change for Wellness 10546102, Principles of Physical Conditioning 10546103, Nutrition for Healthy Living 10546101; Corequisite: Population Health & Wellness 10546104*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*





# HEALTH INFORMATICS AND INFORMATION MANAGEMENT

Associate in Applied Science (AAS)

Program Code: 10-530-2

**our graduates**  
**INDEMAND**

**2016/2017**

 **MID-STATE**  
TECHNICAL COLLEGE

**mstc.edu**



## HEALTH INFORMATICS AND INFORMATION MANAGEMENT



Mid-State's Health Informatics and Information Management program prepares individuals to enter the emerging field of electronic health record management. Students learn to use computer programs and established methods to securely process, compile, maintain, and report electronic health information data for patient care. In this program you'll learn to abstract and code clinical data using classifications systems as well as analyze health records according to industry protocols. You'll build knowledge about reimbursement, facility planning, marketing, risk management, and more. Graduates are eligible to take the AHIMA national certification exam for Registered Health Information Technician (RHIT).



**bachelor's degree opportunities**

UW-Stevens Point, B.S. Health Information Management and Technology Degree (HIMT)

UW-Stevens Point, Health Science-Health Care Administration or Health Care Informatics

College of St. Scholastica, BA Health Information

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 70**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Data Quality Analyst, Diagnosis Related Group (DRG) Coordinator, Health Information Supervisor, Health Information Technician, Medical Records Analyst, Patient Account Representative, Patient Financial Services Specialist, and Quality Improvement Analyst

In general, there is growing demand for these careers. Example: Health Information Technician career has grown by 2% over the last two years and is expected to grow by 14% over the next 10 years. Currently 1,884 Medical Records and Health Information Technicians are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## MEDICAL CODER



The Medical Coder program at Mid-State prepares students for entry-level work as medical coders in health care settings, such as hospitals, physician offices, long-term care facilities, and more. Medical coders review medical documentation and assign diagnosis and procedure codes for the purposes of billing, quality improvement, statistical reporting, and medical research. In this program, you'll be introduced to reimbursement principles and build proficiency in assigning codes across all settings. After program completion, graduates may qualify to take the Certified Coding Associate (CCA) credentialing exam through American Health Information Management Association (AHIMA).

Graduates of the Medical Coder technical diploma may advance into the Health Informatics and Information Management program.

**Technical Diploma**

**Total Credits: 29**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Chargemaster Coordinator, Coding Specialist, Coding Support Specialist, Health Information Technician, and Medical Coder

In general, there is growing demand for these careers. Example: Health Information Technician career has grown by 2% over the last two years and is expected to grow by 14% over the next 10 years. Currently 1,884 Medical Records and Health Information Technicians are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Nursing, Nursing Assistant, and Respiratory Therapist

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Health Informatics and Information Management graduate, to be able to:

- Demonstrate principles of integrity, ethics, and respect.
- Use information technology to securely process, compile, maintain, and report electronic health information data.
- Plan for the exchange of health care information by assisting providers in the utilization of portable and other devices for data entry/retrieval or medical decision making.
- Abstract and code clinical data using proper classification systems.
- Analyze health records according to established protocols and standards.
- Supervise various components of the health information system.
- Support data collection and reimbursement systems.

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The Health Informatics and Information Management program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) under the Associate Degree HIM standards. Graduates are eligible to take the national certification exam offered by the American Health Information Management Association (AHIMA) for the Registered Health Information Technician (RHIT) credential.

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## ADDITIONAL ENTRY CRITERIA

To apply to the Health Informatics and Information Management program, please submit the following documents to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a Health Informatics and Information Management graduate is available at [mstc.edu/programs/health-informatics-and-information-management](http://mstc.edu/programs/health-informatics-and-information-management). Contact the disability services coordinator in the Student Services Office to receive assistance.







## SAMPLE FULL TIME CURRICULUM OPTION

Term		18 credits
10103106	Microsoft Office-Introduction	3
10501101	Medical Terminology	3
10530111	Introduction to Health Records	3
10530125	Organization of Healthcare	2
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10806177	General Anatomy & Physiology	4

Term		18 credits
10530122	Electronic Health Records	3
10530144	CPT Coding	3
10530161	Legal Aspects of HIIM	2
10530182	Human Disease for the Health Professions	3
10530197	ICD Diagnosis Coding	3
10806179	Advanced Anatomy & Physiology	4

Term		17 credits
10152105	Database Management	3
10530132	Health Data Analysis	3
10530160	Performance Improvement for Health Professions	3
10530199	ICD Procedure Coding	2
10801197	Technical Reporting	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

Term		17 credits
10196191	Supervision	3
10530146	Private and Government Reimbursement	3
10530148	Advanced Coding	2
10530163	Health Informatics Clinical	2
10530164	RHIT Test Prep	1
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

**Total credits 70**

**Please Note:**

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10501101	Medical Terminology	3
10530111	Introduction to Health Records	3

Term		6 credits
10530125	Organization of Healthcare	2
10806177	General Anatomy & Physiology	4

Term		6 credits
10103106	Microsoft Office-Introduction	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3

Term		6 credits
10806179	Advanced Anatomy & Physiology	4
10530161	Legal Aspects of HIIM (spring only)	2

Term		6 credits
10530122	Electronic Health Records	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

Term		6 credits
10530182	Human Disease for the Health Professions	3
10530197	ICD Diagnosis Coding	3

Term		6 credits
10152105	Database Management (fall only)	3
10530132	Health Data Analysis (fall only)	3

Term		6 credits
10530144	CPT Coding	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

Term		6 credits
10530160	Performance Improvement for Health Professions (fall only)	3
10801197	Technical Reporting (fall only)	3

Term		5 credits
10809166	Intro to Ethics: Theory & Application	3
10530199	ICD Procedure Coding	2

Term		5 credits
10196191	Supervision	3
10530148	Advanced Coding	2

Term		6 credits
10530146	Private and Government Reimbursement	3
10530163	Health Informatics Clinical (spring preferred)	2
10530164	RHIT Test Prep	1

**Total credits 70**

## Advanced Anatomy & Physiology

**10806179..... 4 credits**

The second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body system approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery is within a classroom and laboratory setting. Experimentation within a science lab includes analysis of cellular metabolism, the individual components of body systems such as the nervous, neuromuscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance, and blood. Integration of genetics to human reproduction and development are also included in this course.

*Prerequisite: General Anatomy & Physiology 10806177 with a grade of "C" or better*

## Advanced Coding

**10530148..... 2 credits**

This course builds on basic coding knowledge and skills by providing the student with coding of clinical case studies and actual medical records. The student will access, review, and code electronic medical records from the Academic EHR System. Students will also perform data quality reviews to validate code assignment and compliance with reporting requirements.

*Prerequisites: ICD Diagnosis Coding 10530197, ICD Procedure Coding 10530199, and CPT Coding 10530144; Corequisite: Private and Government Reimbursement 10530146*

## CPT Coding

**10530144 ..... 3 credits**

Prepares learners to assign current procedural terminology (CPT) codes supported by medical documentation with entry-level proficiency. Students are familiar with and use standard coding references. Emphasis is placed on accuracy, CPT instructional notations, conventions, rules, and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. Application of modifiers to services and relationship to financial impact are also covered.

*Prerequisites: Medical Terminology 10501101, General Anatomy & Physiology 10806177, and Intro to Health Records 10530111; Corequisite: Human Diseases for Health Professions 10530182*

## Database Management

**10152105 ..... 3 credits**

This course uses hands-on exercises and projects to give students experience with using databases for data storage and retrieval. To encourage students to become more sophisticated database users, background information, general relational database design concepts, and a database security overview are included.

*Prerequisite: Microsoft Office-Introduction 10103106 or Applied Microsoft Office for Health 10103107*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves

and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.  
*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Electronic Health Records

**10530122..... 3 credits**

Introduces students to the electronic health record (EHR) as a technology-based representation of healthcare data integration from a participating collection of varied systems for a single patient. Covers emerging use of the electronic health record, an overview of EHR, applications, benefits and barriers to its use, vocabularies, principles of implementation, health information exchange, standards, privacy, security, information retrieval, digital libraries, and image management.

*Prerequisites: Medical Terminology 10501101, General Anatomy & Physiology 10806177, and Intro to Health Records 10530111*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Intro to Reading and Study Skills) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health & Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Health Data Analysis

**10530132..... 3 credits**

Focuses on the collection, computation, analysis, and presentation of healthcare statistical data. Data analytics, registries, vital statistics, mandatory reporting, and research are examined.

*Prerequisites: Intro Health Records 10530111, Organization of Healthcare 10530125, and Electronic Health Records 10530122*

## Health Informatics Clinical

**10530163..... 2 credits**

This course provides a blend of supervised clinical experience in a health care facility with online classroom activities. Students apply skills and knowledge gained from previous courses in the health information management setting. Classroom activity will cover

discussion of clinical situations.

*Prerequisite: Health Data Analysis 10530132, Performance Improvement for Health Professions 10530160, CPT Coding 10530144, ICD Diagnosis Coding 10530197, and ICD Procedure Coding 10530199; Corequisites: Private and Government Reimbursement 10530146 and Advanced Coding 10530148*

## Human Disease for the Health Professions

**10530182.....3**

This course focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasis is placed on understanding the etiology (causes), signs and symptoms, diagnostic tests, and treatment (including pharmacologic) of each disease.

*Prerequisites: Medical Terminology 10501101 and General Anatomy & Physiology 10806177*

## ICD Diagnosis Coding

**10530197..... 3 credits**

Prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation.

*Prerequisites: Medical Terminology 10501101, Intro to Health Records 10530111, General Anatomy & Physiology 10806177; Corequisite: Human Disease for the Health Professions 10530182*

## ICD Procedure Coding

**10530199..... 2 credits**

Prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation.

*Prerequisites: Medical Terminology 10501101, Intro to Health Records 10530111, General Anatomy & Physiology 10806177, and Human Disease for the Health Professions 10530182*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these

situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Health Records

**10530111 ..... 3 credits**

Focuses on the purpose, format, content, use, confidentiality, and administrative issues of a patient's medical history and care. Students study the use of the patient's medical record as a basis for planning patient care, documenting communication between the healthcare provider and any other health professional contributing to the patient's care, assisting in protecting the legal interest of the patient and the healthcare providers responsible

# course descriptions

for the patient's care, and documenting the care and services provided to the patient. Emphasis is placed on accuracy, organization, and confidentiality. Students will be introduced to EMR concepts.

*Corequisite: Medical Terminology 10501101*

## Legal Aspects of HIIM

**10530161 ..... 2 credits**

Focuses on regulations for the content, access, disclosure, privacy, confidentiality, security, retention, and destruction of health information. Includes an overview of the US legal system.

*Corequisite: Intro to Health Records 10530111*

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Organization of Healthcare

**10530125..... 2 credits**

This course examines the organization and delivery of healthcare services, external standards, regulations, initiatives, payment and reimbursement systems, and healthcare providers and disciplines.

## Performance Improvement for Health Professions

**10530160 ..... 3 credits**

Examines healthcare performance improvement systems. Includes performance assessment, measurement, and improvement as well as patient safety, risk management, utilization management, and medical staff credentialing.

*Prerequisites: Intro to Health Records 10530111, Organization of Healthcare 10530125, and Electronic Health Records 10530122*

## Private and Government Reimbursement

**10530146 ..... 3 credits**

Introduces students to the vocabulary of private or voluntary-based healthcare reimbursement. Students identify and compare the varieties of private health care insurance, including the advantages and disadvantages of each for the provider and for the policyholder. Learners assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs), and Resource Utilization (RUGs) with entry-level proficiency using computerized

encoding and grouping software. HIPAA guidelines are utilized throughout.

*Prerequisites: ICD Diagnosis Coding 10530197, ICD Procedure Coding 10530199, and CPT Coding 10530144*

## RHIT Test Prep

**10530164 ..... 1 credit**

Learners explore strategies for preparing for the Registered Health Information Technician (RHIT) examinations, including study skills, test preparation and test taking skills. The course includes a basic review of content related to the examination.

*Prerequisite: Health Data Analysis 10530132; Performance Improvement for Health Professions 10530160; CPT Coding 10530144; ICD Diagnosis Coding 10530197; ICD Procedure Coding 10530199; Corequisites: Private and Government Reimbursement 10530146 and Advanced Coding 10530148*

## Supervision

**10196191 ..... 3 credits**

Apply skills and tools necessary to perform the functions of a contemporary frontline leader. Students engage in operational planning, analyze organizational structures, review the staffing process, employ techniques to enhance employee personal and group effectiveness, and develop control techniques to measure effectiveness in the above areas.

## Technical Reporting

**10801197 ..... 3 credits**

The student prepares and presents oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. Designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course.

*Prerequisite: Written Communication 10801195 with a grade "C" or better or English Composition I 10801136 with a grade "C" or better. Proficiency in word processing skills recommended.*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# INDUSTRIAL MECHANICAL TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-462-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as an Industrial Mechanical Technician graduate, to be able to:

- Execute the services of an effective preventive maintenance program for complex manufacturing processes and industrial machinery.
- Use industry accepted and standardized terminology and methods to communicate effectively with coworkers, supervisors, subordinates, engineers, and vendors.
- Diagnose, service, and repair industrial machinery and manufacturing equipment using appropriate tools, materials, and methods.
- Select appropriate mathematic and scientific principles to solve complex problems.
- Display an ability to work safely and effectively as individuals and as members of cooperative teams.
- Plan, specify, and execute the proper installation of new mechanical, hydraulic, and pneumatic equipment into an industrial system.
- Choose suitable methods and proper technology to move and position industrial equipment and materials in a safe and effective manner.

## PROTECTIVE CLOTHING

Students are required to wear safety glasses at all times in the lab. Acquiring safety glasses is the responsibility of the student. Proper clothing is discussed in safety lectures.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.









## General Physics 1

**10806154 ..... 4 credits**

Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

*Corequisite: Trigonometry with Applications 10804196*

## Industrial Automation

**10462108 ..... 3 credits**

This course introduces the fundamentals of industrial motor controls, relay logic, ladder diagrams, industrial automation, and integrated manufacturing systems. The purpose of the course is to familiarize students with the terminology, capabilities, applications, and limitations of automated industrial equipment and systems.

## Industrial Hydraulics & Pneumatics

**10462120 ..... 3 credits**

Basic principles of hydraulics and pneumatics are studied. Covers the advantages, disadvantages, and inherent problems with these systems. The principles of operation and the constructional features of pumps, motors, valves, seals, packing, and conductors as well as the physical properties of liquids are also covered. Students learn to identify various parts of a circuit and to analyze them for their use.

*Prerequisite: Intermediate Algebra with Applications 10804118*

## Industrial Safety

**10462107 ..... 2 credits**

This course provides an overview of safety, health, and environmental issues as they relate to industry. Various types of hazards and the controls and equipment used to reduce risks from hazards are discussed. Focus is placed on understanding the Occupational Safety and Health Administration (OSHA) and its function as well as other regulatory and enforcement agencies associated with industrial safety, health, and the environment.

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Material Handling

**10462110 ..... 2 credits**

This course introduces the concepts and equipment that transport solid materials in the industrial production process. Various types of equipment, including rigging, cranes, mechanical conveyors, pneumatic conveyors, elevators, and lift trucks, are discussed. Practical applications and use guidelines are presented to promote the safe and efficient utilization of this type of material handling equipment.

## Mechanical Drafting Concepts

**10623104 ..... 3 credits**

Drafting media, drafting standards, reproduction processes, geometric construction, isometric and oblique pictorial drawings, dimensioning, tolerancing, parts drawing, and part identification are included in this course.

## Mechanical Power Transmission

**10462106 ..... 3 credits**

A study of the systems and components that transmit power from the prime mover through the system. Gear trains, linkages, clutches, couplings, and flexible drives are evaluated mathematically in lab situations.

*Prerequisite: Admission to Industrial Mechanical Technician program 104621*

## Metal Fabrication

**10462116 ..... 3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Metals & Machining

**10462114 ..... 3 credits**

A two-part class that introduces the basics of metal science and machine shop practice. Metallurgical concepts of steel and iron production, properties of metals, testing of metals, carbon and its role, heat-treating, steel designations, and cast iron and non-ferrous metals are introduced. Students participate in lab exercises examining the properties of metal and are introduced to machine shop safety practices, measurement, and machining through the use of hand tools, drilling machines, saws, and engine lathes. Classroom includes presentation and hands-on shop experiences.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Solar Electric Technician 104822, Sustainable Heating & Cooling Technician 104831, Machine Tool Technician 324201 programs*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Programmable Logic Controllers-Advanced

**10605118 ..... 3 credits**

This lab-intensive course is a continuation of the beginning PLC course designed to build advanced PLC skills. Activities in advanced programming techniques, motor control, and operator interfaces may be included. This course may be offered for 1-3 credits. Check with the course instructor for specific competencies to be covered each semester.

*Prerequisite: Programmable Logic Controllers-Beginning 10605117 or consent of instructor*

## Programmable Logic Controllers-Beginning

**10605117 ..... 3 credits**

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Trigonometry with Applications

**10804196 ..... 3 credits**

Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's Theorem, polar coordinates, and vectors.

*Prerequisite: Intermediate Algebra with Applications 10804118 with a grade of "C" or better*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*





# INSTRUMENTATION & CONTROLS ENGINEERING TECHNOLOGY

Associate in Applied Science (AAS)

Program Code: 10-605-4

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## INSTRUMENTATION & CONTROLS ENGINEERING TECHNOLOGY



The Instrumentation & Controls Engineering Technology program at Mid-State prepares graduates to measure and control industrial processes in today's high-tech manufacturing environments. In this program you'll apply mathematical skill and basic laws of physical sciences to design, install, calibrate, maintain, troubleshoot, and repair industrial control systems. You'll learn to use a variety of different forms of instrumentation and have access to state-of-the-art equipment. Field trips to businesses that have process control systems as an integral part of operations extend your hands-on experience into the real world.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Controls Technician; Electrical and Electronics Repairers-Commercial and Industrial Equipment; Instrument Technician; Plant Maintenance Technician; and Apprenticeship Programs: Instrumentation, Electrician, Pipefitter

In general, there is growing demand for these careers. Example: Electrical and Electronics Repairers, Commercial and Industrial Equipment career has grown by 2% over the last two years and is expected to grow by 7% over the next 10 years. Currently 456 Electrical and Electronics Repairers, Commercial and Industrial Equipment are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

### OTHER OPTIONS

#### RELATED PROGRAMS

Civil Engineering Technology-Highway Technician and Electrical Power Engineering Technician

#### RELATED CERTIFICATE

Advanced Industrial Process Control

#### RELATED APPRENTICESHIPS

Electrician (ABC) and Metering Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

### NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as an Instrumentation & Controls Engineering Technology graduate, to be able to:

- Troubleshoot, repair, and calibrate pneumatic/electronic and analog/digital instruments used to measure and control pressure, level, flow, temperature, and pH.
- Effectively interpret technical manuals, P + ID's, loopsheets, and cross reference data books to analyze, troubleshoot, and tune automatic process control loops.
- Configure digital communication devices.
- Solve problems using verbal and written communication skills as an individual or part of a team in supervised and unsupervised conditions.
- Operate oscilloscopes, multimeters, manometers, and other related measuring devices.
- Calculate values of inputs, setpoints, and outputs of open and closed loops with various values and combinations of proportional, integral, and derivative.
- Create two-dimensional drawings using AutoCAD.
- Design, program, and troubleshoot programmable logic control (PLC) programs.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.







# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### 3D CAD Software

**10623113..... 2 credits**

This course introduces students to the concepts and drawing tools required to develop three-dimensional models using CAD software.

*Prerequisite: Intro to AutoCAD 10623106*

### Basic Electronics

**10605115 ..... 3 credits**

Presents semi-conductor principles with emphasis on practical applications. After reviewing diode and transistor characteristics, bias stabilizing techniques are studied followed by an introduction to transistor amplifiers.

*Corequisite: Electrical Circuits II 10605110*

### College Algebra with Applications

**10804195 ..... 3 credits**

This course covers those skills needed for success in calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatorics, and the binomial theorem.

*Prerequisite: Trigonometry with Applications 10804196 with a grade of "C" or better*

### Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves

and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

### Electrical Circuits I

**10605105 ..... 3 credits**

An introduction to AC/DC electricity and the physical laws that apply to electronic circuits. Direct Current (DC) covers basic definitions of voltage, current, and resistance and analysis of series and parallel resistive circuits. Alternating Current (AC) includes an introduction to AC generation, capacitors, inductors, and transformers and their applications in electronic circuits. Approximately 50% of the course is spent in the laboratory applying the principles and theory presented in the classroom.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intermediate Algebra with Applications 10804118*

### Electrical Circuits II

**10605110 ..... 3 credits**

This course continues the study of AC/DC circuits started in Electrical Circuits I. Advanced DC circuit analysis, techniques, such as Thevenin's Theorem and Node analysis are introduced. AC circuit analysis includes discussion on voltage and power theorems used in the analysis of circuits consisting of both resistance and reactance. The complex plane and construction of phasor diagrams are also discussed. The course concludes with an introduction to electronic filter circuits used in transmission and communication equipment. Approximately 50% of the course is spent in the laboratory, applying the principles and theory presented in the classroom.

*Prerequisite: Electrical Circuits I 10605105 grade "C" or better; Corequisite: Trigonometry with Applications 10804196*

## Employment Strategies

**10801199** ..... **3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.  
*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

**10801136** ..... **3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading critical-reading skills through analysis of various written documents.  
*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Physics 1

**10806154** ..... **4 credits**

Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.  
*Corequisite: Trigonometry with Applications 10804196*

## Instrument Mechanics

**10605102** ..... **3 credits**

An introductory course into instrumentation emphasizing a functional and mathematical approach to the use and study of various pneumatic instruments and principles. Identifies the duties and functions of instruments and their components. Calculations of springs, force balance, moment balance, and an introduction to pressure measurement and controllers.  
*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intermediate Algebra with Applications 10804118*

## Instrumentation Electronics

**10605116** ..... **4 credits**

A basic course in industrial electronics involving devices and circuits that relate to the field of instrumentation. Includes a basic review of electronic and electrical fundamentals. Additional topics include power supplies; operational amplifiers; servo mechanisms; relay ladder logic; PLCs; motor control devices; variable frequency drive; single and 3 phase, 110 volt, 220 volt and 480 volt generation and usage.  
*Prerequisite: Basic Electronics 10605115 Grade "C" or better*

## Intermediate Algebra with Applications

**10804118** ..... **4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of

operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to AutoCAD

**10623106** ..... **2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Ethics: Theory & Application

**10809166** ..... **3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.  
*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198** ..... **3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.  
*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Metal Fabrication

**10462116** ..... **3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.  
*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology*

106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs

## Metals & Machining

**10462114 ..... 3 credits**

A two-part class that introduces the basics of metal science and machine shop practice. Metallurgical concepts of steel and iron production, properties of metals, testing of metals, carbon and its role, heat-treating, steel designations, and cast iron and non-ferrous metals are introduced. Students participate in lab exercises examining the properties of metal and are introduced to machine shop safety practices, measurement, and machining through the use of hand tools, drilling machines, saws, and engine lathes. Classroom includes presentation and hands-on shop experiences.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Solar Electric Technician 104822, Sustainable Heating & Cooling Technician 104831, Machine Tool Technician 324201 programs*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Process Control

**10605171 ..... 4 credits**

Introduces the concept of automatic process control on the instrument technician level. Reviews principles of force/moment balance and feedback concepts. Studies two-position control, feedback/feedforward control, and process characteristics related to process gain, dead time, time constants, and process capacity. Studies controller functions and effects, such as proportional, integral, and derivative, and how different combinations of each cause controller outputs and inputs to respond in open and closed loops. Practices digital controller configuration and loop tuning for level, pressure, flow, and temperature.

*Prerequisites: Instrument Mechanics 10605102 and Process Measurements I 10605100*

## Process Measurements I

**10605100 ..... 4 credits**

Reviews basic principles and calibration standards and practices developed in Instrument Mechanics. Common sensing devices and components employed for the measurement of pressure, temperature, flow, level, and their related phenomena are studied.

*Prerequisite: Instrument Mechanics 10605102 Grade "C" or better and minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Process Measurements II

**10605104 ..... 3 credits**

This course covers analog and digital electronic transmitters and controllers, pulp and papermaking, pH, conductivity, and

ORP and concludes with a study of basic nuclear theory.

*Prerequisites: Process Measurements I 10605100 and Instrument Mechanics 10605102*

## Programmable Logic Controllers-Advanced

**10605118 ..... 3 credits**

This lab-intensive course is a continuation of the beginning PLC course designed to build advanced PLC skills. Activities in advanced programming techniques, motor control, and operator interfaces may be included. This course may be offered for 1-3 credits. Check with the course instructor for specific competencies to be covered each semester.

*Prerequisite: Programmable Logic Controllers-Beginning 10605117 or consent of instructor*

## Programmable Logic Controllers-Beginning

**10605117 ..... 3 credits**

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Trigonometry with Applications

**10804196 ..... 3 credits**

Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's Theorem, polar coordinates, and vectors.

*Prerequisite: Intermediate Algebra with Applications 10804118 with a grade of "C" or better*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*







# IT NETWORK SPECIALIST

Associate in Applied Science (AAS)

Program Code: 10-150-2

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



# it network specialist career pathway

## IT NETWORK SPECIALIST



The IT Network Specialist program at Mid-State prepares students to administer and support personal computer and network environments. Graduates are able to install, troubleshoot, analyze, and repair networks as well as maximize network efficiency. In this program you will follow guided instructions for setting up and managing multiple computers in a networking environment. You'll also apply concepts in hands-on activities both in and outside the classroom. Past students have repaired and imaged laptops for a local school district, completed a network upgrade for a non-profit organization, and fixed computers at the PC Clinic.

**Associate in Applied Science**

**Total Credits: 68-69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Computer Network Support Specialist, Network Administrator, Network Infrastructure Architect, Hardware Support Specialist, Help Desk Specialist, and PC Troubleshooter

In general, there is growing demand for these careers. Example: Computer Network Support Specialist career has grown by 5% over the last two years and is expected to grow by 3% over the next 10 years. Currently 1,962 Computer Network Support Specialists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

Lakeland College,  
BA Specialized Administration

UW-Stout,  
BS Information and Communication Technologies

University of Phoenix,  
BS Management

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## MICROSOFT SYSTEM ADMINISTRATOR



Managing and troubleshooting network environments based on the Windows Server operating system is a growing field of expertise in IT. Mid-State's Microsoft System Administrator program covers some of the newest and most rapidly expanding technologies in this area. We seek feedback from local employers to ensure course content is always up to date. As a result, you will have the skills and knowledge employers are looking for.

Graduates of the Microsoft System Administrator technical diploma may advance into the IT Network Specialist program.

**Technical Diploma**

**Total Credits: 12**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** BYOD Technician, IT Help Desk Specialist, Network Operations Specialist, Mobile Security Specialist, Server Deployment Specialist, Technology Support Specialist, and Telecommunications Technician

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Accounting, Administrative Professional, Business Management, Court Reporting, IT Software Developer, Marketing, Office Support Specialist, and Supervisory Management

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as an IT Network Specialist graduate, to be able to:

- Implement computer networks.
- Implement client systems.
- Implement server operating systems.
- Implement network security components.
- Develop technical documentation.
- Troubleshoot network systems.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term		16credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10150101	Network Fundamentals	3
10152101	Programming Logic-Beginning	4
10801136	English Composition 1 -or-	
10801195	Written Communication	3

Term		18-19 credits
10150110	IT Troubleshooting-Beginning	3
10150120	Network Administration-Beginning	3
10150165	Network Server Scripting	3
10152170	Systems Analysis	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
	-or-	
10804189	Introductory Statistics	3

Term		17 credits
10150121	Network Administration-Intermediate	3
10150130	Network Operating Systems	3
10150160	Information Security I	3
10154101	IT Customer Support	2
10102130	Career Development -or-	
10801199	Employment Strategies	3
10809195	Economics	3

Term		17 credits
10150111	IT Troubleshooting-Intermediate	3
10150141	Supervised Field Experience	2
10150161	Advanced Networking Projects	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government -or-	
10809172	Introduction to Diversity Studies -or-	
10809196	Intro to Sociology	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3

**Total Credits 68-69**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		7 credits
10150101	Network Fundamentals	3
10152101	Programming Logic-Beginning	4

Term		6 credits
10150110	IT Troubleshooting-Beginning	3
10150120	Network Administration-Beginning	3

Term		6-7 credits
10801136	English Composition 1 -or-	
10801195	Written Communication	3
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
	-or-	
10804189	Introductory Statistics	3

Term		6 credits
10103106	Microsoft Office-Introduction	3
10150121	Network Administration-Intermediate	3

Term		6 credits
10150165	Network Server Scripting	3
10152170	Systems Analysis	3

Term		6 credits
10809195	Economics	3
10809166	Intro to Ethics: Theory & Application	3

Term		6 credits
10150130	Network Operating Systems	3
10150160	Information Security I	3

Term		6 credits
10150111	IT Troubleshooting-Intermediate	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3

Term		6 credits
10809122	Intro to American Government -or-	
10809172	Introduction to Diversity Studies -or-	
10809196	Intro to Sociology	3
10809188	Developmental Psychology -or-	
10809198	Intro to Psychology	3

Term		5 credits
10102101	Intro to Business	3
10154101	IT Customer Support	2

Term		5 credits
10150141	Supervised Field Experience	2
10150161	Advanced Networking Projects	3

Term		3 credits
10102130	Career Development -or-	
10801199	Employment Strategies	3

**Total Credits 68-69**





## Economics

### 10809195 ..... 3 credits

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Employment Strategies

### 10801199 ..... 3 credits

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

### 10801136 ..... 3 credits

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Information Security I

### 10150160 ..... 3 credits

This course introduces students to computer network vulnerabilities and threats. Topics include network security terms and concepts, technology organization, legal and ethical issues associated with network security, techniques and tools to harden operating systems against attacks, and basic configuration of network security devices.

*Prerequisite: Network Fundamentals 10150101 and IT Troubleshooting-Beginning 10150110 or equivalent work experience and consent of instructor*

## Intermediate Algebra with Applications

### 10804118 ..... 4 credits

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

### 10809122 ..... 3 credits

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

### 10102101 ..... 3 credits

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

### 10809166 ..... 3 credits

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## IT Customer Support

**10154101..... 2 credits**

Develops skill in serving the needs of computer information system customers and documenting systems and procedures.

*Prerequisites: Systems Analysis 10152170 and Written Communication 10801195, English Composition 10801136, or consent of instructor*

## IT Troubleshooting-Beginning

**10150110..... 3 credits**

This CISCO Academy based course provides an introduction to networking that includes terminology, basic concepts of planning, designing, implementing, troubleshooting, and administration. Topics include peer-to-peer versus server-based networks, network topologies, media, interface cards, protocols, and architectures. In-depth coverage of the OSI model is included.

*Prerequisite: Network Fundamentals 10150101*

## IT Troubleshooting-Intermediate

**10150111..... 3 credits**

This CISCO Academy based course expands upon basic network concepts covered in IT Troubleshooting-Beginning. Topics include planning a network upgrade, configuration and management of networking devices, addressing structure, routing, ISP services, and troubleshooting network problems.

*Prerequisites: IT Troubleshooting-Beginning 10150110 and Network Fundamentals 10150101*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Network Administration-Beginning

**10150120 ..... 3 credits**

Develops skill in the design, installation, administration, and management of computer networks. Topics include network design, installation, and configuration of a commonly used network operating system; service packs and updated drivers; user accounts, groups, profiles and policies; file system security; printer management; and application software installation, backup, and recovery.

*Prerequisite: Network Fundamentals 10150101*

## Network Administration-Intermediate

**10150121 ..... 3 credits**

Expands upon the administration skills needed for successful management of a network operating system in a business environment. Topics include installation and configuration of a network operating system, monitoring and performance tuning, monitoring and analyzing network traffic, licensing, network devices, DNS, FTP, web services, and directory services.

*Prerequisite: Network Administration-Beginning 10150120*

## Network Fundamentals

**10150101** ..... **3 credits**

This CISCO Academy based course develops skill in PC hardware and software troubleshooting, including installation of hardware components and problem determination and correction of malfunctioning hardware and software.

## Network Operating Systems

**10150130** ..... **3 credits**

This course develops skill in the installation, setup, management, usage, and comparison of various network operating systems and network devices.

*Prerequisite: Network Administration-Beginning 10150120*

## Network Server Scripting

**10150165** ..... **3 credits**

Provides best practices and techniques in Linux and Windows shell and command line scripting.

*Corequisite: Network Administration-Beginning 10150120*

## Oral/Interpersonal Communication

**10801196** ..... **3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Programming Logic-Beginning

**10152101** ..... **4 credits**

This course introduces students to fundamental computer programming logic and terminology. Students utilize the concepts of structures, pseudocode, and modularization in solving problems. The students then use these tools to program in a current programming language.

## Speech

**10801198** ..... **3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Supervised Field Experience

**10150141** ..... **2 credits**

Integrates networking skill developed in classroom study with specific occupational experiences at local employment sites and develops work behavior appropriate to the computer information systems environment.

*Prerequisite: Completion of at least 20 credits in occupational-specific IT Network Specialist courses or consent of instructor*

## Systems Analysis

**10152170** ..... **3 credits**

A practical course which provides an overview of the Systems Development Life Cycle and then focuses in on the analysis phase of real-world computer and manual systems. Students learn concepts, techniques, and tools to aid in the analysis of existing systems, the identification of user requirements, and the design of database files. Both written and oral communications are emphasized. Most of the work is done in groups.

*Prerequisite: Programming Logic-Beginning 10152101*

## Written Communication

**10801195** ..... **3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# IT SOFTWARE DEVELOPER

Associate in Applied Science (AAS)

Program Code: 10-152-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)







## SAMPLE FULL TIME CURRICULUM OPTION

Term		16 credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10150101	Network Fundamentals	3
10152101	Programming Logic-Beginning	4
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
Term		18-19 credits
10152102	Programming Logic-Intermediate	4
10152156	Relational Database Development	2
10152170	Systems Analysis	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10809195	Economics	3
Term		16-17 credits
10150151	Implementing PC Security	2
	<b>-or-</b>	
10150160	Information Security I	3
10152150	Web Programming	3
10152160	Introductory Mobile Application Development <b>-or-</b>	
10152163	Introductory Android Development <b>-or-</b>	
10152164	Introductory iOS Development	3
10152171	Systems Design	3
10154101	IT Customer Support	2
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
Term		18 credits
10152155	Web Data Management	3
10152161	Intermediate Mobile Application Development <b>-or-</b>	
10152165	Intermediate Android Development <b>-or-</b>	
10152166	Intermediate iOS Development	3
10152172	Systems Implementation	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Total credits 68-70</b>		

**Please Note:**

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		7 credits
10150101	Network Fundamentals	3
10152101	Programming Logic-Beginning	4
Term		6 credits
10152102	Programming Logic-Intermediate	4
10152156	Relational Database Development	2
Term		6-7 credits
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
Term		6 credits
10103106	Microsoft Office-Introduction	3
10152150	Web Programming	3
Term		6 credits
10102101	Intro to Business	3
10152155	Web Data Management	3
Term		6 credits
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809195	Economics	3
Term		5 credits
10152160	Introductory Mobile Application Development <b>-or-</b>	
10152163	Introductory Android Development <b>-or-</b>	
10152164	Introductory iOS Development	3
10154101	IT Customer Support	2
Term		6 credits
10152161	Intermediate Mobile Application Development <b>-or-</b>	
10152165	Intermediate Android Development <b>-or-</b>	
10152166	Intermediate iOS Development	3
10152170	Systems Analysis	3
Term		6 credits
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
Term		5-6 credits
10150151	Implementing PC Security	2
	<b>-or-</b>	
10150160	Information Security I	3
10152171	Systems Design	3
Term		6 credits
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
10152172	Systems Implementation	3
Term		3 credits
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Total credits 68-70</b>		



## Career Development

### 10102130 ..... 3 credits

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

### 10804107 ..... 3 credits

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Developmental Psychology

### 10809188..... 3 credits

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Economics

### 10809195 ..... 3 credits

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on

Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Employment Strategies

### 10801199 ..... 3 credits

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition I

### 10801136 ..... 3 credits

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Implementing PC Security

### 10150151 ..... 2 credits

The course presents personal computer security awareness concepts, principles, and implementation procedures. The value of securing personal and organizational data along with local, state, and federal legislation pertaining to privacy is discussed. Liability of individuals and institutions in maintaining data confidentiality and integrity is reviewed. The concepts of risk management, security policies, common threats, and threat countermeasures are introduced. Best practices in access control through password policies and other basic security measures are also introduced.

*Prerequisite: Windows Operating Systems 10103102, Microsoft Office-Introduction 10103106, or consent of instructor*

## Information Security I

### 10150160 ..... 3 credits

This course introduces students to computer network vulnerabilities and threats. Topics include network security terms and concepts, technology organization, legal and ethical issues associated with network security, techniques and tools to harden operating systems against attacks, and basic configuration of network security devices.

*Prerequisite: Network Fundamentals 10150101 and IT Troubleshooting-Beginning 10150110 or equivalent work experience and consent of instructor*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intermediate Android Development

**10152165 ..... 3 credits**

Course provides training in advanced Java concepts, including interfaces, anonymous methods, and recursive techniques; and training in gesture recognition, data persistence, navigation, and action bar customization.

*Prerequisite: Introductory Android Development 10152163*

## Intermediate iOS Development

**10152166 ..... 3 credits**

Course provides advanced coverage of Objective C topics, including blocks, design patterns, delegates, and notifications; and training in gesture recognition, core data, navigation, and accelerometer basics.

*Prerequisite: Introductory iOS Development 10152164*

## Intermediate Mobile Application Development

**10152161 ..... 3 credits**

Provides instruction in developing software applications for mobile devices using the Android operating system.

*Prerequisite: Introductory Mobile Application Development 10152160*

## Intro to American Government

**10809122 ..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101 ..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introductory Android Development

**10152163..... 3 credits**

The course provides training in introductory mobile device development for devices running the Android operating system. Topics include platform and SDK setup, Java overview, menu creation, responding to gestures, screen layout, error handling, debugging, image handling, text files, screen state, dialog views, list views, and XML files.

*Prerequisite: Programming Logic-Intermediate 10152102*

## Introductory iOS Development

**10152164..... 3 credits**

Course provides training in the following topics: overview of Xcode and Cocoa Touch libraries and proper setup, Objective C training, View creation, List Views, Scroll Views, Image Views, auto layout, Storyboarding, multi-view navigation, core data, and core graphics.

*Prerequisite: Programming Logic Intermediate 10152102*

## Introductory Mobile Application Development

**10152160 ..... 3 credits**

Provides instruction in developing software applications for mobile devices using the Android operating system. *Prerequisite: 10152102 Programming Logic Intermediate or consent of instructor*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## IT Customer Support

**10154101..... 2 credits**

Develops skill in serving the needs of computer information system customers and documenting systems and procedures.

*Prerequisites: Systems Analysis 10152170 and Written Communication 10801195, English Composition 10801136, or consent of instructor*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Network Fundamentals

**10150101..... 3 credits**

This CISCO Academy based course develops skill in PC hardware and software troubleshooting, including installation of hardware components and problem determination and correction of malfunctioning hardware and software.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Programming Logic-Beginning

**10152101 ..... 4 credits**

This course introduces students to fundamental computer programming logic and terminology. Students utilize the concepts of structures, pseudocode, and modularization in solving problems. The students then use these tools to program in a current programming language.

## Programming Logic-Intermediate

**10152102..... 4 credits**

Building on previous learning of structured programming, this class introduces more complex algorithms and data structures. Programs are written that involve concepts, such as arrays, data validation, data manipulation, and beginning object oriented concepts.

*Prerequisite: Programming Logic-Beginning 10152101*

## Relational Database Development

**10152156..... 2 credits**

Provides training for students in the concepts of relational database design and development. Topics covered include relational normalization, referential integrity, proper use of indexing, staging design patterns, T-SQL coding, and stored procedures.

*Prerequisite: Programming Logic-Beginning 10152101*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Systems Analysis

**10152170 ..... 3 credits**

A practical course which provides an overview of the Systems Development Life Cycle and then focuses in on the analysis phase of real-world computer and manual systems. Students learn concepts, techniques, and tools to aid in the analysis of existing systems, the identification of user requirements, and the design of database files. Both written and oral communications are emphasized. Most of the work is done in groups.

*Prerequisite: Programming Logic-Beginning 10152101*

## Systems Design

**10152171 ..... 3 credits**

Provides actual hands-on experience with designing a software project. Students work in teams to develop software design documents, and software specifications. Concepts stressed are prototyping, documentation, communication, teamwork, and project management.

*Prerequisites: Systems Analysis 10152170, Access-Beginning 10103133, or Microsoft Office-Introduction 10103106*

## Systems Implementation

**10152172 ..... 3 credits**

Discusses the importance of and need for Database Management Systems (DBMS). Students are introduced to the three major models: hierarchical, network, and relational. Students design and implement relational databases and learn SQL.

*Prerequisite: Systems Design 1015217, RPG-Beginning 10152115, or COBOL-Beginning 10152110*

## Web Data Management

**10152155 ..... 3 credits**

Using server-side technologies, the student creates and demonstrates data connectivity to the web. Tools may include elements of the following languages: HTML, JavaScript, SQL, and PHP. Students retrieve data for display to the web browser and capture data for storage from a web-based form.

*Prerequisite: 10152150 Web Programming*

## Web Programming

**10152150 ..... 3 credits**

Using client-side technologies, students create dynamic websites. Tools may include elements of the following languages: HTML, CSS, JavaScript, and XML.

*Prerequisite: Programming Logic-Beginning 10152101*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# MACHINE TOOL TECHNICIAN

Technical Diploma

Program Code: 32-420-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## MACHINE TOOL TECHNICIAN



The Machine Tool Technician program prepares graduates for machining positions, an in-demand skill set at the heart of industrial production. Additional training and experience often lead to supervisory, quality assurance, and tool maker positions. In this program you will learn to shape various materials into intricate, precise, usable parts. You'll also work from blueprints and written specifications to select the proper machinery, materials, and tools, and you'll gain proficiency with machine tools such as lathes, mills, grinders, computers, and computerized numerical control (CNC) machines.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Technical Diploma**

**Total Credits: 61-62**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Advanced Machine Operator, CNC Operator, Engineering Prototype Machinist, Job Shop Machinist, Machine Assembler, Machine Maintenance, Machine Operator, Machine Tool Supplies Salesperson, Machinist, Machinist Apprentice, Tool and Die Apprentice, Tool and Die Repairer, and Tool Room Machinist

In general, there is growing demand for these careers. Example: Machinist career has grown by 4% over the last two years and is expected to grow by 15% over the next 10 years. Currently 5,529 Machinists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Industrial Mechanical Technician and Welding

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Machine Tool Technician graduate, to be able to:

- Demonstrate the ability to work safely and cooperatively as an individual and in teams in a classroom/industrial setting.
- Use various manual machine tools, construct parts to required specifications following instructions and interpreting blueprints.
- Analyze the various programming methods, software, and equipment to machine parts to specifications using CNC machines.
- Demonstrate proper machine care while producing precision parts within time estimates.
- Use terminology associated with machine tool technology to communicate effectively with co-workers, supervisors, customers, and vendors.
- Analyze prints to create parts to specifications using computational skills, proper process planning, and equipment.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.









## CNC Lathes/Manual Programming

**32420362 ..... 2 credits**

NC/CNC terminology, including introduction to computers, and components of NC/CNC lathes are covered. All programming is manual word address (G + M Code) basics. Basic CNC lathe operation is included.  
*Corequisite: Advanced Lathes 32420305*

## CNC Mills/Manual Programming

**32420364 ..... 2 credits**

NC/CNC terminology, including introduction to computers, and components of NC/CNC mills are covered. All programming is manual word address (G + M code) basics. Basic CNC mill operation is included.  
*Prerequisite: Mechanical Drafting Concepts 10623104; Corequisite: Advanced Lathes 32420305*

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Employment Strategies

**10801199 ..... 3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.  
*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## Geometric Dimensioning & Tolerancing

**32420322..... 2 credits**

Provides fundamentals of Geometric Dimensions and Tolerancing per the ASME Y14.5 standard. The development of the technical knowledge and skills required for application and interpretation of GD&T is the focus of the course.

*Prerequisite: Admission to Machine Tool program 324201 or consent of instructor*

## Intro to CNC Machining

**32420360 ..... 2 credits**

This course introduces learners to the world of CNC (computer numerical controlled) machining. Students explore the general terminology associated with automated machine tools, accompanied by an introduction to programming and operations of CNC mills and lathes. This course gives learners a hands-on understanding of the importance of the use of CNC machinery in modern manufacturing.

## Intro to Machine Tool

**32420301..... 3 credits**

Students learn the concepts, old and new, as well as terms and basic information relevant and common to all facets of machine tool technology. Emphasis is placed on safety and safe work habits while expanding the learners' knowledge of precision and non-precision measuring tools, limits, tolerance, and hand tools used in the machine shop. The learner is introduced to more common manual machine tools, lathe, drill press, and band saw while completing projects and exercises.

## Introduction to Solid Modeling

**32420310..... 2 credits**

This course will introduce learners to the creation of CAD represented solid models for use in the manufacturing arena. As an introductory course in three-dimensional modeling, learners will use computer software to develop two-dimensional sketches and utilizing modeling tools create the solid models on the computer. Students will also use the models to create and detail two-dimensional engineering drawings for use on the manufacturing floor. Computer knowledge and prior knowledge of drawing/drafting techniques is recommended.

## Machine Shop Manual Operations

**32420302 ..... 5 credits**

Learners explore new concepts, terms, and operations of machine tools while reviewing and further developing skills from previous covered operations. Safety must be practiced continually. Safety and the development of safe work habits are emphasized. Learners' working skills on individual machine tools through exercises and projects are expanded. Classroom instruction focuses on non-precision and precision layouts, drill presses, drill press accessories, band saws, and cutoff saws.

*Corequisite: Intro to Machine Tool 32420301*

## Manual Lathe & Cutting Fluids

**32420303 ..... 5 credits**

The learners' understanding of new concepts, terms, and operations of machine tools is developed while reviewing and further developing skills from previous covered operations. Safety must be practiced continually. Safety and the development of safe work habits are emphasized. The learners' working skills on the individual machine tools through exercises and projects are expanded. Classroom instruction places emphasis on the parts and accessories of the engine lathe, the use and benefit of cutting fluids, and the different operations performed on the lathe. The operations covered in this nine-week period include: setting up and turning work between centers; facing, knurling, and cutting tapers; setting up and using 3-jaw and 4-jaw chucks; and using a follow rest and a steady rest.  
*Prerequisite: Intro to Machine Tool 32420301*

## Manufacturing Practices

**10623112 ..... 3 credits**

As competition for market share continues to increase, manufacturers rely on innovations in technology, methods, and practices to give them the edge they need. To remain competitive globally, manufacturers watchwords are productivity, efficiency, and quality. In this course, students will examine some of the practices that many manufacturing operations have come to rely on to make their operations competitive, efficient, and cost-effective. Topics covered in this class include the principles of lean manufacturing, value versus non-value added waste, 5S's, value stream mapping, setup reduction and quick changeover, cellular flow, building a lean culture, total productive maintenance, and statistical process control (SPC).

## Math for Manufacturing

**32420320 ..... 2 credits**

This course includes the study of machine tool problems involving calculations with fractions, decimals, and percentage. Includes work with the metric system, measurement conversion, geometry, trigonometry of right triangles, and use of a scientific calculator. Formulas with application to the trades are also studied.  
*Prerequisite: Admission into Machine Tool Technician 324201, Welding 314421 programs, Gas Metal Arc Welding (GMAW) certificate 144422, or consent of instructor*

## Mechanical Drafting Concepts

**10623104 ..... 3 credits**

Drafting media, drafting standards, reproduction processes, geometric construction, isometric and oblique pictorial drawings, dimensioning, tolerancing, parts drawing, and part identification are included in this course.

## Metal Fabrication

**10462116 ..... 3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.  
*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Metals Science

**32420312 ..... 2 credits**

Students are introduced to the field of metallurgy. Covers sources of common metals, including both ferrous and non-ferrous methods of ore extraction and refining and classification of these metals and the alloy systems. The heat treatment of various metals and properties of metals are studied, including lab work on shear, compression, tensile strength, and corrosion.

## Non-Traditional Machine Operations

**32420307 ..... 3 credits**

Students explore a variety non-traditional machining operations. Students gain knowledge of the theory and operation of electrical discharge machining (EDM) and coordinate measuring machine. The focus of this course is on the cutting-edge processes that are becoming the mainstream of modern machining.  
*Prerequisites: Advanced Lathes 32420305 and Advanced Mills 32420306*

## Threads & Mills

**32420304 ..... 5 credits**

Learners are presented with new concepts, terms, and operations of machine tools while reviewing and further developing skills from previous covered operations. Safety must be practiced continually. Safety and the development of safe work habits are emphasized. The learner's working skills on the individual machine tools through exercises and projects are expanded. Classroom instruction places emphasis on threads, thread terminology, thread measuring, thread cutting, and the vertical milling machine.  
*Prerequisite: Intro to Machine Tool 32420301*





# MARKETING

Associate in Applied Science (AAS)

Program Code: 10-104-3

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Marketing graduate, to be able to:

- Develop strategies to anticipate and satisfy market needs.
- Promote products, services, images, and/or ideas to achieve a desired outcome.
- Evaluate information through the market research process to make business decisions.
- Prepare selling strategies.

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The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure program outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Marketing program outcomes are measured in the TSA-designated course Marketing Management.

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## PROGRAM PROGRESSION

In order to maintain a passing status and progress in the program, students must:

- Receive a grade of “C” or better in Marketing Management.

## MOBILE DEVICE ENHANCEMENT

To support your hands-on learning and give you an edge in today’s digital workplace, Marketing program students are required to purchase an iPad device. Students accepted into the program will receive specific details about purchasing the mobile device (financial aid available).

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>16 credits</b>
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10104102	Marketing Principles	4
10104120	Adobe Creative Cloud-Marketing Fundamentals	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		
		<b>17-18 credits</b>
10101111	Accounting I	4
10103124	Excel-Intermediate	1
10104105	Selling Principles	3
10104107	Social Media Marketing	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		
		<b>19 credits</b>
10102104	Business Law	3
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
10102180	International Business	3
10104125	Promotion Principles	4
10104174	Marketing Research	3
10809195	Economics	3
<b>Term</b>		
		<b>16 credits</b>
10104160	Marketing Management	4
10104180	E-Commerce Principles	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Total credits 68-69</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

<b>Term</b>		<b>10 credits</b>
10103106	Microsoft Office-Introduction	3
10104102	Marketing Principles	4
10809166	Intro to Ethics: Theory & Application	3
<b>Term</b>		
		<b>9-10 credits</b>
10102101	Intro to Business	3
10104105	Selling Principles	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		
		<b>7 credits</b>
10103124	Excel-Intermediate	1
10104120	Adobe Creative Cloud-Marketing Fundamentals	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		
		<b>9 credits</b>
10102104	Business Law	3
10104107	Social Media Marketing	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
<b>Term</b>		
		<b>7 credits</b>
10102180	International Business	3
10104125	Promotion Principles	4
<b>Term</b>		
		<b>10 credits</b>
10101111	Accounting I	4
10104180	E-Commerce Principles	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Term</b>		
		<b>9 credits</b>
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
10104174	Marketing Research	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
<b>Term</b>		
		<b>7 credits</b>
10104160	Marketing Management	4
10809195	Economics	3
<b>Total credits 68-69</b>		



# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Accounting I

**1010111..... 4 credits**

A beginning course designed especially for majors or those who need a strong foundation in accounting principles. Develops the accounting cycle of journaling, posting, adjusting, closing, and reporting. It emphasizes service and merchandising sole proprietorships in developing the accounting cycle. Explores issues for accounting for cash, accounts and notes receivable, inventories, and fixed assets.

### Adobe Creative Cloud-Marketing Fundamentals

**10104120..... 3 credits**

This course prepares the student to compare, evaluate, and select different advertising mediums. It includes analyzing media purchasing strategies and the design and development of effective advertising for each medium. Additional topics include the evaluation of survey information and pricing methodology for each medium.  
*Corequisite: Microsoft Office-Introduction 10103106*

### Business Law

**10102104..... 3 credits**

This course introduces the student to the basic foundation of laws and regulatory systems applicable to the business environment. Students examine the UCC, contract torts, agency law, and business and cybercrime. Students apply business legal theory in conjunction with ethical decision making through practical application.

### Career Development

**10102130..... 3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through

the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

### College Mathematics

**10804107..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## E-Commerce Principles

**10104180..... 3 credits**

This course provides an overview of electronic commerce. Business models underlying these electronic commerce applications are studied from both operational and strategic perspectives. A review is made of World Wide Web technology trends, including electronic payments and related issues of authentication, security, privacy, intellectual property right, and tax implications.

## Economics

**10809195..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Employment Strategies

**10801199..... 3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.  
*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

**10801136..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.  
*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124.....1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.  
*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Intermediate Algebra with Applications

**10804118..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.  
*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## International Business

**10102180..... 3 credits**

This course introduces topics concerning international business while illustrating its scope and importance. Topics include the impact of geography, trade protectionism, culture, legal structure, politics, and currency on business dealings. Students research a particular country in depth.

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101** ..... **3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166** ..... **3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198** ..... **3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196** ..... **3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172** ..... **3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189** ..... **3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Marketing Management

**10104160** ..... **4 credits**

Examines the marketing function from the manager's perspective. Topics include management functions, decision making in regard to the customer, product planning, pricing strategies, evaluation of distribution channels, and promotional tactics.

*Prerequisite: Twelve Marketing 10-104 credits*

## Marketing Principles

**10104102** ..... **4 credits**

Students study the practices and methods of manufacturers and distributors in the marketing of goods and services. Also emphasized are product planning, pricing strategies, distribution systems, channel activities, and the role of government as well as other factors influencing marketing today.

## Marketing Research

**10104174** ..... **3 credits**

Primarily for students with previous business courses or work experience. Introduces techniques of research and research reporting. The study of market behavior is pursued as students undertake several well-ordered research projects in their career fields.

*Prerequisite: Marketing Principles 10104102*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Promotion Principles

**10104125 ..... 4 credits**

This course focuses on non-personal communication about product services, image, or ideas to influence customer behavior. Topics include advertising, sales and visual promotion, public relations, and managing the promotion function.

*Corequisite: Adobe Creative Cloud-Marketing Fundamentals 10104120*

## Selling Principles

**10104105 ..... 3 credits**

Students develop the kind of sales techniques that encourage customers to believe in the integrity of the salesperson and the product. Subjects include handling customers' tangible and intangible needs, attitude conversion, sales strategies for a variety of conditions, and the changing form of selling techniques. Focuses on the need for a sales personality and the importance of psychology and creativity in selling.

## Social Media Marketing

**10104107 ..... 3 credits**

This course addresses how social media has transformed marketing communications from traditional mass media to individualized marketing. Using social media tools such as Facebook, YouTube, Twitter, LinkedIn, and more, this class explores the different methodologies for social media marketing. Topics addressed include creating social media, integrating social media as part of a marketing campaign, the concept of viral marketing, ethical and potential legal concerns that have arisen over these forms of communication, and how organizations and individuals have successfully applied social media marketing.

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# MEDICAL ASSISTANT

Technical Diploma

Program Code: 31-509-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Medical Assistant graduate, to be able to:

- Perform medical office administrative functions.
- Provide patient care in accordance with regulations, policies, laws, and patient rights.
- Perform medical laboratory procedures.
- Demonstrate professionalism in a health care setting.
- Demonstrate safety and emergency practices in a health care setting.

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This program prepares competent entry-level medical assistants in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains. This program is accredited by the Commission on Accreditation of Allied Health Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Medical Assisting Education Review Board (MAERB).

### Commission on Accreditation of Allied Health Education Programs

25400 US Highway 19 North, Suite 158  
Clearwater, FL 33763  
Phone: 727.210.2350 • [www.caahep.org](http://www.caahep.org)

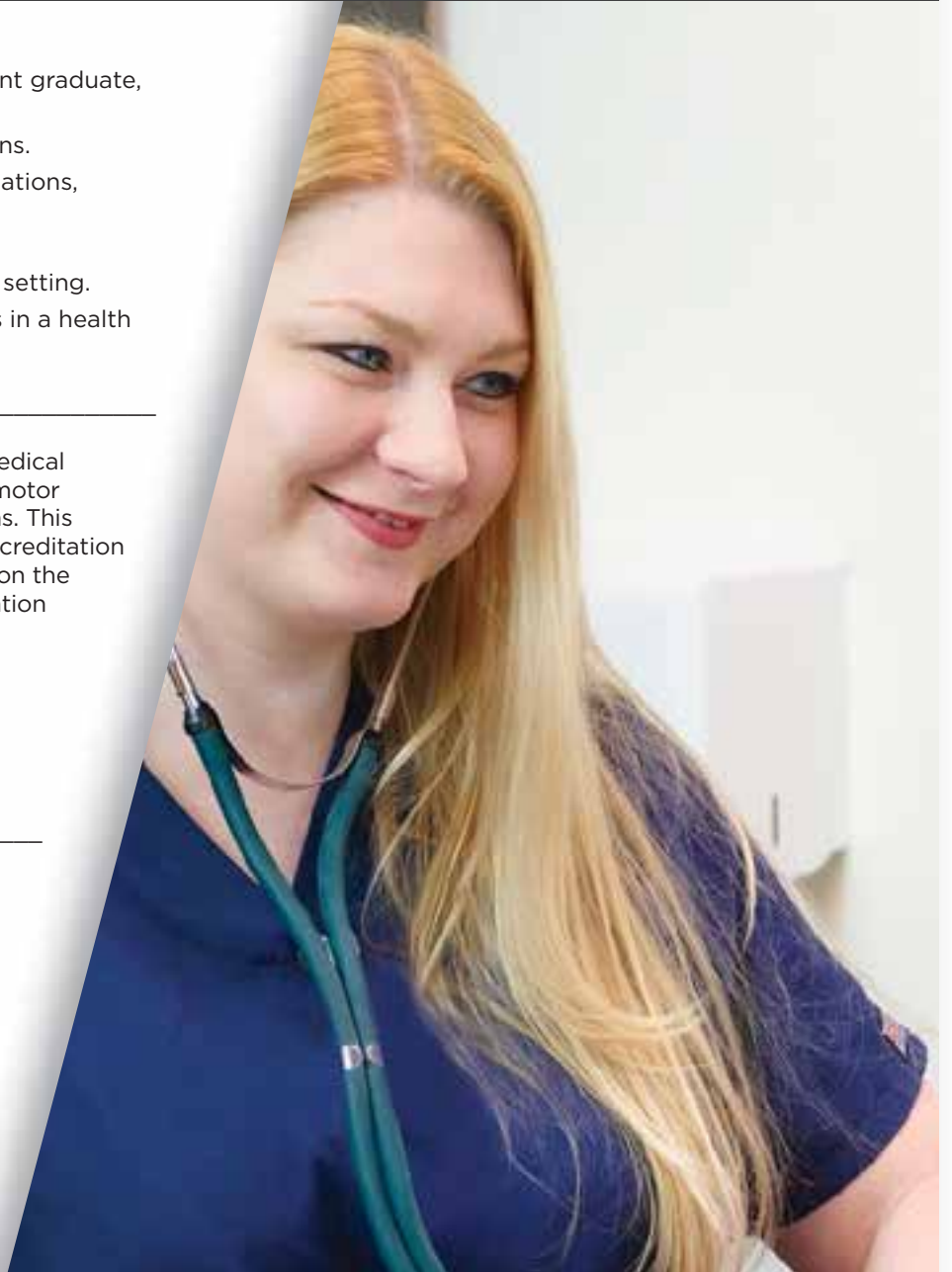
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## ADDITIONAL ENTRY CRITERIA

To apply to the Medical Assistant program, please submit the following documents to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**



## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a medical assistant is available at [mstc.edu/programs/medical-assistant](http://mstc.edu/programs/medical-assistant). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.

## PROGRAM PROGRESSION AND COMPLETION

In order to maintain a passing status and progress in the program, students must:

- Repeat courses not completed with a grade of "C" or better prior to progressing in core courses or other courses with co- or prerequisites.
- Receive a grade of "C" or better in all courses required for graduation.

Please note that the ability to repeat courses is dependent upon availability in courses. Students may be required to apply for program re-entry in order to repeat courses within the program's instructional area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

### SAMPLE FULL TIME CURRICULUM OPTION

Term		17 credits
10103106	Microsoft Office-Introduction	3
10501101	Medical Terminology	3
10501108	Pharmacology for Allied Health	2
10509102	Human Body in Health and Disease	3
31509303	Medical Assistant Laboratory Procedures 1	2
31509304	Medical Assistant Clinical Procedures 1	4
Term		17 credits
10501109	Medical Law, Ethics, and Professionalism	2
10801195	Written Communication <b>-or-</b>	
10801136	English Composition I	3
31509301	Medical Assistant Administrative Procedures	2
31509305	Medical Assistant Laboratory Procedures 2	2
31509306	Medical Assistant Clinical Procedures 2	3
31509307	Medical Office Insurance and Finance	2
31509310	Medical Assistant Practicum	3
<b>Total credits</b>		<b>34</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10501101	Medical Terminology	3
10509102	Human Body in Health and Disease	3
Term		8 credits
10103106	Microsoft Office-Introduction	3
10801195	Written Communication <b>-or-</b>	
10801136	English Composition I	3
10501109	Medical Law, Ethics, and Professionalism	2
Term		8 credits
31509303	Medical Assistant Laboratory Procedures 1	2
31509304	Medical Assistant Clinical Procedures 1	4
10501108	Pharmacology for Allied Health	2
Term		12 credits
31509301	Medical Assistant Administrative Procedures	2
31509305	Medical Assistant Laboratory Procedures 2	2
31509306	Medical Assistant Clinical Procedures 2	3
31509307	Medical Office Insurance and Finance	2
31509310	Medical Assistant Practicum	3
<b>Total credits</b>		<b>34</b>





## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Human Body in Health and Disease

**10509102 ..... 3 credits**

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis, and prevention of common diseases.

## Medical Assistant Administrative Procedures

**31509301..... 2 credits**

Introduces medical assistant students to office management and business administration in the medical office. Students learn to schedule appointments, perform filing, record keeping, telephone and reception duties, communicate effectively with patients and other medical staff, and keep inventory of supplies. Students apply introductory medical coding skills and managed care terminology.

*Prerequisite: Admission to Medical Assistant program 315091;*

## Medical Assistant Clinical Procedures 1

**31509304..... 4 credits**

Introduces medical assistant students to clinical procedures performed in the medical office setting. Students perform basic examining room skills, including screening, vital signs, patient history, minor surgery and patient preparation for routine and specialty exams in the ambulatory setting.

*Prerequisite: Admission into Medical Assistant program 315091; Corequisite: Medical Assistant Laboratory Procedures 1 31509303*

## Medical Assistant Clinical Procedures 2

**31509306..... 3 credits**

Prepares medical assistant students to perform patient care skills in the medical office setting. Students perform clinical procedures, including administering medications, assisting with minor surgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and maintaining clinical equipment in an ambulatory setting.

*Prerequisites: Medical Assistant Clinical Procedures 1 31509304, Medical Assistant Laboratory Procedures 1 31509303, Medical Terminology 10501101, and Human Body in Health and Disease 10509102; Corequisite: Medical Assistant Laboratory Procedures 2 31509305*

## Medical Assistant Laboratory Procedures 1

**31509303..... 2 credits**

Introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology, and urinalysis testing.

*Prerequisite: Admission to Medical Assistant program 315091; Corequisite: Medical Assistant Clinical Procedures 1 31509304*

## Medical Assistant Laboratory Procedures 2

**31509305..... 2 credits**

Prepares students to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology, and chemistry laboratory procedures.

*Prerequisite: Medical Assistant Laboratory Procedures 1; Corequisite: Medical Assistant Clinical Procedures 2 31509306*

## Medical Assistant Practicum

**31509310..... 3 credits**

Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient settings. Learners perform medical assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. There is no remuneration for students enrolled in this course.

*Prerequisites: Medical Assistant Administrative Procedures 10509130, Human Body in Health and Disease 10509102; Medical Terminology 10501101; Medical Assistant Laboratory Procedures 1 31509303; Medical Assistant Clinical Procedures 1 31509304; Microsoft Office-Introduction 10103106; Medical Assistant Clinical Procedures 2 31509306; Medical Assistant Laboratory Procedures 2 31509305; Medical Office, Insurance, and Finance 10509131; Medical Law, Ethics, and Professionalism 10501109; and Written Communication 10801195*

## Medical Law, Ethics, and Professionalism

**10501109 ..... 2 credits**

Prepares students to display professionalism and perform within ethical boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues.

## Medical Office Insurance and Finance

**31509307 ..... 2 credits**

Introduces medical assistant students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines, and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance related duties.

*Prerequisite: Admission to Medical Assistant program 315091; Corequisite: Medical Assistant Clinical Procedures 2 31509306.*







# MEDICAL CODER

Technical Diploma

Program Code: 31-530-3

our graduates  
INDEMAND

2016/2017



[mstc.edu](http://mstc.edu)

## MEDICAL CODER



The Medical Coder program at Mid-State prepares students for entry-level work as medical coders in health care settings such as hospitals, physician offices, long-term care facilities, and more. Medical coders review medical documentation and assign diagnosis and procedure codes for the purposes of billing, quality improvement, statistical reporting, and medical research. In this program, you'll be introduced to reimbursement principles and build proficiency in assigning codes across all settings. After program completion, graduates may qualify to take the Certified Coding Associate (CCA) credentialing exam through American Health Information Management Association (AHIMA).

Graduates of the Medical Coder technical diploma may advance into the Health Informatics and Information Management program.

**Technical Diploma**

**Total Credits: 29**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Chargemaster Coordinator, Coding Specialist, Coding Support Specialist, Health Information Technician, and Medical Coder

In general, there is growing demand for these careers. Example: Health Information Technician career has grown by 2% over the last two years and is expected to grow by 14% over the next 10 years. Currently 1,884 Medical Records and Health Information Technicians are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## HEALTH INFORMATICS AND INFORMATION MANAGEMENT



Mid-State's Health Informatics and Information Management program prepares individuals to enter the emerging field of electronic health record management. Students learn to use computer programs and established methods to securely process, compile, maintain, and report electronic health information data for patient care. In this program you'll learn to abstract and code clinical data using classifications systems as well as analyze health records according to industry protocols. You'll build knowledge about reimbursement, facility planning, marketing, risk management, and more. Graduates are eligible to take the AHIMA national certification exam for Registered Health Information Technician (RHIT).

**Associate in Applied Science**

**Total Credits: 70**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Data Quality Analyst, Diagnosis Related Group (DRG) Coordinator, Health Information Supervisor, Health Information Technician, Medical Records Analyst, Patient Account Representative, Patient Financial Services Specialist, and Quality Improvement Analyst

In general, there is growing demand for these careers. Example: Health Information Technician career has grown by 2% over the last two years and is expected to grow by 14% over the next 10 years. Currently 1,884 Medical Records and Health Information Technicians are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## bachelor's degree opportunities

UW-Stevens Point,  
Health Science-Health  
Care Administration or  
Health Care Informatics

College of  
St. Scholastica,  
BA Health Information

For more  
information and  
additional opportunities,  
go to [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer  
college credit**

**dual credit**

**credit by  
examination**

**credit for military or  
work experience**

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).



## PROGRAM OUTCOMES

Employers will expect you, as a Medical Coder graduate, to be able to:

- Review clinical documentation and diagnostic results to ensure accurate diagnostic and procedural coding.
- Extract and abstract data, and apply appropriate clinical codes using proper classification systems accurately.
- Provide charge validation.

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a medical coder is at [mstc.edu/programs/medical-coder](http://mstc.edu/programs/medical-coder). Contact the disability services coordinator in the Student Services Office to receive assistance.

## PROGRAM PROGRESSION AND COMPLETION

In order to progress in and successfully complete the program, students must:

- Repeat courses not completed with a grade of “C” or better prior to progressing in core courses or other courses with co- or prerequisites.
- Receive a grade of “C” or better in all courses required for graduation.

Please note that the ability to repeat courses is dependent upon availability in courses. Students may be required to apply for program re-entry in order to repeat courses within the program’s instructional area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.



This ACT program is 100% funded with a TAACCT Round IV \$19.9 million grant awarded by the US Department of Labor’s Employment and Training Administration. This program is an equal opportunity program, and auxiliary aids and services are available upon request to individuals with disabilities. This workforce product was funded by a grant awarded by the US Department of Labor’s Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The US Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.









## Advanced Coding

**10530148..... 2 credits**

This course builds on basic coding knowledge and skills by providing the student with coding of clinical case studies and actual medical records. The student will access, review, and code electronic medical records from the Academic EHR System. Students will also perform data quality reviews to validate code assignment and compliance with reporting requirements.

*Prerequisites: ICD Diagnosis Coding 10530197, ICD Procedure Coding 10530199, and CPT Coding 10530144; Corequisite: Private and Government Reimbursement 10530146*

## CPT Coding

**10530144 ..... 3 credits**

Prepares learners to assign current procedural terminology (CPT) codes supported by medical documentation with entry-level proficiency. Students are familiar with and use standard coding references. Emphasis is placed on accuracy, CPT instructional notations, conventions, rules, and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. Application of modifiers to services and relationship to financial impact are also covered.

*Prerequisites: Medical Terminology 10501101; General Anatomy & Physiology 10806177; Intro to Health Records 10530111; Corequisite: Human Diseases for Health Professions 10530182*

## Electronic Health Records

**10530122..... 3 credits**

Introduces students to the electronic health record (EHR) as a technology-based representation of healthcare data integration from a participating collection of varied systems for a single patient. Covers emerging use of the electronic health record, an overview of EHR, applications, benefits and barriers to its use, vocabularies, principles of implementation, health information exchange, standards, privacy, security, information retrieval, digital libraries, and image management.

*Prerequisites: Medical Terminology 10501101, General Anatomy & Physiology 10806177, and Intro to Health Records 10530111*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Human Disease for the Health Professions

**10530182.....3**

This course focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasis is placed on understanding the etiology (causes), signs and symptoms, diagnostic tests, and treatment (including pharmacologic) of each disease.

*Prerequisites: Medical Terminology 10501101 and General Anatomy & Physiology 10806177*

## ICD Diagnosis Coding

**10530197..... 3 credits**

Prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation.

*Prerequisites: Medical Terminology 10501101, Intro to Health Records 10530111, General Anatomy & Physiology 10806177; Corequisite: Human Disease for the Health Professions 10530182*

## ICD Procedure Coding

**10530199..... 2 credits**

Prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation.

*Prerequisites: Medical Terminology 10501101, Intro to Health Records 10530111, General Anatomy & Physiology 10806177, and Human Disease for the Health Professions 10530182*

## Introduction to Health Records

**10530111 ..... 3 credits**

Focuses on the purpose, format, content, use, confidentiality, and administrative issues of a patient's medical history and care. Students study the use of the patient's medical record as a basis for planning patient care, documenting communication between the healthcare provider and any other health professional contributing to the patient's care, assisting in protecting the legal interest of the patient and the healthcare providers responsible for the patient's care, and documenting the care and services provided to the patient. Emphasis is placed on accuracy, organization, and confidentiality. Students will be introduced to EMR concepts.

*Corequisite: Medical Terminology 10501101*

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.







# MEDICAL OFFICE SPECIALIST

Technical Diploma

Program Code: 31-160-3

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2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## MEDICAL OFFICE SPECIALIST



The Medical Office Specialist program at Mid-State prepares students to meet the needs of healthcare and related organizations by performing a variety of office support functions. The program includes medical terminology; medical law, ethics, and professionalism; and related coursework. In this program you will learn to communicate professionally while maintaining confidentiality, apply customer service skills, and use computer applications to prepare and maintain medical documents. You will also learn to prepare medical documents and correspondence and perform administrative procedures within the healthcare environment. Tours of local medical facilities will help you gain knowledge of possible employers in the community.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Technical Diploma**

**Total Credits: 34**

**Salary information:**  
[mstc.edu/programsalaris](http://mstc.edu/programsalaris)

**Careers:** Medical Secretary, Medical Administrative Assistant, Medical Assistant, and Medical Records & Health Information Technician

In general, there is growing demand for these careers. Example: Medical Secretary career has grown by 2% over the last two years and is expected to grow by 19% over the next 10 years. Currently 3,978 Medical Secretaries are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Administrative Professional and Customer Relationship Professional

**For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).**

## NOTES:

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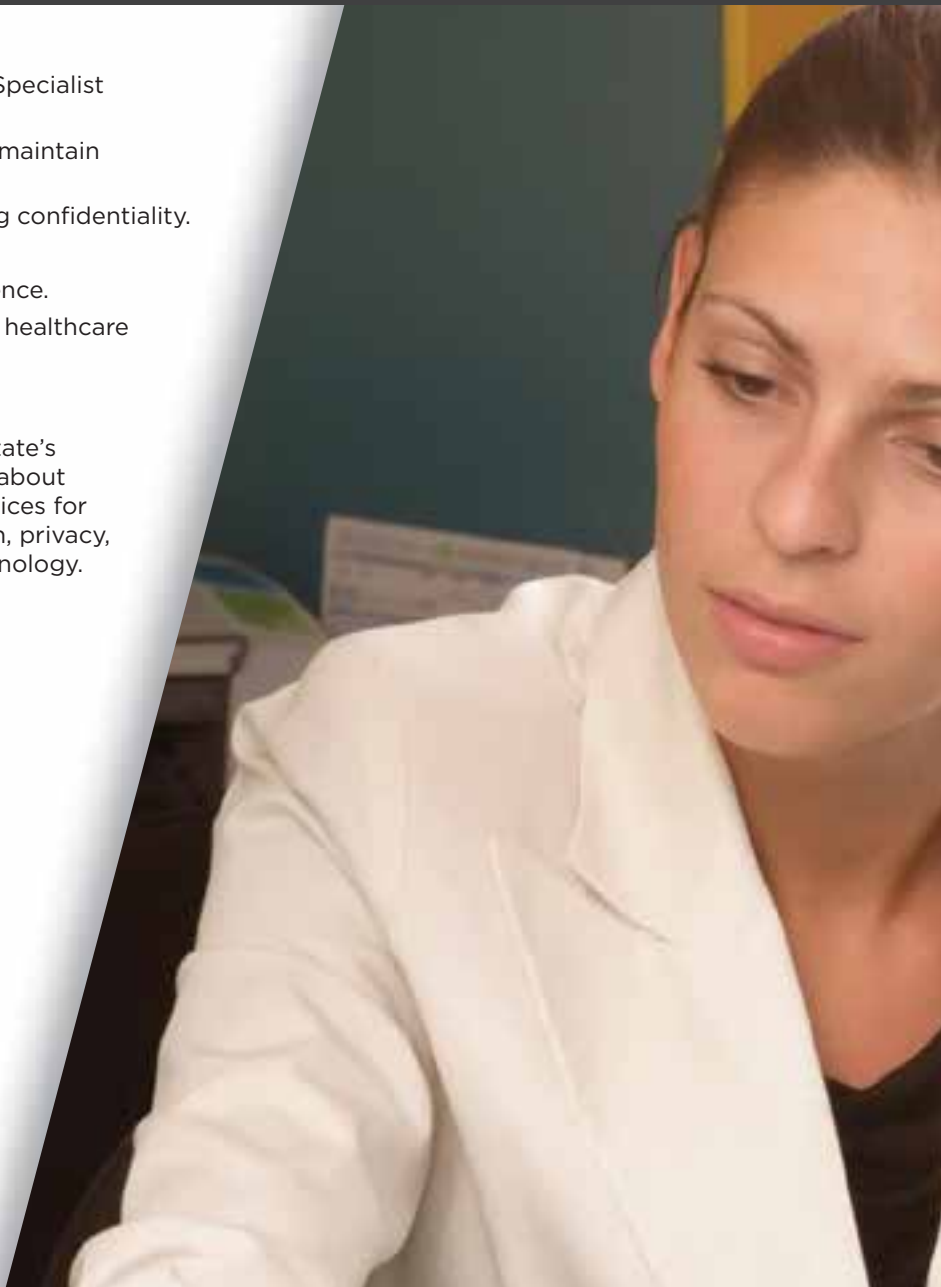
## **PROGRAM OUTCOMES**

Employers will expect you, as a Medical Office Specialist graduate, to be able to:

- Utilize computer applications to prepare and maintain medical documents.
- Communicate professionally while maintaining confidentiality.
- Apply customer service skills.
- Prepare medical documents and correspondence.
- Perform administrative procedures within the healthcare environment.

## **STUDENT HANDBOOK**

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>18 credits</b>
10103106	Microsoft Office-Introduction	3
10501101	Medical Terminology	3
10501109	Medical Law, Ethics, and Professionalism	2
10509102	Human Body in Health and Disease	3
10530125	Organization of Healthcare	2
10530150	Introduction to Health Information Technology	2
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

<b>Term</b>		<b>16 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1
10106106	Quality Customer Service	3
10106160	Proofreading & Editing	3
10530149	Introduction to Healthcare Reimbursement	2
10106157	Document Formatting	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

**Total credits 34**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. **For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).**

## SAMPLE PART-TIME CURRICULUM OPTION

<b>Term</b>		<b>5 credits</b>
10509102	Human Body in Health and Disease	3
10530150	Introduction to Health Information Technology	2

<b>Term</b>		<b>5 credits</b>
10501101	Medical Terminology	3
10501109	Medical Law, Ethics, and Professionalism	2

<b>Term</b>		<b>6 credits</b>
10103106	Microsoft Office-Introduction	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

<b>Term</b>		<b>5 credits</b>
10106157	Document Formatting	3
10530125	Organization of Healthcare	2

<b>Term</b>		<b>2 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1

<b>Term</b>		<b>5 credits</b>
10106160	Proofreading & Editing	3
10530149	Introduction to Healthcare Reimbursement	2

<b>Term</b>		<b>6 credits</b>
10106106	Quality Customer Service	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

**Total credits 34**

## academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits



## Document Formatting

**10106157 ..... 3 credits**

The competencies for this course cover formatting styles of business letters, business and academic reports, memos, tables, business meeting documents, itineraries, legal documents, and business forms. The course also includes drill work for improving keying speed and accuracy. Minimum typing speed of 30 wpm required (alphabetic keys only).

*Corequisite: Microsoft Office-Introduction 10103106*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Human Body in Health and Disease

**10509102 ..... 3 credits**

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis, and prevention of common diseases.

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Healthcare Reimbursement

**10530149 ..... 2 credits**

Examines health care reimbursement systems for hospital inpatient and ambulatory care settings. Includes practical application of diagnosis and procedural coding as well as Diagnosis Related Groups (DRGs) and Ambulatory Payment Classifications (APCs) assignment. Learners use computerized encoding and grouping software to assign diagnosis-related group and ambulatory payment classifications with entry-level proficiency.

*Prerequisite: Medical Terminology 10501101*

## Introduction to Health Information Technology

**10530150 ..... 2 credits**

Prepares learners to illustrate the flow of health information in various health care delivery systems and within the health information department and to retrieve data from health records. Professional ethics, confidentiality, and security of information are emphasized. This course examines the content and structure of an EHR (inpatient and ambulatory patient records), documentation practice guidelines, and the types of user devices utilized in an EHR system. Basic concepts of clinical decision support, standards relating to content of health records, data integrity, and EHR system security are included. Students have access to an electronic health record to apply concepts learned.

## Medical Law, Ethics, and Professionalism

**10501109 ..... 2 credits**

Prepares students to display professionalism and perform within ethical boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues.

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.









# MICROSOFT SYSTEM ADMINISTRATOR

Technical Diploma

Program Code: 30-150-5

our graduates  
INDEMAND

2016/2017



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TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## MICROSOFT SYSTEM ADMINISTRATOR



Managing and troubleshooting network environments based on the Windows Server operating system is a growing field of expertise in IT. Mid-State's Microsoft System Administrator program covers some of the newest and most rapidly expanding technologies in this area. We seek feedback from local employers to ensure course content is always up to date. As a result, you will have the skills and knowledge employers are looking for.

Graduates of the Microsoft System Administrator technical diploma may advance into the IT Network Specialist program.

**Technical Diploma**

**Total Credits: 12**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** BYOD Technician, IT Help Desk Specialist, Network Operations Specialist, Mobile Security Specialist, Server Deployment Specialist, Technology Support Specialist, and Telecommunications Technician

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## IT NETWORK SPECIALIST



The IT Network Specialist program at Mid-State prepares students to administer and support personal computer and network environments. Graduates are able to install, troubleshoot, analyze, and repair networks as well as maximize network efficiency. In this program you will follow guided instructions for setting up and managing multiple computers in a networking environment. You'll also apply concepts in hands-on activities both in and outside the classroom. Past students have repaired and imaged laptops for a local school district, completed a network upgrade for a non-profit organization, and fixed computers at the PC Clinic.

**Associate in Applied Science**

**Total Credits: 68-69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Computer Network Support Specialist, Network Administrator, Network Infrastructure Architect, Hardware Support Specialist, Help Desk Specialist, and PC Troubleshooter

In general, there is growing demand for these careers. Example: Computer Network Support Specialist career has grown by 5% over the last two years and is expected to grow by 3% over the next 10 years. Currently 1,962 Computer Network Support Specialists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## bachelor's degree opportunities

Lakeland College,  
BA Specialized Administration

UW-Stout,  
BS Information and Communication Technologies

University of Phoenix,  
BS Management

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## PROGRAM OUTCOMES

Employers will expect you, as a Microsoft System Administrator graduate, to be able to:

- Select mobile device hardware that will sync with network specifications.
- Diagnose and repair mobile device connectivity issues.
- Identify compatible mobile device OS.
- Troubleshoot mobile device issues.
- Configure mobile device email clients.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION



Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
  - Program completion time may vary based on student scheduling and course availability.
- For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).







# NURSING

Associate in Applied Science (AAS)

Program Code: 10-543-1

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2016/2017

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[mstc.edu](http://mstc.edu)



## NURSING



The Associate Degree Nursing (ADN) program at Mid-State prepares each graduate to work successfully as a registered nurse (RN). Students acquire a balance of knowledge and technical skills in physical and biological sciences, social sciences, and nursing. They also contribute to classroom discussion, independent learning projects, audio-tutorial labs, and hands-on clinical experiences at area healthcare agencies. After completing the first year (32 credits), you can opt to take the national licensing test for Licensed Practical Nurse. After 70 credits you will be eligible to take the licensing exam for Registered Nurse.



### bachelor's degree opportunities

Alverno  
Marian

University of Phoenix  
UW-Eau Claire  
UW-Green Bay  
UW-Madison  
UW-Milwaukee  
UW-Oshkosh  
UW-Stevens Point  
Viterbo

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

Associate in Applied Science

Total Credits: 70

Salary information:  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers Upon successful completion of licensure examination:**  
Staff Nurse and Registered Nurse

In general, there is growing demand for these careers. Example: Registered Nurse career has declined by 1% over the last 2 years, but is expected to grow by 14% over the next 10 years. Currently 26,011 Registered Nurses are employed in the region. (EMSI data within 100-mile radius of Wisconsin Rapids).

## NURSING ASSISTANT



The Nursing Assistant program at Mid-State provides hands-on learning that prepares students to assist in the care of patients in hospitals, extended care facilities, and home care situations. This 120-hour program includes online learning, campus lab experiences, and a 48-hour clinical practicum working with patients and residents. Skills labs ensure students have opportunities to practice skills under the supervision of experienced professionals. Personal care and emotional support of patients are always primary considerations. Upon completion of the course, students may choose to take the state certification exam.

Technical Diploma

Total Credits: 3

Salary information:  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** CBRF Caregiver, Home Health Aide, and Nursing Assistant

In general, there is growing demand for these careers. Example: This career has declined by 2% over the last two years but is expected to grow by 14% over the next 10 years. Currently 16,154 Nursing Assistants are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Central Service Technician, Emergency Medical Technician, EMT-Paramedic, Health Informatics and Information Management, Medical Assistant, Paramedic Technician, Pharmacy Technician, Phlebotomy Technician, Respiratory Therapist, and Surgical Technologist

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Nursing graduate, to be able to:

- Implement one's role as a nurse in ways that reflect integrity, responsibility, ethical practices, and an evolving professional identity as a nurse committed to evidence-based practice, caring, advocacy, and quality care.
- Demonstrate appropriate written, verbal, and nonverbal communication in a variety of clinical contexts.
- Integrate social, mathematical, physical sciences, pharmacology, and pathophysiology in clinical decision making.
- Provide patient-centered care by utilizing the nursing process across diverse populations and health care settings.
- Minimize risk of harm to patients, members of the health care team and self through safe individual performance and participation in system effectiveness.
- Lead the multidisciplinary health care team to provide effective patient care throughout the lifespan.
- Use information and technology to communicate, manage data, mitigate error, and support decision making.

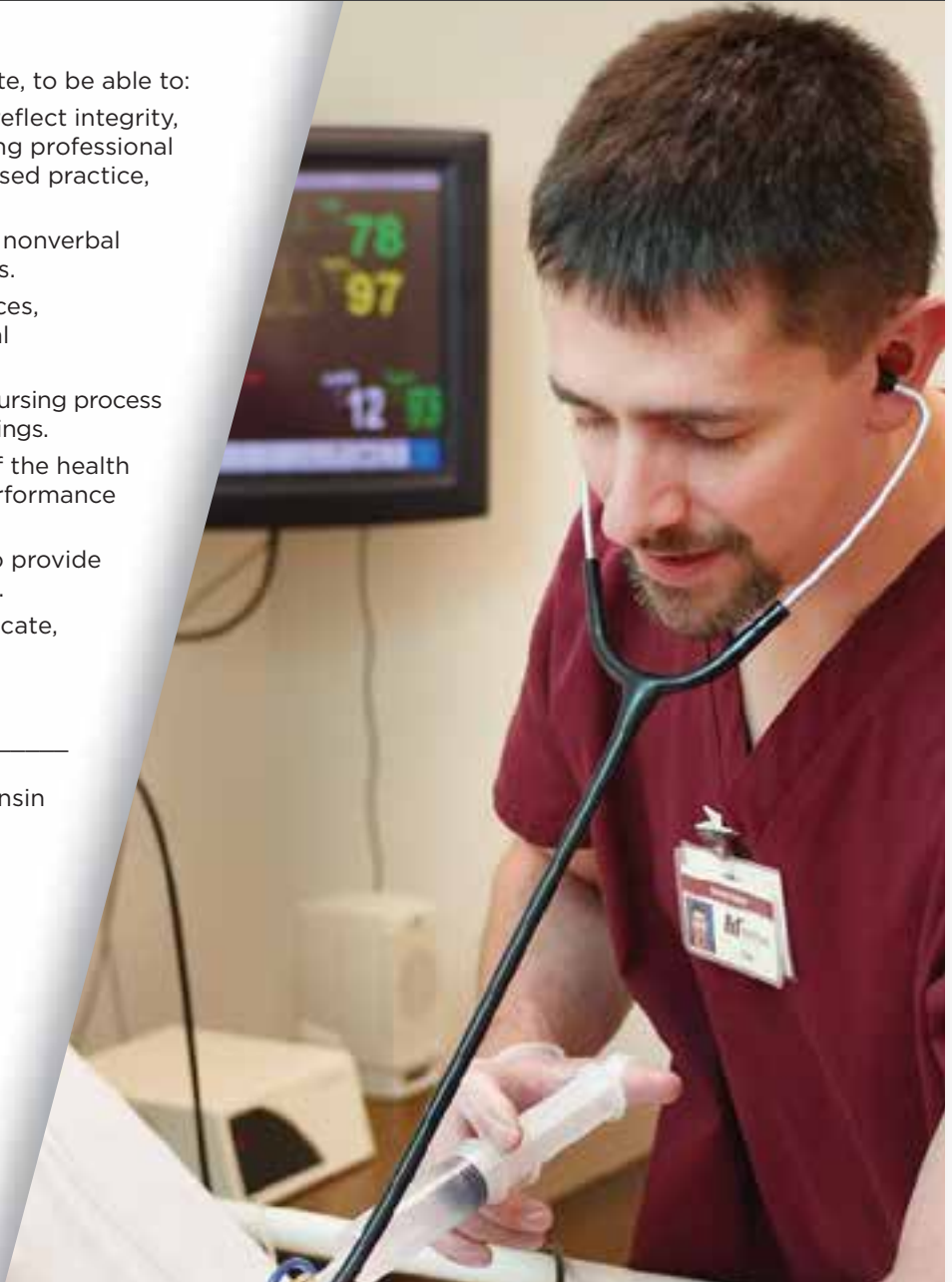
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The Nursing program is approved by the Wisconsin Board of Nursing and fully accredited by the Accreditation Commission for Education in Nursing (ACEN). ACEN can be reached for program verification information at:

**Accreditation Commission for Education in Nursing (ACEN)**

3343 Peachtree Road NE, Suite 850  
Atlanta, GA 30326  
www.acenursing.org • Phone: 404.975.5000

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## ADDITIONAL ENTRY CRITERIA

To apply to the Nursing program, please submit the following documents to Mid-State Admissions:

### Step 1:

1. Complete a Mid-State Application form and return it with a \$30 non-refundable application fee.
2. Submit the Criminal Background Statement of Understanding and Release of Information form. This form is available at [mstc.edu/programsclasses](http://mstc.edu/programsclasses)

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

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### Step 2: (This change will become effective June 1, 2016).

1. Complete the Accuplacer or ACT test. Minimum scores required:
  - Reading-Accuplacer score of 95
  - Sentence Skills-Accuplacer score of 103
  - Math-Accuplacer score of 79
  - ACT equivalents for above scores are acceptable.
2. Completion of General Chemistry or biology with a grade of “C” or better.
3. Submit Functional Abilities form. This form is available at [mstc.edu/NursingFunctionalAbilities](http://mstc.edu/NursingFunctionalAbilities).
4. Submit Intent to Enroll form. This form is available at [mstc.edu/Intenttoenroll](http://mstc.edu/Intenttoenroll).
5. After completion of items 1-4, the individual is eligible for placement on program waitlist.

**Note: it is important to remember that in order to begin core nursing coursework students must have completed the items identified in Step 3 below.**

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### Step 3:

To be eligible to enroll in Nursing core courses, complete the following requirements:

1. Complete Nursing Assistant prerequisite requirement if needed.
2. Complete the following courses with a grade of “C” or better prior to starting core courses:
  - Advanced Anatomy & Physiology
  - Developmental Psychology
  - English Composition 1 or Written Communications
  - General Anatomy & Physiology
3. Must have a total program GPA of 2.0 or higher.

### General Advising Note

Students are highly encouraged to complete the following courses with a grade of “C” or better prior to starting nursing courses:

- Five credits of electives
- Intro to Psychology
- Intro to Sociology or Introduction to Diversity Studies
- Microbiology
- Oral/Interpersonal Communication or Speech

**NURSING INFORMATION LINE 715.422.5570**



## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a nurse is available at [mstc.edu/nursing-admission-procedures](http://mstc.edu/nursing-admission-procedures). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor, Certified Background.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.

Prior to beginning a clinical experience in a health care facility, students must:

- Submit evidence of completed health work.
- Provide evidence of current CPR.
- Obtain the required uniform for clinical experiences.
- Accept responsibility for clinical assignment(s) regardless of time and location, including transportation and other personal arrangements.

## PROGRAM PROGRESSION AND COMPLETION

In order to progress in and successfully complete the program, students must:

- Maintain a program GPA of 2.0 or higher.
- Receive a grade of "C" or better in all courses required for graduation.
- If a student is not successful in a Nursing 10543 core course, he/she will need to repeat that course prior to progressing in the program. Potential continuation is dependent upon availability in the course/program.

Students will receive two attempts to pass any Nursing 10543 course. If a passing grade is not achieved in two attempts, the student will be withdrawn from the program. A withdrawal grade of "W" counts as one attempt for the course. Requests for special consideration may be directed to the Service & Health associate dean for Nursing.

## ARTICULATION OPPORTUNITIES

Articulation opportunities are between Wisconsin technical colleges with the implementation of the system-wide nursing curriculum. Identical courses in nursing throughout the Wisconsin Technical College System (WTCS) make transfer and readmission to other WTCS colleges easier for nursing students throughout the state. This articulation is based on seat availability and college residency requirements.

Also, articulation opportunities in nursing are available with most private universities and all public universities in Wisconsin. Generally, a Mid-State graduate in the Nursing program can expect approximately 60-70 credits to transfer from Mid-State to a Wisconsin university.

## ELIGIBILITY REQUIREMENTS FOR REGISTERED NURSE EXAMINATION

- Graduated from high school or its equivalent as determined by the Wisconsin State Board of Nursing.
- Wisconsin State Statutes require that the student DOES NOT have an arrest or conviction record for acts or circumstances that relate directly to the clinical practice of the license being requested (e.g., harm/injury; drug or alcohol impairment). Individuals cannot be discriminated against for arrest or conviction records if the precipitating actions do not directly relate to practice.
- Graduated from a Wisconsin Board of Nursing approved program.
- Payment of fees to Mid-State Technical College and the Wisconsin State Board of Nursing.

## MAINTAINING A NURSING LICENSE

The Wisconsin State Board of Nursing may revoke, limit, suspend, or deny renewal of license if the person has committed any of the following:

- Fraud in the procuring or renewal of the license.
- One or more violations of the Nurse Practice Act (Chapter 441) or accompanying Administrative Rules.
- Acts which show practitioner to be unfit or incompetent.
- Misconduct or unprofessional conduct.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



This ACT program is 100% funded with a TAACCCT Round IV \$19.9 million grant awarded by the US Department of Labor's Employment and Training Administration. This program is an equal opportunity program, and auxiliary aids and services are available upon request to individuals with disabilities. This workforce product was funded by a grant awarded by the US Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The US Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

## SAMPLE FULL TIME CURRICULUM OPTION

<b>Required Prior to Beginning Nursing Courses</b>			<b>14 credits</b>
10806177	General Anatomy & Physiology		4
10806179	Advanced Anatomy & Physiology		4
10809188	Developmental Psychology		3
10801136	English Composition 1 <b>-or-</b>		
10801195	Written Communication		3

<b>Term</b>			<b>16 credits</b>
10543101	Nursing Fundamentals		2
10543102	Nursing Skills		3
10543103	Nursing Pharmacology		2
10543104	Nursing: Intro to Clinical Practice		2
10801196	Oral/Interpersonal Communication* <b>-or-</b>		
10801198	Speech*		3
10806197	Microbiology*		4

<b>Term</b>			<b>12 credits</b>
10543105	Nursing Health Alterations		3
10543106	Nursing Health Promotion		3
10543107	Nursing: Clinical Care Across the Lifespan		2
10543108	Nursing: Intro to Clinical Care Management Elective*		2

<b>Term</b>			<b>14 credits</b>
10543109	Nursing: Complex Health Alterations 1		3
10543110	Nursing: Mental Health and Community Concepts		2
10543111	Nursing: Intermediate Clinical Practice		3
10543112	Nursing Advanced Skills		1
10809198	Intro to Psychology*		3
	Elective*		2

<b>Term</b>			<b>14 credits</b>
10543113	Nursing: Complex Health Alterations 2		3
10543114	Nursing: Management and Professional Concepts		2
10543115	Nursing: Advanced Clinical Practice		3
10543116	Nursing: Clinical Transition		2
10809172	Introduction to Diversity Studies* <b>-or-</b>		
10809196	Intro to Sociology*		3
	Elective*		1

**Total Credits 70**

*\*Students are highly encouraged to have these courses completed with a grade of "C" or better prior to starting nursing courses*

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

<b>Required Prior to Beginning Nursing Courses</b>			<b>7 credits</b>
10806177	General Anatomy & Physiology		4
10809188	Developmental Psychology		3

<b>Term</b>			<b>7 credits</b>
10806179	Advanced Anatomy & Physiology		4
10801136	English Composition 1 <b>-or-</b>		
10801195	Written Communication		3

<b>Recommended Prior to Nursing Courses</b>			<b>10 credits</b>
10801196	Oral/Interpersonal Communication <b>-or-</b>		
10801198	Speech		3
10806197	Microbiology		4
10809172	Introduction to Diversity Studies <b>-or-</b>		
10809196	Intro to Sociology		3

<b>Term</b>			<b>8 credits</b>
10809198	Intro to Psychology		3
	Electives		5

<b>Term</b>			<b>9 credits</b>
10543101	Nursing Fundamentals		2
10543102	Nursing Skills		3
10543103	Nursing Pharmacology		2
10543104	Nursing: Intro to Clinical Practice		2

<b>Term</b>			<b>10 credits</b>
10543105	Nursing Health Alterations		3
10543106	Nursing Health Promotion		3
10543107	Nursing: Clinical Care Across the Lifespan		2
10543108	Nursing: Intro to Clinical Care Management		2

<b>Term</b>			<b>9 credits</b>
10543109	Nursing: Complex Health Alterations 1		3
10543110	Nursing: Mental Health and Community Concepts		2
10543111	Nursing: Intermediate Clinical Practice		3
10543112	Nursing Advanced Skills		1

<b>Term</b>			<b>10 credits</b>
10543113	Nursing: Complex Health Alterations 2		3
10543114	Nursing: Management and Professional Concepts		2
10543115	Nursing: Advanced Clinical Practice		3
10543116	Nursing: Clinical Transition		2

**Total Credits 70**



## Advanced Anatomy & Physiology

**10806179..... 4 credits**

The second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body system approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery is within a classroom and laboratory setting. Experimentation within a science lab includes analysis of cellular metabolism, the individual components of body systems such as the nervous, neuromuscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance, and blood. Integration of genetics to human reproduction and development are also included in this course.

*Prerequisite: General Anatomy & Physiology 10806177 with a grade of "C" or better*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*





## **Nursing Pharmacology**

**10543103..... 2 credits**

Introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

*Prerequisite: Successful completion of all Step 3 Nursing program required courses and space availability*

## **Nursing Skills**

**10543102..... 3 credits**

Focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. Also includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.

*Prerequisite: Successful completion of all Step 3 Nursing program required courses and space availability*

## **Nursing: Advanced Clinical Practice**

**10543115..... 3 credits**

This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized.

*Prerequisites: Complex Health Alterations I 10543109, Mental Health & Community Concepts 10543110, Intermediate Clinical Practice 10543111, and Advanced Skills 10543112*

## **Nursing: Clinical Care Across the Lifespan**

**10543107..... 2 credits**

Applies nursing concepts and therapeutic interventions to clients across the lifespan. Also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized.

*Prerequisites: Nursing Fundamentals 10543101, Nursing Skills 10543102, Nursing Pharmacology 10543103, and Intro to Clinical Practice 10543104*

## **Nursing: Clinical Transition**

**10543116 ..... 2 credits**

This clinical experience integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation, and collaboration with others to achieve client working and organizational outcomes. Continued professional development is fostered.

*Corequisite: Advanced Clinical Practice 10543115*

## **Nursing: Complex Health Alterations 1**

**10543109 ..... 3 credits**

Prepares the learner to provide and evaluate care for patients across the lifespan with alterations in cardiovascular, respiratory, endocrine, and hematologic systems as well as patients with fluid/electrolyte and

acid-base imbalance. Includes alterations in comfort.

*Prerequisites: Health Alterations 10543105, Nursing Health Promotion 10543106, Clinical Care Across the Lifespan 10543107, Intro to Clinical Care Management 10543108; Corequisite: Microbiology 10806197*

## **Nursing: Complex Health Alterations 2**

**10543113..... 3 credits**

Complex Health Alterations II prepares the learner to provide and evaluate care for patients across the lifespan with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary, and reproductive systems. Includes emphasis on shock, burns, and trauma. The learner will also focus on managing care for patients with high-risk perinatal conditions and high-risk newborns.

*Prerequisites: Complex Health Alterations I 10543109, Mental Health & Community Concepts 10543110, Intermediate Clinical Practice 10543111, and Advanced Skills 10543112*

## **Nursing: Intermediate Clinical Practice**

**10543111 ..... 3 credits**

This intermediate-level clinical course develops the RN role when working with clients with complex health care needs. Focuses developing skills needed for managing multiple clients and priorities. Using the nursing process, students gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds.

*Prerequisites: Health Alterations 10543105, Nursing Health Promotion 10543106, Clinical Care Across the Lifespan 10543107, and Intro to Clinical Care Management 10543108*

## **Nursing: Intro to Clinical Care Management**

**10543108 ..... 2 credits**

Applies nursing concepts and therapeutic nursing interventions to groups of clients across the lifespan. It also provides an introduction to leadership, management, and team building.

*Prerequisites: Nursing Fundamentals 10543101, Nursing Skills 10543102, Nursing Pharmacology 10543103, and Intro to Clinical Practice 10543104*

## **Nursing: Intro to Clinical Practice**

**10543104 ..... 2 credits**

This introductory clinical course emphasizes basic nursing skills and applying the nursing process to meet the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.

*Prerequisite: Successful completion of all Step 3 Nursing program required courses and space availability. Corequisites: Nursing Fundamentals 10543101, Nursing Skills 10543102, and Nursing Pharmacology 10543103*







# NURSING ASSISTANT

Technical Diploma

Program Code: 30-543-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## NURSING ASSISTANT



The Nursing Assistant program at Mid-State provides hands-on learning that prepares students to assist in the care of patients in hospitals, extended care facilities, and home care situations. This 120-hour program includes online learning, campus lab experiences, and a 48-hour clinical practicum working with patients and residents. Skills labs ensure students have opportunities to practice skills under the supervision of experienced professionals. Personal care and emotional support of patients are always primary considerations. Upon completion of the course, students may choose to take the state certification exam.

**Technical Diploma**

**Total Credits: 3**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** CBRF Caregiver, Home Health Aide, and Nursing Assistant

In general, there is growing demand for these careers. Example: This career has declined by 2% over the last two years but is expected to grow by 14% over the next 10 years. Currently 16,154 Nursing Assistants are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Central Service Technician, Emergency Medical Technician, EMT-Paramedic, Health Informatics and Information Management, Medical Assistant, Paramedic Technician, Pharmacy Technician, Phlebotomy Technician, Respiratory Therapist, and Surgical Technologist

## NURSING



The Associate Degree Nursing (ADN) program at Mid-State prepares each graduate to work successfully as a registered nurse (RN). Students acquire a balance of knowledge and technical skills in physical and biological sciences, social sciences, and nursing. They also contribute to classroom discussion, independent learning projects, audio-tutorial labs, and hands-on clinical experiences in area healthcare agencies. After completing the first year (32 credits), you can opt to take the national licensing test for Licensed Practical Nurse. After 70 credits you will be eligible to take the licensing exam for Registered Nurse.

**Associate in Applied Science**

**Total Credits: 70**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers Upon successful completion of licensure examination:** Staff Nurse and Registered Nurse

In general, there is growing demand for these careers. Example: Registered Nurse career has declined by 1% over the last 2 years, but is expected to grow by 14% over the next 10 years. Currently 26,011 Registered Nurses are employed in the region. (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

Alverno

Marian

University of Phoenix

UW-Eau Claire

UW-Green Bay

UW-Madison

UW-Milwaukee

UW-Oshkosh

Viterbo

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Nursing Assistant graduate, to be able to:

- Communicate and interact effectively with clients, families, and co-workers.
- Maintain and protect client rights.
- Report information and record observations.
- Demonstrate the ethical and legal responsibilities of the NA/HHA.
- Provide safe care to a diverse population, meeting personal, physical, and psychosocial client needs.
- Assist with client rehabilitation and restorative care, promoting independence.
- Assist clients with long-term, disabling conditions including dementia, always focusing on the strengths of the client.
- Work cooperatively in a team environment.
- Eligible to take the WI NA Competency evaluation.

**Note:** Outcomes for the Nursing Assistant program are state and federally mandated.

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The Mid-State Technical College Nursing Assistant program is accredited by the Wisconsin Department of Health Services (DHS) Bureau of Quality Assurance.

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## ADDITIONAL ENTRY CRITERIA

To apply to the Nursing Assistant program, please submit the following document to Mid-State Admissions:

Complete the Accuplacer or ACT test. Minimum scores required:

- Reading-Accuplacer score of 55
- Sentence Skills-Accuplacer score of 60
- Arithmetic-Accuplacer score of 34
- ACT equivalents for above scores are acceptable

Complete a Background Information Disclosure (BID) form and submit \$15 Caregiver Background check. The Wisconsin Caregiver Law requires a background check.

Must be at least 16 years of age.

After satisfactorily completing above steps, complete an online information session and accompanying quiz found on the Nursing Assistant accepted student website.

This website address will be provided in the program acceptance letter sent to applicants upon satisfactory completion of those steps. In the information session, students learn about the profession, academic requirements of the program, and the impact of program coursework on one's personal life. Once a student has completed the steps above, he/she is then able to register for the Nursing Assistant course.

**Mid-State Technical College  
Admissions  
500 32nd Street North  
Wisconsin Rapids, WI 54494**

## ADDITIONAL OPTIONS



Upon completion of the nursing assistant course students must pass a state certification exam to become a Certified Nursing Assistant (CNA). Appropriate proof of identity will be required by the certification testing agency.

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a nursing assistant is available at [mstc.edu/programs/nursing-assistant](http://mstc.edu/programs/nursing-assistant). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.

Prior to beginning a clinical experience in a health care facility, students must:

- Provide evidence of good health by completion of required health work within three months prior to starting their clinical experience. The required form for reporting the results of your physical exam and specific immunization information is available on the accepted student website. The completed physical form is due the first day of class unless the class is accelerated, in which case it is due three weeks prior to the first day of class.
- Obtain the required uniform for clinical experiences.
- Assume responsibility for clinical assignment(s) regardless of time and location, including transportation and other personal arrangements.

## PROGRAM PROGRESSION

In order to successfully complete the program, students must receive a "C" or better in course 30543300.

## CERTIFICATION

The Department of Health Services Bureau of Quality Assurance requires that students who successfully pass the Nursing Assistant program take a state certification exam to qualify them to be listed in the state and federal nurse aide registries. Information to apply for this certification exam will be provided to students during their Nursing Assistant course. Nursing assistants must be listed on the state and federal nurse aide registries to be eligible to work in Wisconsin. Appropriate proof of identity will be required by the certification testing agency.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>	<b>(3 credits)</b>
30543300 Nursing Assistant	3
<b>Total Credits 3</b>	

## academic career plan

Term/Year	Credits

## course descriptions

### Nursing Assistant

#### 30543300 • 3 credits

The Nursing Assistant program prepares students for employment as nursing assistants. The program also prepares Nursing Assistant students with some of the skills needed for the first semester of the Nursing program. During the 120-hour course, students are required to demonstrate the following skills under the supervision of a licensed nurse: communication, basic nursing assistant and personal care skills, attention to client's rights, and care of clients with dementias. The program is recognized by the Wisconsin Department of Health Services as a nurse-aide training program. Upon successful completion of the program, the student is eligible to take the Wisconsin Nursing Assistant competency evaluation for employment in nursing homes, hospitals, home health agencies, hospices, CBRFs, assisted living centers, and homes for the developmentally disabled.

*Prerequisite: Admission to Nursing Assistant program 305431 and Nursing Assistant Informational Session*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# OFFICE SUPPORT SPECIALIST

Technical Diploma

Program Code: 31-106-8

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## OFFICE SUPPORT SPECIALIST



Mid-State's Office Support Specialist program develops students into key members of an office team. The program emphasizes document preparation and the effective use of personal interactions and ever-changing technology to support your role as the central communications link in an office. You'll experience hands-on learning through the organization of high-profile events. You'll also learn to handle multiple projects and deadlines, manage time, solve problems, and be helpful in nature—all in high demand by employers.

Graduates of the Office Support Specialist technical diploma may advance into the Administrative Professional program.

**Technical Diploma**

**Total Credits: 36-37**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Administrative Assistant, Clerk, Customer Service Representative, General Office Clerk, Office Assistant, Program Assistant, and Receptionist

In general, there is growing demand for these careers. Example: General Office Clerk career has grown by 2% over the last two years and is expected to grow by 2% over the next 10 years. Currently 38,770 General Office Clerks are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## CUSTOMER RELATIONSHIP PROFESSIONAL



Mid-State's Customer Relationship Professional program develops students into important members of a call center or customer service team. The program focuses on communicating with customers to help them navigate past challenges to fulfill their needs, emphasizing active listening, effective verbal communication, and customer service skills. Through hands-on projects, you will learn telephone etiquette, how to respond appropriately to customers, and how to perform quick problem-solving analysis while exceeding customer expectations.

Graduates of the Customer Relationship Professional technical diploma may advance into the Office Support Specialist program or the Administrative Professional program.

**Technical Diploma**

**Total Credits: 12**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Account Representative, Client Services Specialist, Contact Center Agent, Customer Service Representative, and Customer Care Representative

In general, there is growing demand for these careers. Example: Customer Service Representative career has remained the same over the last 2 years and is expected to grow by 10% over the next 10 years. Currently 24,869 Customer Service Representatives are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Accounting, Business Management, Court Reporting, IT Network Specialist, IT Software Developer, Marketing, and Supervisory Management

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).



## PROGRAM OUTCOMES

Employers will expect you, as an Office Support Specialist graduate, to be able to:

- Demonstrate effective workplace communications.
- Apply technology skills to business and administrative tasks.
- Perform routine administrative procedures.
- Maintain business relationships.
- Model professionalism in the workplace.

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The Wisconsin Technical College System (WTCS) has implemented a requirement that all technical colleges measure program outcomes attained by students. This requirement is called Technical Skills Attainment (TSA). The main objective of TSA is to ensure graduates have the technical skills needed by employers. Office Support Specialist program outcomes are measured in the TSA-designated course Administrative Office Procedures.

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## PROGRAM PROGRESSION

In order to maintain a passing status and progress in the program, students must:

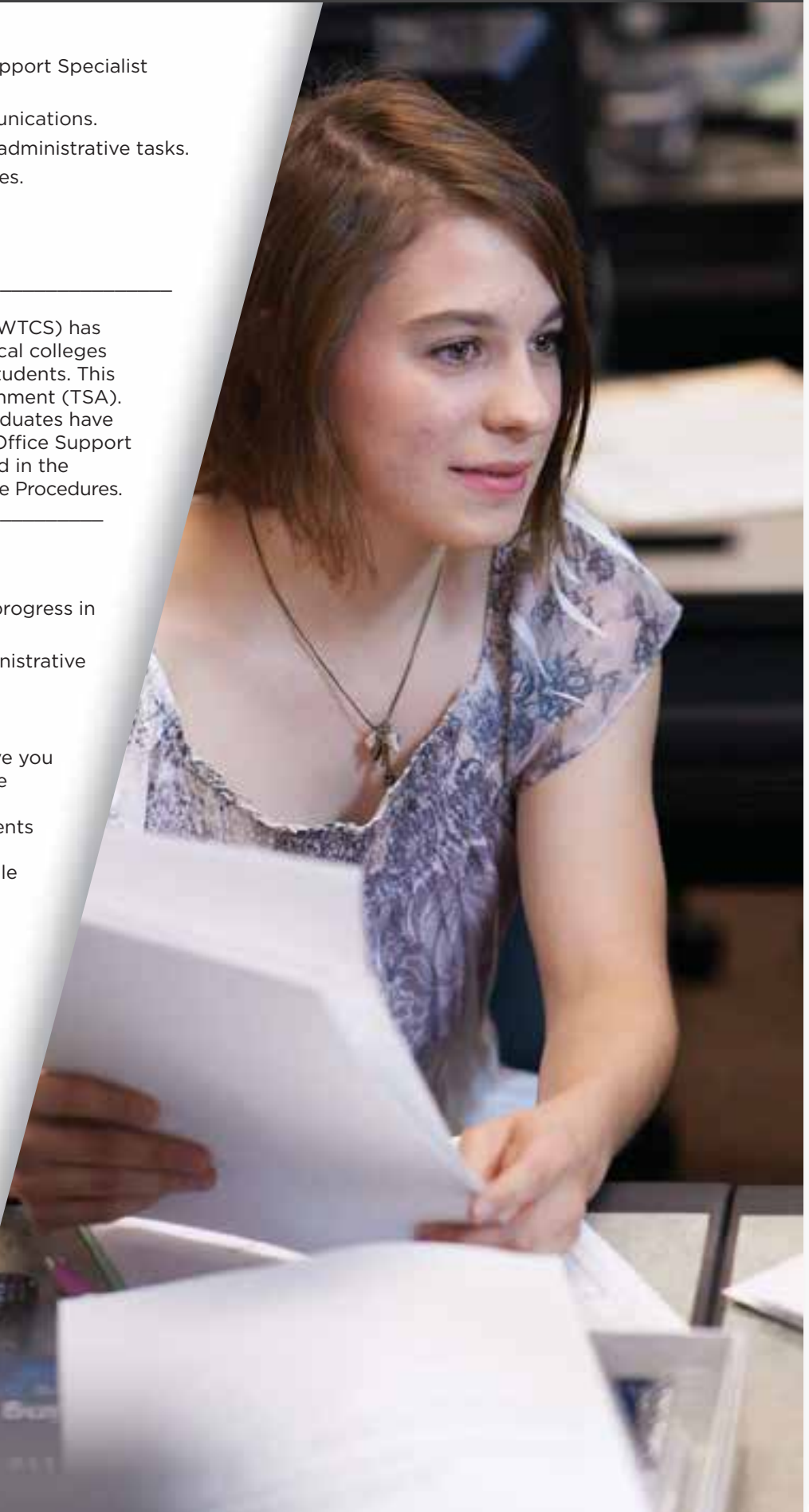
- Receive a grade of “C” or better in Administrative Office Procedures.

## MOBILE DEVICE ENHANCEMENT

To support your hands-on learning and give you an edge in today’s digital workplace, Office Support Specialist program students are required to purchase an iPad device. Students accepted into the program will receive specific details about purchasing the mobile device (financial aid available).

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.





## SAMPLE FULL TIME CURRICULUM OPTION

Term		18-19 credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10106157	Document Formatting	3
10106160	Proofreading & Editing	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		<b>18 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1
10103134	Access-Intermediate	1
10106140	Business Information Management	3
10106150	Administrative Office Procedures	3
10106172	Digital Communication Technology	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
		<b>Total credits 36-37</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10103106	Microsoft Office-Introduction	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		<b>6 credits</b>
10102101	Intro to Business	3
10104107	Social Media Marketing	3
<b>Term</b>		<b>6-7 credits</b>
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10106150	Administrative Office Procedures	3
<b>Term</b>		<b>6 credits</b>
10106157	Document Formatting	3
10106160	Proofreading & Editing	3
<b>Term</b>		<b>6 credits</b>
10103114	Word-Intermediate	1
10103124	Excel-Intermediate	1
10103134	Access-Intermediate	1
10106140	Business Information Management	3
<b>Term</b>		<b>6 credits</b>
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10102130	Career Development <b>-or-</b>	
10801199	Employment Strategies	3
		<b>Total credits 36-37</b>

## academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## Access-Intermediate

**10103134 ..... 1 credit**

Students develop forms, reports, and queries.

*Prerequisite: Microsoft Office-Introduction 10103106 or Access-Beginning 10103133*

## Administrative Office Procedures

**10106150 ..... 3 credits**

Develops professional skills and attitudes needed in a global business environment. Skills include time management, problem solving, and decision making while working independently and as part of a team. Tasks such as electronic mail, calendaring, meeting and event planning, domestic and international travel, and project management and minute taking are included. Familiarity with office machines is required.

*Corequisites: Written Communication 10801195 and Microsoft Office-Introduction 10103106*

## Business Information Management

**10106140 ..... 3 credits**

Following commonly used ARMA rules, the student applies basic filing methods to paper and database filing systems. Methods to permanently archive data are also covered.

*Corequisite: Microsoft Office-Introduction 10103106*

## Career Development

**10102130 ..... 3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Digital Communication Technology

**10106172 ..... 3 credits**

The course introduces the student to digital and communication technology used in the office today, including digital cameras, digital video cameras, video conferencing, web conferencing, and multimedia presentations. The content focuses on understanding communication technologies and how they impact employees.

*Corequisite: Microsoft Office-Introduction 10103106*

## Document Formatting

**10106157 ..... 3 credits**

The competencies for this course cover formatting styles of business letters, business and academic reports, memos, tables, business meeting documents, itineraries, legal documents, and business forms. The course also includes drill work for improving keying speed and accuracy. Minimum typing speed of 30 wpm required (alphabetic keys only).

*Corequisite: Microsoft Office-Introduction 10103106*

## Employment Strategies

**10801199 ..... 3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to Business

**10102101 ..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Proofreading & Editing

**10106160 ..... 3 credits**

This course is designed to sharpen proofreading and editing skills. Competencies cover detecting and editing errors in keying, spelling, capitalization, plurals, possessives, punctuation, numbers, grammar, sentence structure, and formatting. Documents are edited for clarity, conciseness, and completeness.

*Corequisite: Microsoft Office-Introduction 10103106*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Word-Intermediate

**10103114 ..... 1 credit**

Students create columns, lists, and a table of contents. Desktop publishing, templates, and mail merge are also covered.

*Prerequisite: Microsoft Office-Introduction 10103106 or Word-Beginning 10103113*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*





# PARAMEDIC TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-531-1

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## EMT-PARAMEDIC



Mid-State's EMT-Paramedic program provides the knowledge and skills needed to work competently as an entry-level EMT-paramedic. Students enter a joint core course cohort with Paramedic Technician degree students. Graduates earn a technical diploma upon successful completion of this program. This program consists of classroom lectures, practical skills lab, laboratory simulations, and hospital and pre-hospital clinical experiences. Upon successful completion, you will earn certifications in Advanced Cardiac Life Support, Prehospital Trauma Life Support, and Pediatric Advanced Life Support and be eligible to take the National Registry of Emergency Medical Technician written and practical examinations.

**Technical Diploma**

**Total Credits: 38**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician and Paramedic

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## EMERGENCY MEDICAL TECHNICIAN



The Emergency Medical Technician (EMT) program at Mid-State prepares students with the knowledge and skills needed to work as an entry-level EMT. This hands-on 185-hour program consists of classroom lectures, practical skill labs, laboratory simulations, and pre-hospital clinical experiences. Successfully completing the program qualifies you to take the National Registry of EMT's certification exam required to apply for state licensure.

Graduates of the Emergency Medical Technician technical diploma may advance into either the EMT-Paramedic program or Paramedic Technician program.

**Technical Diploma**

**Total Credits: 5**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Emergency Medical Technician

In general, there is growing demand for these careers. Example: Emergency Medical Technician and Paramedic career has grown by 4% over the last two years and is expected to grow by 6% over the next 10 years. Currently 2,669 Emergency Medical Technicians and Paramedics are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer  
college credit

dual credit

credit by  
examination

credit for military or  
work experience

## OTHER OPTIONS

### RELATED PROGRAM

Fire Protection Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Paramedic Technician graduate, to be able to:

- Prepare for incident response and EMS operations
- Integrate pathophysiological principles and assessment findings for a variety of patient encounters
- Demonstrate paramedic skills associated with established standards and procedures for a variety of patient encounters
- Communicate effectively with others
- Demonstrate professional behavior
- Meet state and national competency requirements for paramedic credentialing

Paramedic Technician is an 1150-hour program based upon the US Department of Transportation Administration/Wisconsin Bureau Local Health Support and EMS curriculum.

## ADDITIONAL ENTRY CRITERIA

To apply to the Paramedic Technician program, please submit the following document to Mid-State Admissions:

### Step 1:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

***Completion of step 1 requirements allows the student to begin general education courses.***

If you are taking EMT as part of the Paramedic Technician program, you must apply to that program (30-531-3) separately. Even though EMT is part of the curriculum, it is handled as a stand-alone program for admission purposes.

### Step 2:

Submit a current Wisconsin EMT license.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

***Completion of the Step 2 requirement will make the student eligible for entry into the Paramedic core courses (10531911 through 10531924). Completion of Step 2 does not guarantee entry into the next available cohort of core program students. Cohorts are filled on a first-eligible, first-served basis.***

Students who fail to meet the non-paramedic core (associate degree) requirements within 31 undergraduate credit hours will have their conditional admission to the Paramedic Technician program withdrawn and will no longer be eligible for financial aid.

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a paramedic technician is available at [mstc.edu/programs/paramedic-technician](http://mstc.edu/programs/paramedic-technician). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work and current health care provider level CPR certification to a private vendor. Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the course and will not be able to advance in the program.

Prior to beginning a clinical experience in a healthcare agency or ambulance service, students must:

- a. Provide evidence of completion of the required health work within one month following the start of EMS Fundamentals (10531911).
- b. Hold a current State of Wisconsin EMT license.
- c. Hold a Department of Health Services EMS Training Center Training Permit at the paramedic level.
- d. Provide evidence of current CPR at the health care professional level by a CPR organization specified under s. DHS 110.17(1).
- e. Obtain the required uniform for clinical experiences.
- f. Assume responsibility for clinical assignment(s) regardless of time and location, including transportation and other personal arrangements.

## PROGRAM PROGRESSION

In order to progress in and complete the program, students must receive a grade of "C" or better in each of the paramedic core courses. Failure to obtain a grade of "C" in any core course will prevent a student from progressing onto the next course in the sequence until they have retaken the course and achieved a grade of "C" or better.

All general education and non-core technical education courses must be completed with a grade of "C" or better in order to be eligible for graduation.

Having to retake a core course will require removal from the student's cohort and placement will be made in the next cohort with an available seat.

This requirement also applies to the last class in the sequence, as the grade of "C" or better is required in all core courses in order to retain eligibility to take the National Registry exam.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term		16 credits
10531940	EMT Foundations	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10806177	General Anatomy & Physiology	4
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
10809198	Intro to Psychology	3

Term		16 credits
10531169	EMS Career Fundamentals <b>-or-</b>	
10806197	Microbiology	4
10531941	EMT Applications	2
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801197	Technical Reporting <b>-or</b>	
10801198	Speech	3
10804107	College Mathematics	3
10806134	General Chemistry <b>-or-</b>	
10806179	Advanced Anatomy & Physiology	4

Term		20 credits
10531911	EMS Fundamental	2
10531912	Paramedic Medical Principles	4
10531913	Patient Assessment Principles	3
10531914	Prehospital Pharmacology	3
10531915	Paramedic Respiratory Management	2
10531917	Paramedic Clinical/Field 1	3
10531918	Advanced Resuscitation	1
10531955	Paramedic Cardiology 1	2

Term		18 credits
10531919	Paramedic Medical Emergencies	4
10531920	Paramedic Trauma	3
10531921	Special Patient Populations	3
10531922	EMS Operations	1
10531923	Paramedic Capstone	1
10531956	Paramedic Cardiology 2	2
10531957	Paramedic Field Experience	3
10531958	Paramedic Field Leadership	1

**Total credits 70**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		9 credits
10531940	EMT Foundations	3
10809122	Intro to American Government <b>-or</b>	
10809172	Introduction to Diversity Studies <b>-or</b>	
10809196	Intro to Sociology	3
10801136	English Composition 1 <b>-or</b>	
10801195	Written Communication	3

Term		9 credits
10531941	EMT Applications	2
10804107	College Mathematics	3
10806177	General Anatomy & Physiology	4

Term		7 credits
10806134	General Chemistry <b>-or</b>	
10806179	Advanced Anatomy & Physiology	4
10809198	Intro to Psychology	3

Term		7 credits
10531169	EMS Career Fundamentals <b>-or</b>	
10806197	Microbiology	4
10801196	Oral/Interpersonal Communication <b>-or</b>	
10801197	Technical Reporting <b>-or</b>	
10801198	Speech	3

Term		9 credits
10531911	EMS Fundamental	2
10531912	Paramedic Medical Principles	4
10531913	Patient Assessment Principles	3

Term		10 credits
10531914	Prehospital Pharmacology	3
10531915	Paramedic Respiratory Management	2
10531917	Paramedic Clinical/Field 1	3
10531955	Paramedic Cardiology 1	2

Term		2 credits
10531956	Paramedic Cardiology 2	2

Term		11 credits
10531918	Advanced Resuscitation	1
10531919	Paramedic Medical Emergencies	4
10531920	Paramedic Trauma	3
10531957	Paramedic Field Experience	3

Term		6 credits
10531921	Special Patient Populations	3
10531922	EMS Operations	1
10531923	Paramedic Capstone	1
10531958	Paramedic Field Leadership	1

**Total credits 70**



## Advanced Anatomy & Physiology

**10806179..... 4 credits**

The second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body system approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery is within a classroom and laboratory setting. Experimentation within a science lab includes analysis of cellular metabolism, the individual components of body systems such as nervous, neuromuscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance, and blood. Integration of genetics to human reproduction and development are also included in this course.

*Prerequisite: General Anatomy & Physiology 10806177 with a grade of "C" or better*

## Advanced Resuscitation

**10531918..... 1 credit**

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## EMS Career Fundamentals

**10531169..... 4 credits**

This course is designed to introduce the student to a variety of topics that are relevant to a successful career in EMS. Content focuses on employment readiness, organizational structure, leadership concepts, community involvement, and application of EMS research findings.

## EMS Fundamental

**10531911 ..... 2 credits**

Provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. Students obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations fosters the development of effective written and oral communications with colleagues and other health care professionals.

*Prerequisites: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs and Wisconsin Emergency Medical Technician (or higher) license or a current National Registry of EMTs certification at the Emergency Medical Technician level or higher*

## EMS Operations

**10531922 ..... 1 credit**

Provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## EMT Applications

**10531941..... 2 credits**

Covers the bulk of the Emergency Medical Technician certification course, to include the handling of cervical and spine injuries, burn injuries, heart and breathing related problems, shock, and other trauma injuries. This course includes several lab days to practice and perfect skills, clinical time, and extensive hands-on activities. Prepares students for national certification testing for EMT. To maintain National Registry certification eligibility, this course must be finished the semester following the completion of EMT Foundations.

*Prerequisite: EMT Foundations 10531940*

## EMT Foundations

**10531940 ..... 3 credits**

Covers the basics of the Emergency Medical Technician certification course to include CPR, airways, anatomy, hazmat response requirements, lifting and moving patients, incident command, and other technical information. It is the first part of a two-course system to prepare students for national certification testing for Emergency Medical Technician.

*Prerequisite: Admission to Paramedic Technician 105311 or Emergency Medical Technician 305313 programs and minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 34*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## General Chemistry

**10806134 ..... 4 credits**

Covers the fundamentals of chemistry. Topics include the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; properties of water; acids, bases, and salts; and gas laws.

*Prerequisite: College Math 10804107 with a "C" or better or Intermediate Algebra with Applications 10804118 with a "C" or better or Accuplacer Algebra score of 57 or greater*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Microbiology

**10806197..... 4 credits**

Examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms, and the medical impact of microbes in the environment, industry, and biotechnology are also addressed.

*Prerequisite: General Anatomy & Physiology 10806177, General Biology 10806114, or Plant Biology 10806184 with a grade of "C" or better*



**Oral/Interpersonal Communication**

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

**Paramedic Capstone**

**10531923 .....1 credit**

Provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

**Paramedic Cardiology 1**

**10531955 ..... 2 credits**

Provides the student with the basic knowledge to integrate pathophysiological principles and assessment findings to formulate a field impression and implement the treatment for the patient with cardiovascular disease.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

**Paramedic Cardiology 2**

**10531956 ..... 2 credits**

Teaches the paramedic student knowledge and skills to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a variety of cardiovascular complaints.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

**NOTES:**

Lined area for notes with horizontal lines.

## Paramedic Clinical/Field 1

**10531917..... 3 credits**

Provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences.

*Prerequisites: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311, Advanced Prehospital Pharmacology 10531914, and a current Wisconsin license at the Emergency Medical Technician (or higher) level*

## Paramedic Field Experience

**10531957 ..... 3 credits**

Provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in a field environment and through experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Field Leadership

**10531958 ..... 1 credit**

Provides the student with the opportunity to act as the field team leader in a field environment and through experiences with actual patients under the supervision of instructors or approved preceptors. Successful completion of this course requires the student to meet all team leader competency requirements at the paramedic level as defined by WI DHS EMS and the CoAEMSP.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Medical Emergencies

**10531919..... 4 credits**

Teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Medical Principles

**10531912..... 4 credits**

Addresses the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing paramedic students to the topics of shock, immunology, and bleeding.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Respiratory Management

**10531915..... 2 credits**

Teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Paramedic Trauma

**10531920..... 3 credits**

Teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Patient Assessment Principles

**10531913..... 3 credits**

Teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Prehospital Pharmacology

**10531914 ..... 3 credits**

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

## Special Patient Populations

**10531921..... 3 credits**

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course.

*Prerequisite: Admission to Paramedic Technician 105311 or EMT-Paramedic 315311 programs*

**Speech**

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

**Technical Reporting**

**10801197 ..... 3 credits**

The student prepares and presents oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. Designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course.

*Prerequisite: Written Communication 10801195 with a grade "C" or better or English Composition I 10801136 with a grade "C" or better. Proficiency in word processing skills recommended.*

**Written Communication**

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

**NOTES:**

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# PHARMACY TECHNICIAN

Technical Diploma

Program Code: 31-536-1

our graduates  
INDEMAND

2016/2017

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[mstc.edu](http://mstc.edu)



## PHARMACY TECHNICIAN



Mid-State's Pharmacy Technician program provides hands-on learning that prepares students to assist licensed pharmacists in safely dispensing prescription medication. Graduates may work in hospital and retail pharmacies, nursing homes, and everywhere medications are prepared. In this program, you'll receive both lab and clinical experience in using pharmacy software to build patient profiles, as well as interpret and enter prescriptions. Core program courses are offered via video conference hosted by Lakeshore Technical College (LTC) and are supported by select classes available with Mid-State.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Associate in Applied Science**

**Total Credits: 36**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Home IV Specialist and Pharmacy Technician

In general, there is growing demand for these careers. Example: Pharmacy Technician career has grown by 1% over the last two years and is expected to grow by 14% over the next 10 years. Currently 3,429 Pharmacy Technicians are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Central Service Technician, Emergency Medical Technician, EMT Paramedic, Health Informatics and Information Management, Medical Assistant, Nursing, Nursing Assistant, Paramedic Technician, Phlebotomy Technician, Respiratory Therapist, and Surgical Technologist

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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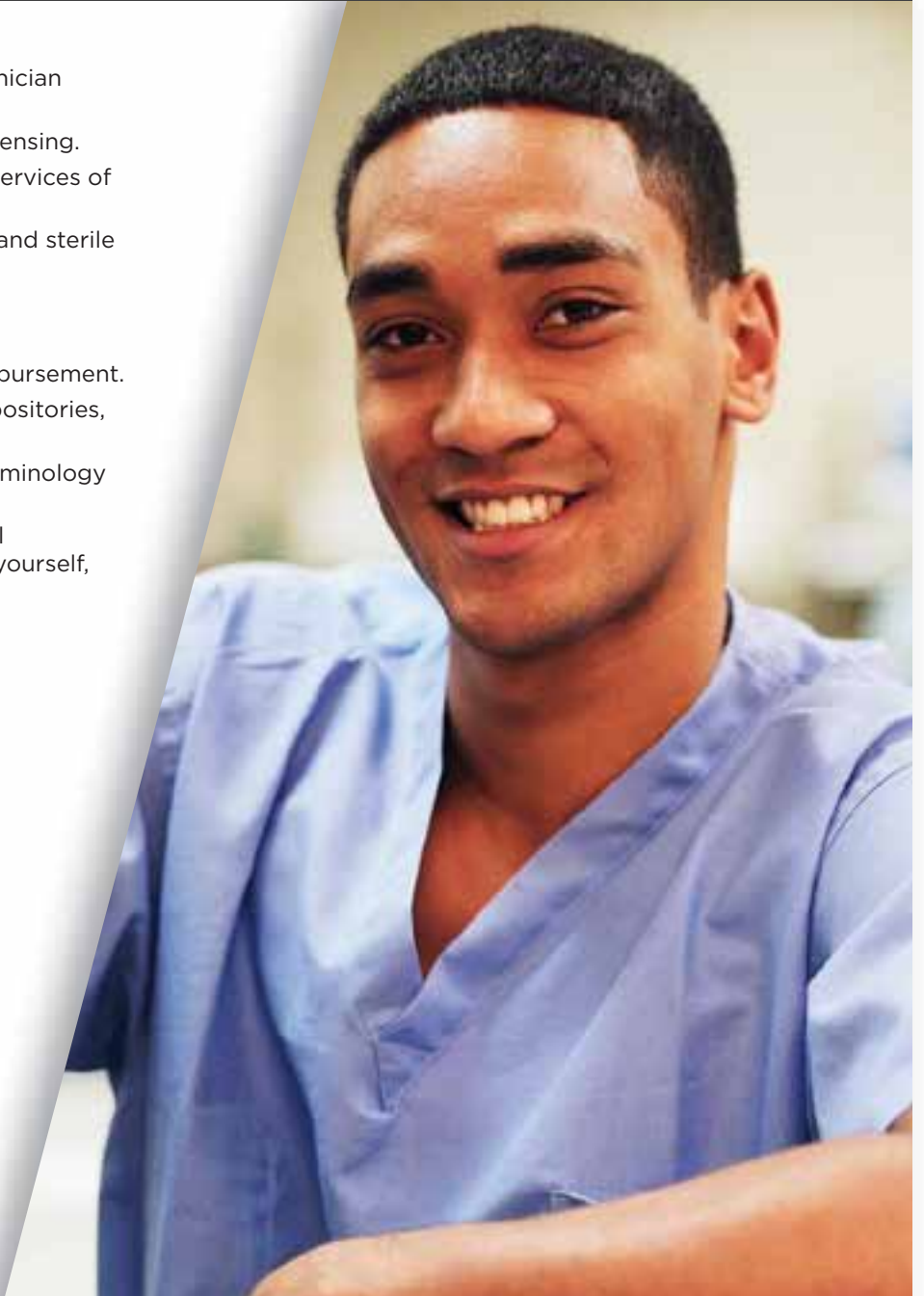
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## PROGRAM OUTCOMES

Employers will expect you, as a Pharmacy Technician graduate, to be able to:

- Package and label drugs for prescription dispensing.
- Prepare and deliver unit dose to the nursing services of hospitals or nursing homes.
- Prepare parenteral admixtures under aseptic and sterile conditions.
- Receive and inventory drug shipments.
- Maintain records, including patient profiles.
- Facilitate communication for third-party reimbursement.
- Compound solutions, ointments, lotions, suppositories, and other medications.
- Comprehend and utilize medical and drug terminology common to the pharmaceutical environment.
- Practice ethical standards and recognize legal implications of your actions as they relate to yourself, the pharmacist, and the pharmacy.



## ADMISSIONS PROCEDURES

To apply to the Pharmacy Technician program, please submit the following documents to Lakeshore Technical College (LTC):

1. Complete a WTCS application form and return it with the \$30 non-refundable application fee. Check is payable to LTC.
2. Complete the Accuplacer or ACT test.  
Minimum scores required:
  - Reading-Accuplacer score of 55
  - Sentence Skills-Accuplacer score of 70
  - Arithmetic-Accuplacer score of 50
  - ACT equivalents for above scores are acceptableYou may take the Accuplacer again if you did not meet the required scores. Additional options, including coursework and tutoring, are also available to assist you. Contact the Student Services Office on your local campus to learn about your options. To schedule an Accuplacer test, contact your local Campus Office.
3. Submit an official copy of all academic transcripts, including high school, college or university, and HSED/GED.
4. Complete a Background Information Disclosure (BID) form and submit \$16 for Caregiver Background check. The Wisconsin Caregiver Law requires a background check.
5. Complete health form and immunization records.
6. Read, sign, and return the Functional Abilities Statement of Understanding form.
7. Read, sign, and return the sign-off sheet for the Pharmacy Technician Program Handbook.
8. Complete a telephone program advising session with LTC Counselor.
9. Upon receipt of the above materials, you will be accepted to Lakeshore Technical College. LTC will then notify you of additional program requirements.

**Lakeshore Technical College • Admissions**  
1290 North Avenue  
Cleveland, WI 53015-1414

**Mid-State Technical College • Admissions**  
500 32nd Street North  
Wisconsin Rapids, WI 54494

## CREDIT FOR PRIOR LEARNING

Credit for Prior Learning is available for certain courses in the form of high school advanced standing, transfer credit, test credit, military experience, and experiential credit.

## CLINICAL-RELATED REQUIREMENTS

Clinical sites have the right to refuse a student's admission based on conviction records. If you have a criminal history, you may not be able to complete clinical courses. Also, clinical agencies will be notified of all students with pending charges and convictions, and agencies can decline student admission to that agency.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.

## SAMPLE FULL TIME CURRICULUM OPTION

Term		18 credits
10501101	Medical Terminology	3
10501102	Health Insurance and Reimbursement	3
10536110	Pharmaceutical Calculations	3
10536113	Pharmacy Business Applications	3
10536115	Pharmacy Law	2
10536120	Fundamentals of Reading Prescriptions	1
10536122	Pharmacology	3

Term		18 credits
10536125	Pharmacy Drug Distribution Systems	2
10536126	Pharmacy Parenteral Admixtures	3
10801196	Oral/Interpersonal Communication	3
10809198	Intro to Psychology	3
10536143	Pharmacy Hospital Clinical	2
10536141	Pharmacy Computer Lab	2
10536139	Pharmacy Community Clinical	3

**Total Credits 36**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).





## Fundamentals of Reading Prescriptions

**10536120..... 1 credit**

Prepares the learner to work in a community or hospital pharmacy by exploring the role of a pharmacy technician within the healthcare team, examining each step in the prescription filling process, and identifying the key top 200 drugs by brand and generic name and therapeutic class.

*Condition: 315361 Pharmacy Technician admission requirements met*

## Health Insurance and Reimbursement

**10501102..... 3 credits**

Introduces the learner to federal, state, and private health insurance plans and managed care systems. Surveys the coding, submission, and processing cycle of claims, as well as reimbursement methods used by payers. It provides application information to ambulatory settings, pharmacies, hospitals, and long-term care.

## Intro to Psychology

**10809198..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Oral/Interpersonal Communication

**10801196..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Pharmaceutical Calculations

**10536110..... 3 credits**

Prepares the learner to enlarge and reduce formulas and solve proportions, dilutions, allegations, and other calculations pertinent to the preparation of pharmaceuticals using metric, apothecary, avoirdupois, and household measuring systems.

*Condition: 315361 Pharmacy Technician or 195316 Employed Pharmacy Technician admission requirements met*

## Pharmacology

**10536122..... 3 credits**

Enhances the learner's ability to act and react appropriately in the pharmacy by learning how drugs work through examination of the anatomy, physiology, pathophysiology, and drug therapy for each of the major systems.

*Condition: 315361 Pharmacy Technician or 195361 Employed Pharmacy Technician admissions requirements met*

## Pharmacy Business Applications

**10536113..... 3 credits**

Prepares the learner to utilize pharmaceutical business terminology, procedures, customer service, record keeping, purchasing procedures, inventory control systems, pricing, merchandising, reference materials, ethics, roles, responsibilities, and relationships with patients and coworkers.

*Condition: 315361 Pharmacy Technician program requirements met*

## Pharmacy Community Clinical

**10536139..... 3 credits**

Provides hands-on experience in a community pharmacy for 108 hours during term two. Areas of instruction include interpretation of prescriptions, entering prescriptions on computer, patient profiles, correctly filling and labeling prescriptions, billing patient and third parties, customer service, over-the-counter medications, purchasing, checking in deliveries, inventory control, compounding, and patient confidentiality.

*Prerequisites: 10536110 Pharmaceutical Calculations, 10536120 Fundamentals of Reading Prescriptions, 10501102 Health Insurance & Reimbursement, 10536113 Pharmacy Business Applications; Corequisite: 10536141 Pharm Computer Lab; Condition: 315361 Pharmacy Technician program requirements met*

## Pharmacy Community Clinical-Advanced

**10536142..... 2 credits**

Expands the learner's ability to support community pharmacy services in areas of diabetes services, immunization programs, durable medical equipment, automated dispensing systems, patient education, and over-the-counter products, in addition to traditional community services. This course involves a hands-on component in a community pharmacy and a research component.

*Perquisite: 10536138 Pharmacy Community Clinical and Corequisites: 10104102 Principles of Marketing or 10104104 Selling Principles or 10182108 Purchasing and Condition 315361 Pharmacy Technician admission requirements met*







# PHLEBOTOMY TECHNICIAN

Technical Diploma

Program Code: 30-513-1

our graduates  
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2016/2017

 **MID-STATE**  
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[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Phlebotomy Technician graduate, to be able to:

- Collect, transport, handle, and process blood and other specimens.
- Adhere to infection control and safety policies and procedures.
- Demonstrate professional interpersonal skills with patients, family members, and other health care personnel.
- Perform within legal and ethical boundaries.
- Perform basic laboratory testing procedures under appropriate supervision.
- Process laboratory orders.

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The Phlebotomy Technician program is approved by the National Accrediting Agency for Clinical Laboratory Sciences, one of only three approved programs in Wisconsin. Graduates are also prepared to take a national certification exam. However, taking and passing a national exam is not a graduation requirement.

### **National Accrediting Agency for Clinical Laboratory Sciences**

5600 N. River Road Suite 720  
Rosemont, IL 60018-5119  
773.714.8880 • [www.naacls.org](http://www.naacls.org)

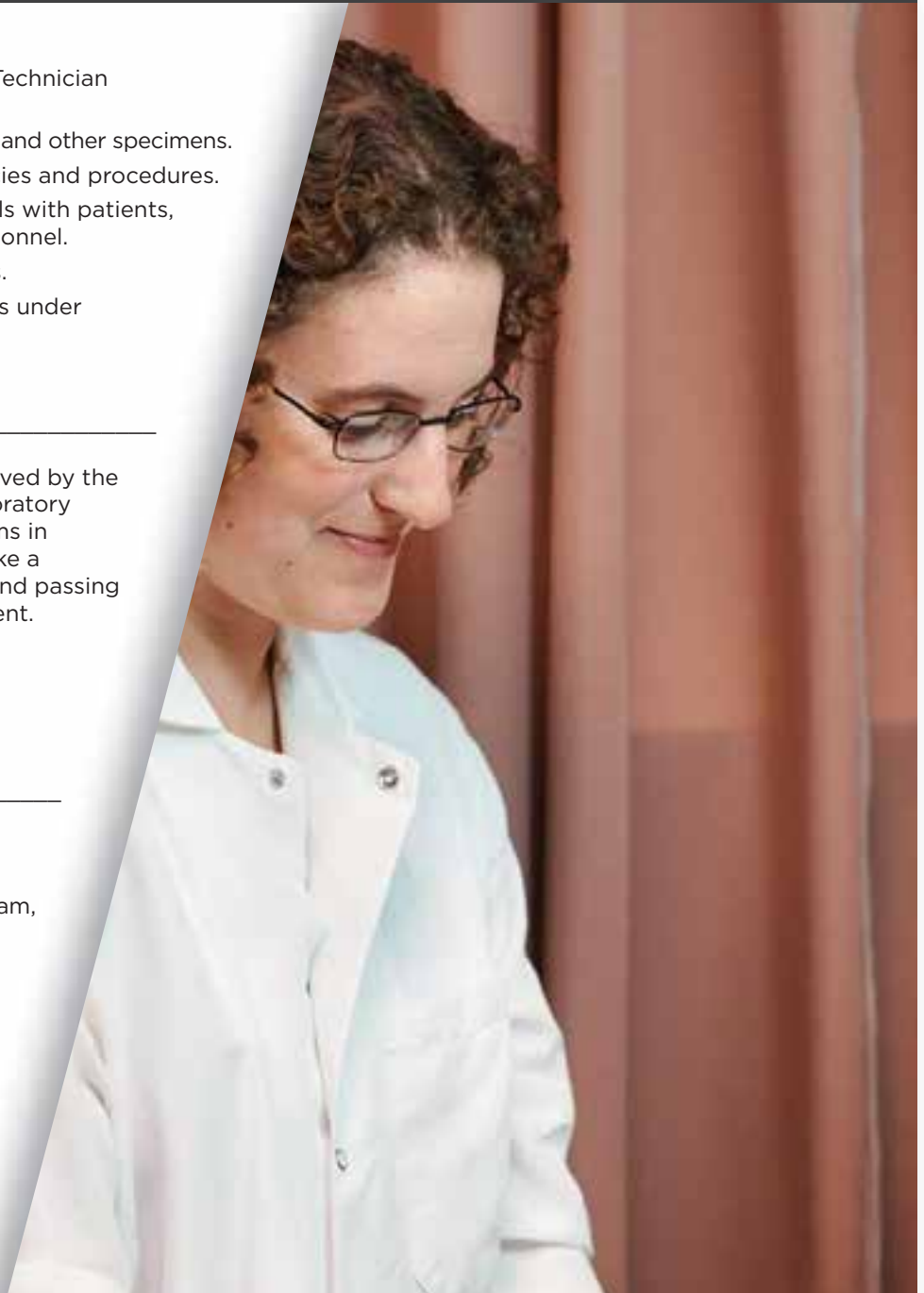
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## ADDITIONAL ENTRY CRITERIA

To apply to the Phlebotomy Technician program, please submit the following documents to Mid-State Admissions:

Submit the Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

















# RENEWABLE ENERGY SPECIALIST

Associate in Applied Science (AAS)

Program Code: 10-482-3

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





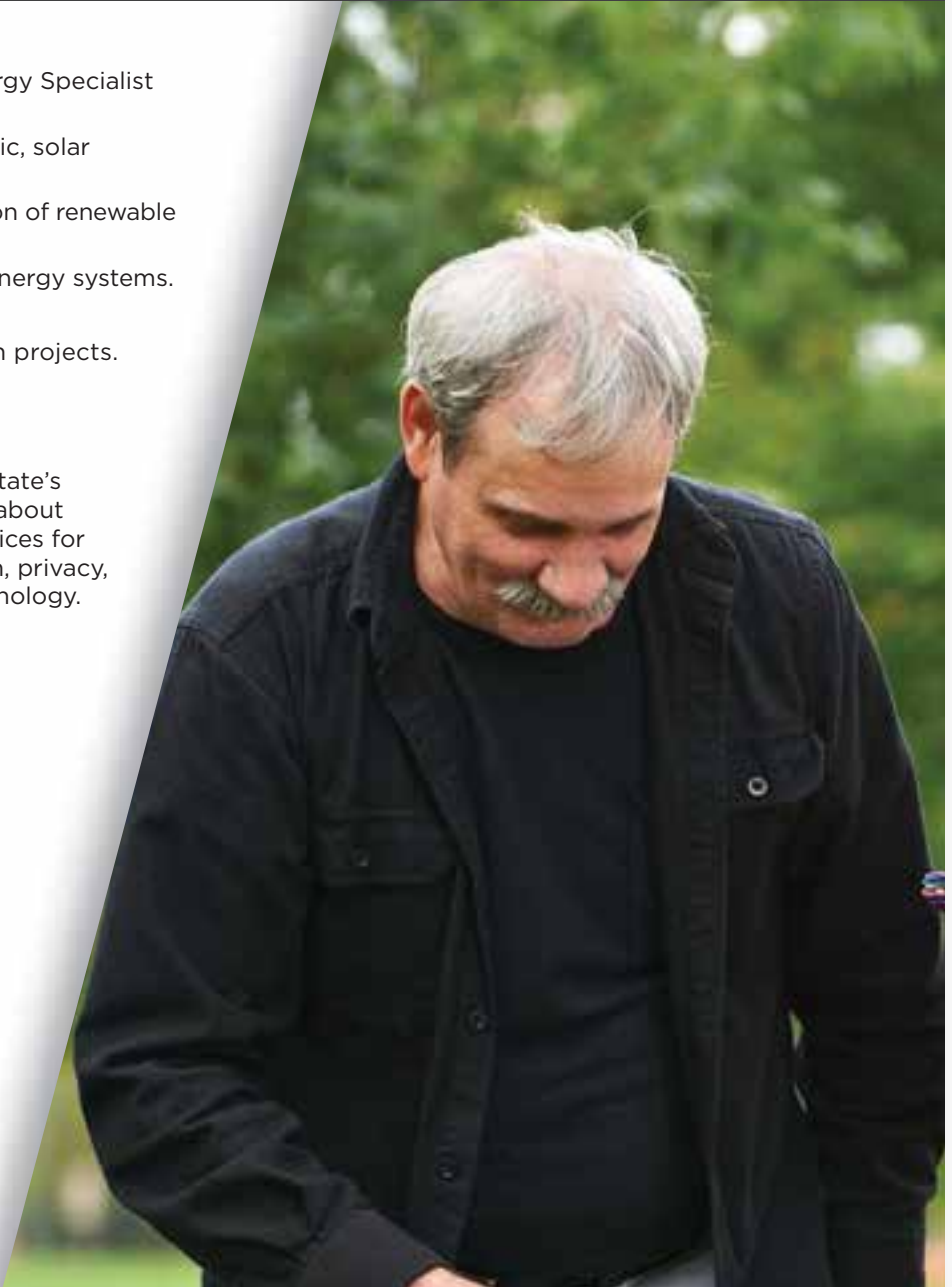
## PROGRAM OUTCOMES

Employers will expect you, as a Renewable Energy Specialist graduate, to be able to:

- Perform site assessments for solar photovoltaic, solar thermal, and small wind systems.
- Conduct feasibility studies regarding installation of renewable energy systems.
- Design an integrated portfolio of renewable energy systems.
- Respond to customer inquiries.
- Manage renewable energy system installation projects.
- Sell renewable energy systems.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term		16-17 credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10480101	Intro to Renewable Energy Systems	4
10483120	Heating & Plumbing Fundamentals -or-	
10605108	Intro to Electronics	2
10623100	Problem Solving & Critical Thinking	1
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
	-or-	
10804189	Introductory Statistics	3

Term		17 credits
10103124	Excel-Intermediate	1
10482107	Construction Fundamentals	2
10482110	Photovoltaic System Design & Installation I	3
10483110	Solar Heating System Design & Installation I	3
10483115	Heat Load Estimation & Modeling	3
10483122	Ventilation, Cooling, & Refrigeration Fundamentals -or-	
10623106	Intro to AutoCAD	2
10801136	English Composition 1 -or-	
10801195	Written Communication	3

Term		17 credits
10481110	Building Science, Performance, & Evaluation	3
10482101	Solar Site Assessment & Evaluation	3
10482140	Planning, Design, & Project Management I	2
10607166	Construction Estimating & Management	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3
10809166	Intro to Ethics: Theory & Application	3

Term		18 credits
10102147	Principles of Management -or-	
10104105	Selling Principles	3
10481140	Energy Use & Investment Analysis	2
10482141	RE-Planning, Design, & Project Management II	2
10806112	Principles of Sustainability	3
10809122	Intro to American Government	3
10809172	Introduction to Diversity Studies -or-	
10809196	Intro to Sociology	3
	Elective	2

**Total credits 68-69**

## SAMPLE PART-TIME CURRICULUM OPTION

Term		10-11 credits
10480101	Intro to Renewable Energy Systems	4
10483120	Heating & Plumbing Fundamentals -or-	
10605108	Intro to Electronics	2
10804107	College Mathematics	3
	-or-	
10804118	Intermediate Algebra with Applications	4
	-or-	
10804189	Introductory Statistics	3
10623100	Problem Solving & Critical Thinking	1

Term		11 credits
10103124	Excel-Intermediate	1
10482107	Construction Fundamentals	2
10483122	Ventilation, Cooling, & Refrigeration Fundamentals -or-	
10623106	Intro to AutoCAD	2
10483115	Heat Load Estimation & Modeling	3
10801136	English Composition 1 -or-	
10801195	Written Communication	3

Term		12 credits
10103106	Microsoft Office-Introduction	3
10481110	Building Science, Performance, & Evaluation	3
10482101	Solar Site Assessment & Evaluation	3
10809166	Intro to Ethics: Theory & Application	3

Term		12 credits
10483110	Solar Heating System Design & Installation I	3
10482110	Photovoltaic System Design & Installation I	3
10809122	Intro to American Government	3
10809172	Introduction to Diversity Studies -or-	
10809196	Intro to Sociology	3

Term		11 credits
10102101	Intro to Business	3
10482140	Planning, Design, & Project Management I	2
10607166	Construction Estimating & Management	3
10801196	Oral/Interpersonal Communication -or-	
10801198	Speech	3

Term		12 credits
10102147	Principles of Management -or-	
10104105	Selling Principles	3
10481140	Energy Use & Investment Analysis	2
10482141	RE-Planning, Design, & Project Management II	2
10806112	Principles of Sustainability	3
	Elective	2

**Total credits 68-69**

### Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).



# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

**Building Science, Performance, & Evaluation**  
**10481110 ..... 3 credits**  
 Students learn the tools and techniques used in the analysis of building shell integrity, focused on how to use an infrared camera to detect insulation, air, and water problems in a building, complemented by blower door testing. These concepts and skills are taught through extensive lab hours working directly with the tools of the trade. Students also investigate building ductwork leakage, building envelope tightness, and combustion efficiency.  
*Prerequisite: Construction Fundamentals 10482107*

**College Mathematics**  
**10804107 ..... 3 credits**  
 This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.  
*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

**Construction Estimating & Management**  
**106071663 ..... 3 credits**  
 Goals and performance of quantity takeoff, cost estimation, resource leveling, estimating labor, and contract interpretation are presented. Project bidding, construction techniques, and equipment capabilities are evaluated.  
*Prerequisites: Microsoft Office-Introduction 10103106, Problem Solving and Critical Thinking 10623100, and Intro to AutoCAD 10623106*

**Construction Fundamentals**  
**10482107 ..... 2 credits**  
 Students study the concepts associated with the theory, materials, and methods used in construction to include footings and foundations, walls, floors, roofs and roof materials, exterior finishes, interior walls, ceiling and floor finishes, insulation types, vapor and air infiltration, and sound protection. Additionally, students will become familiar with blueprint reading and examine all the trades associated with construction, including electrical, HVAC, and plumbing. The safe use of the appropriate tools for each trade is covered.

**Energy Use & Investment Analysis**  
**10481140 ..... 2 credits**  
 This course prepares students to make informed decisions on energy-related investments. Topics include interest, simple payback, life-cycle analysis, cash flow, tax credits and deductions, depreciation, inflation, leveled cost of energy, environmental externalities, and net present value. The emphasis will be on analysis of investments for renewable energy systems and energy efficiency improvements.

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Heat Load Estimation & Modeling

**10483115..... 3 credits**

Teaches the student how to use "Manual J" from ACCA. The student will develop the skills to do residential heating and cooling heat loads. Students will calculate heat loss and also losses or gains due to infiltration, sun loads, etc. The student will do calculations on actual buildings using ACCA industry standard form J-1. The student will also estimate energy upgrades such as insulation, window improvements, and calculate payback and fuel savings.

## Heating & Plumbing Fundamentals

**10483120..... 2 credits**

Heating system topics include introduction to heat principles, temperature measurement, fuels and other sources of heat, combustion, basic heating systems, basic furnace design, gas furnace design and operation, venting of furnaces, chimney or exhaust gases, and system controls. Plumbing system topics include fluid dynamics (pressure, resistance, and flow), basic system design, water heating, and operation of standard plumbing fixtures.

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the

complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Electronics

**10605108 ..... 2 credits**

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Renewable Energy Systems

**10480101..... 4 credits**

In this course, students investigate the need for renewable energy systems and emerging careers in renewable energy. Students examine the basic design, function, cost, and other considerations associated with solar photovoltaic, solar thermal, wind, geothermal, and biomass renewable energy systems. Students will also explore energy efficiency and conservation methods.

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Photovoltaic System Design & Installation 1

**10482110 ..... 3 credits**

Students learn the details involved in the mechanical and electrical integration of a PV system. Topics include system components, product specifications, product integration, racking system design capabilities and limits, system diagramming, configurations, safety, common design mistakes and solutions, and installation techniques. This course will involve students in the installation of a photovoltaic system.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Planning, Design, & Project Management I

**10482140 ..... 2 credits**

Students in this capstone course design an integrated portfolio of energy systems, incorporating renewable energy options into a conventional system. Each learner writes a project proposal, works with a project team, sequences project tasks, develops project budgets, and identifies project resources.

*Prerequisite: Solar Heating System Design & Installation I 10483110*

## Principles of Management

**10102147 ..... 3 credits**

This course introduces the student to the job of management in organizations. An understanding of the roles and tasks of all levels of management in the functions of organizational planning, staffing, leading, and controlling is developed.

## Principles of Sustainability

**10806112 ..... 3 credits**

Prepares the student to develop sustainable literacy; analyze the interconnections among the physical and biological sciences and environmental systems; summarize the effects of sustainability on health and well-being; analyze connections among social, economic, and environmental systems; employ energy conservation strategies to reduce the use of fossil fuels; investigate alternative energy options; evaluate options to current waste disposal and recycling in the US; and analyze approaches used by your community to promote and implement sustainability.

## Problem Solving & Critical Thinking

**10623100 ..... 1 credit**

Introductory course in problem setup, organization, and solution. Identification of given and unknown values, equation setup, unit conversions, and use of significant figures. Introduction to physical science and working with units of force, area, volume, time, and distance in metric and imperial systems. This course is designed to help you be successful in technical and engineering classes and should be taken during your first semester of enrollment.

## RE-Planning, Design, & Project Management II

**10482141 ..... 2 credits**

This class is a continuation of Planning, Design, & Project Management I. Students create a capstone project that incorporates traditional and renewable energy systems with an overall goal of peak energy efficiency.

*Prerequisite: Planning, Design, & Project Management I 10482140*

## Selling Principles

**10104105 ..... 3 credits**

Students develop the kind of sales techniques that encourage customers to believe in the integrity of the salesperson and the product. Subjects include handling customers' tangible and intangible needs, attitude conversion, sales strategies for a variety of conditions, and the changing form of selling techniques. Focuses on the need for a sales personality and the importance of psychology and creativity in selling.

## Solar Heating System Design & Installation 1

**10483110 ..... 3 credits**

Involves students in the installation and design of a solar hot water system. Topics include safety, system design and layout, component selection, mounting collectors, plumbing and insulating copper pipe, and installing a storage tank, heat exchanger, circulation pump, and other system components.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Solar Site Assessment & Evaluation

**10482101 ..... 3 credits**

Students learn the steps to perform solar electric and solar water heating site assessments of a home or business. Class content covers solar window determination, load analysis, site selection, system types, system sizing and efficiency measures, and energy output estimation. The course also covers an overview of existing renewable electric incentive programs.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Ventilation, Cooling, & Refrigeration Fundamentals

**10483122 ..... 2 credits**

Topics covered include air conditioning principles and terms, physical principles of air movement, air filtering and humidity, and methods of conditioning air for comfort and health. In addition, the proper use of psychrometers, dry bulb thermometers, hygrometers, and the reading and interpretation of psychrometric charts and scales are covered, along with ASHRAE and BPI ventilation standards for residential units. Descriptions of new products, and maintenance and operations for residential and commercial cooling systems are also covered, emphasizing energy conservation and efficiency options for new and existing equipment.

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

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715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# RESPIRATORY THERAPIST

Associate in Applied Science (AAS)

Program Code: 10-515-1

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Respiratory Therapist graduate, to be able to:

- Apply advanced-level respiratory therapy concepts to patient care situations.
- Demonstrate technical proficiency required to fulfill the role of an advanced-level respiratory therapist.
- Practice respiratory therapy according to established professional and ethical standards.

Respiratory therapists in Wisconsin and many other states are licensed professionals. The Respiratory Therapist program is accredited by:

### **Commission on Accreditation for Respiratory Care (CoARC)**

1248 Harwood Road, Bedford, TX 76021-4244  
817.283.2835 • [www.coarc.com](http://www.coarc.com)

## ADDITIONAL ENTRY CRITERIA

To apply to the Respiratory Therapist program, please submit the following documents to Mid-State Admissions: Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a respiratory therapist is available at [mstc.edu/programs/respiratory-therapist](http://mstc.edu/programs/respiratory-therapist). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.



## PROGRAM PROGRESSION

In order to progress in and successfully complete the program, students must:

- Repeat courses not completed with a grade of “C” or better prior to progressing in core courses or other courses with co- or prerequisites.
- Receive a grade of “C” or better in all courses required for graduation.

Please note that the ability to repeat courses is dependent upon availability in courses. Students may be required to apply for program re-entry in order to repeat courses within the program’s instructional area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State’s student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State’s Student Code of Conduct, and technology.



This ACT program is 100% funded with a TAACCCT Round IV \$19.9 million grant awarded by the US Department of Labor’s Employment and Training Administration. This program is an equal opportunity program, and auxiliary aids and services are available upon request to individuals with disabilities. This workforce product was funded by a grant awarded by the US Department of Labor’s Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The US Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

## academic career plan

Term/Year	Credits	Term/Year	Credits
Term/Year	Credits	Term/Year	Credits



## SAMPLE FULL TIME CURRICULUM OPTION

Term		17 credits
10501101	Medical Terminology	3
10515100	Student Success in Respiratory Therapist	1
10515111	Respiratory Survey	3
10515171	Respiratory Therapeutics 1	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10806177	General Anatomy & Physiology	4
Term		13 credits
10515172	Respiratory Therapeutics 2	3
10515173	Respiratory Pharmacology	3
10515174	Respiratory/Cardiac Physiology	3
10806197	Microbiology	4
Term		5 credits
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10515175	Respiratory Clinical 1	2
Term		20 credits
10515112	Respiratory Airway Management	2
10515113	Respiratory Life Support	3
10515176	Respiratory Disease	3
10515178	Respiratory Clinical 2	3
10515179	Respiratory Clinical 3	3
10809166	Intro to Ethics: Theory & Application	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
Term		15 credits
10515101	Respiratory Therapist Test Prep	1
10515180	Respiratory Neo/Peds Care	2
10515181	Respiratory/Cardio Diagnostics	3
10515182	Respiratory Clinical 4	3
10515183	Respiratory Clinical 5	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Total Credits 70</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. **For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).**

## SAMPLE PART-TIME CURRICULUM OPTION

Term		6 credits
10501101	Medical Terminology	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
Term		7 credits
10806177	General Anatomy & Physiology	4
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3
Term		7 credits
10806197	Microbiology	4
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
Term		6 credits
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809166	Intro to Ethics: Theory & Application	3
Term		7 credits
10515100	Student Success in Respiratory Therapist	1
10515111	Respiratory Survey	3
10515171	Respiratory Therapeutics 1	3
Term		9 credits
10515172	Respiratory Therapeutics 2	3
10515173	Respiratory Pharmacology	3
10515174	Respiratory/Cardiac Physiology	3
Term		2 credits
10515175	Respiratory Clinical 1	2
Term		14 credits
10515112	Respiratory Airway Management	2
10515113	Respiratory Life Support	3
10515176	Respiratory Disease	3
10515178	Respiratory Clinical 2	3
10515179	Respiratory Clinical 3	3
Term		12 credits
10515101	Respiratory Therapist Test Prep	1
10515180	Respiratory Neo/Peds Care	2
10515181	Respiratory/Cardio Diagnostics	3
10515182	Respiratory Clinical 4	3
10515183	Respiratory Clinical 5	3
<b>Total credits 70</b>		

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.  
*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Microbiology

**10806197..... 4 credits**

Examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms, and the medical impact of microbes in the environment, industry, and biotechnology are also addressed.

*Prerequisite: General Anatomy & Physiology 10806177, General Biology 10806114, or Plant Biology 10806184 with a grade of "C" or better*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Respiratory Airway Management

**10515112 ..... 2 credits**

Provides a comprehensive exploration of airway management concepts and skills.

*Prerequisite: Respiratory Clinical 1 10515175*

## Respiratory Clinical 1

**10515175..... 2 credits**

Introduces Respiratory Therapy practice in the hospital setting. Includes the development of skills such as basic therapeutics, patient assessment, medical record review, safety practices, patient interaction, and communication.

*Prerequisites: Respiratory Survey 10515111, Respiratory Therapeutics 1 10515171, Respiratory Therapeutics 2 10515172, Respiratory Pharmacology 10515173, Respiratory/Cardiac Physiology 10515174, and Microbiology 10806197*

## Respiratory Clinical 2

**10515178..... 3 credits**

Continued development of Respiratory Therapy clinical skills, including respiratory therapeutics. Focuses on monitoring, analyzing, and interpreting data to make appropriate modifications in patient care.

*Prerequisite: Respiratory Clinical 1 10515175*

## Respiratory Clinical 3

**10515179..... 3 credits**

Continued development of Respiratory Therapy clinical skills, including respiratory therapeutics. Focuses on monitoring, analyzing, and interpreting data to make appropriate modifications in patient care.

*Corequisite: Respiratory Clinical 2 10515178*

## Respiratory Clinical 4

**10515182..... 3 credits**

Continued development of Respiratory Therapy clinical skills, including respiratory therapeutics. Focuses on monitoring, analyzing, and interpreting data to make appropriate modifications in patient care.

*Prerequisites: Respiratory Clinical 3 10515179, Respiratory Life Support 10515113*

## Respiratory Clinical 5

**10515183..... 3 credits**

Focuses on the completion of respiratory therapy competencies and transition to employment.

*Prerequisite: Respiratory Clinical 4 10515182*

## Respiratory Disease

**10515176..... 3 credits**

Explores signs, symptoms, causes, progression, and treatment of obstructive, restrictive, and infectious diseases or disorders of the body that affect the respiratory system.

*Prerequisites: Respiratory Survey 10515111, General Anatomy & Physiology 10806177 and Microbiology 10806197*

## Respiratory Life Support

**10515113..... 3 credits**

Focuses on management of adult ventilatory support.

*Prerequisites: Respiratory Therapeutics 2 10515172 and Respiratory Clinical 1 10515175; Corequisite: Respiratory Airway Management 10515112*

## Respiratory Neo/Peds Care

**10515180 ..... 2 credits**

Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, and noninvasive and invasive therapeutic interventions.

*Prerequisite: Respiratory Life Support 10515113 and Respiratory Clinical 3 10515179*

## Respiratory Pharmacology

**10515173..... 3 credits**

Examines basic pharmacology principles, drug dosage, and calculations. Medications for inhalation, including mucolytics, bronchodilators, and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers, and antimicrobials.

*Prerequisites: Respiratory Survey 10515111, Respiratory Therapeutics 1 10515171 and General Anatomy & Physiology 10806177*

## Respiratory Survey

**10515111 ..... 3 credits**

Examines the role of the respiratory therapist within the healthcare community. Reviews the ethical, legal, and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored.

*Prerequisite: Admission to Respiratory Therapy 105151 program;  
Corequisite: Medical Terminology 10501101*

## Respiratory Therapeutics 1

**10515171 ..... 3 credits**

Introduces the topics of medical gas administration and humidity and aerosol therapy. The learner will apply physics, math, and patient assessment concepts to oxygen, aerosol, and humidity therapy.

*Corequisites: Respiratory Survey 10515111, Medical Terminology 10501101, and General Anatomy & Physiology 10806177*

## Respiratory Therapeutics 2

**10515172 ..... 3 credits**

Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy, and pulmonary rehabilitation.

*Prerequisites: Respiratory Therapeutics 1 10515171, Respiratory Survey 10515111, and General Anatomy & Physiology 10806177*

## Respiratory Therapist Test Prep

**10515101 ..... 1 credit**

Learners explore strategies for preparing for respiratory therapist professional examinations including, study skills, test preparation and test-taking skills. The course includes a basic review of content related to the examinations.

*Prerequisite: Respiratory Clinical 4 10515182*

## Respiratory/Cardiac Physiology

**10515174 ..... 3 credits**

Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent respiratory therapist.

*Prerequisites: General Anatomy & Physiology 10806177, Respiratory Survey 10515111, and Respiratory Therapeutics 1 10515171*

## Respiratory/Cardio Diagnostics

**10515181 ..... 3 credits**

Advanced invasive and noninvasive diagnostic cardiopulmonary procedures, including pulmonary function, hemodynamics, and rescue medicine.

*Prerequisite: Respiratory Clinical 3 10515179*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Student Success in Respiratory Therapist

**10515100 ..... 1 credit**

Learners explore success strategies for the Respiratory Therapist program, including time management, study skills, test preparation and test-taking skills, planning, and stress management.

*Prerequisite: Admission to Respiratory Therapist program 105151;  
Corequisite: Respiratory Survey 10515111*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

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# SOLAR ELECTRIC TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-482-2

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

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## PROGRAM OUTCOMES

Employers will expect you, as a Solar Electric Technician graduate, to be able to:

- Work safely with renewable electric systems.
- Install subsystems and components at the site.
- Perform a system checkout and inspection.
- Maintain and troubleshoot a system.
- Select a system design.
- Adapt the mechanical design.
- Adapt the electrical design.
- Conduct a solar photovoltaic site assessment.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

<b>Term</b>		<b>17-19 credits</b>
10103106	Microsoft Office-Introduction	3
10480101	Intro to Renewable Energy Systems	4
10605105	Electrical Circuits I	3
	<b>-or-</b>	
10605108	Intro to Electronics	2
10623106	Intro to AutoCAD	2
10801196	Oral/Interpersonal Communication	<b>-or-</b>
10801198	Speech	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		<b>17 credits</b>
10462114	Metals & Machining	<b>-or-</b>
10462116	Metal Fabrication	3
10482105	Intermediate Electrical Theory & Applications	3
10482107	Construction Fundamentals	2
10482110	Photovoltaic System Design & Installation 1	3
10801136	English Composition 1	<b>-or-</b>
10801195	Written Communication	3
10809172	Introduction to Diversity Studies	<b>-or-</b>
10809196	Intro to Sociology	3
<b>Term</b>		<b>20 credits</b>
10103124	Excel-Intermediate	1
10150101	Network Fundamentals	3
10482101	Solar Site Assessment & Evaluation	3
10482111	Photovoltaic System Design & Installation 2	3
10482115	Grid-Tied Renewable Electric Systems	2
10482120	Wind Energy System Design and Installation	3
10809166	Intro to Ethics: Theory & Application	3
	Elective	2
<b>Term</b>		<b>14 credits</b>
10482116	Stand-Alone Renewable Electric Systems	2
10482150	Advanced Renewable Electric Systems	2
10605117	Programmable Logic Controllers-Beginning	3
10806112	Principles of Sustainability	3
10809122	Intro to American Government	3
	Elective	1
<b>Total credits 68-70</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

<b>Term</b>		<b>11-13 credits</b>
10480101	Intro to Renewable Energy Systems	4
10605105	Electrical Circuits I	3
	<b>-or-</b>	
10605108	Intro to Electronics	2
10623106	Intro to AutoCAD	2
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
<b>Term</b>		<b>11 credits</b>
10462114	Metals & Machining	<b>-or-</b>
10462116	Metal Fabrication	3
10482107	Construction Fundamentals	2
10482110	Photovoltaic System Design & Installation 1	3
10801136	English Composition 1	<b>-or-</b>
10801195	Written Communication	3
<b>Term</b>		<b>12 credits</b>
10103106	Microsoft Office-Introduction	3
10482111	Photovoltaic System Design & Installation 2	3
10482120	Wind Energy System Design and Installation	3
10801196	Oral/Interpersonal Communication	<b>-or-</b>
10801198	Speech	3
<b>Term</b>		<b>12 credits</b>
10482105	Intermediate Electrical Theory & Applications	3
10482116	Stand-Alone Renewable Electric Systems	2
10809122	Intro to American Government	3
10809172	Introduction to Diversity Studies	<b>-or-</b>
10809196	Intro to Sociology	3
	Elective	1
<b>Term</b>		<b>11 credits</b>
10103124	Excel-Intermediate	1
10150101	Network Fundamentals	3
10482101	Solar Site Assessment & Evaluation	3
10482115	Grid-Tied Renewable Electric Systems	2
	Elective	2
<b>Term</b>		<b>11 credits</b>
10809166	Intro to Ethics: Theory & Application	3
10482150	Advanced Renewable Electric Systems	2
10605117	Programmable Logic Controllers-Beginning	3
10806112	Principles of Sustainability	3
<b>Total credits 68-70</b>		





## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Excel-Intermediate

**10103124 ..... 1 credit**

Develop charts and PivotTables, and manage multiple worksheets/workbooks.

*Prerequisite: Microsoft Office-Introduction 10103106 or Excel-Beginning 10103123*

## Grid-Tied Renewable Electric Systems

**10482115..... 2 credits**

This course covers Wisconsin's utility interconnect standard, net metering policies, and how they relate to photovoltaic and wind installations. This course provides an overview of electrical power distribution and transmission networks along with metering techniques. Class consists of both bench-top and field maintenance grid-tied renewable electric systems.

*Prerequisite: Intermediate Electrical Theory and Applications 10482105*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intermediate Electrical Theory & Applications

**10482105 ..... 3 credits**

Provides students with the information and knowledge necessary to accurately diagnose and solve electrical system faults. Main topics include: safety and hazard awareness, electrical fundamentals, circuits and components, motors, wiring diagrams, common electrical service configurations, and troubleshooting.

*Prerequisite: Electrical Circuits 1 10605105 or Intro to Electronics 10605108*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the

complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Electronics

**10605108 ..... 2 credits**

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Renewable Energy Systems

**10480101..... 4 credits**

In this course, students investigate the need for renewable energy systems and emerging careers in renewable energy. Students examine the basic design, function, cost, and other considerations associated with solar

photovoltaic, solar thermal, wind, geothermal, and biomass renewable energy systems. Students will also explore energy efficiency and conservation methods.

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Metal Fabrication

**10462116 ..... 3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits,

and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Metals & Machining

**10462114 ..... 3 credits**

A two-part class that introduces the basics of metal science and machine shop practice. Metallurgical concepts of steel and iron production, properties of metals, testing of metals, carbon and its role, heat-treating, steel designations, and cast iron and non-ferrous metals are introduced. Students participate in lab exercises examining the properties of metal and are introduced to machine shop safety practices, measurement, and machining through the use of hand tools, drilling machines, saws, and engine lathes. Classroom includes presentation and hands-on shop experiences.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Solar Electric Technician 104822, Sustainable Heating & Cooling Technician 104831, Machine Tool Technician 324201 programs*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Network Fundamentals

**10150101..... 3 credits**

This CISCO Academy based course develops skill in PC hardware and software troubleshooting, including installation of hardware components and problem determination and correction of malfunctioning hardware and software.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Photovoltaic System Design & Installation 1

**10482110 ..... 3 credits**

Students learn the details involved in the mechanical and electrical integration of a PV system. Topics include system components, product specifications, product integration, racking system design capabilities and limits, system diagramming, configurations, safety, common design mistakes and solutions, and installation techniques. This course will involve students in the installation of a photovoltaic system.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Photovoltaic System Design & Installation 2

**10482111 ..... 3 credits**

This course is a continuation of Photovoltaic System Design and Installation 1 and includes an in-depth focus of the electrical integration of a PV system. Topics include system design capabilities and limits, system diagramming, wiring configurations, safety, National Electrical Code, common design mistakes and solutions, wiring techniques, and installation techniques. System maintenance principles and commissioning are covered.

*Prerequisite: Photovoltaic System Design & Installation I 10482110*

## Principles of Sustainability

**10806112 ..... 3 credits**

Prepares the student to develop sustainable literacy; analyze the interconnections among the physical and biological sciences and environmental systems; summarize the effects of sustainability on health and well-being; analyze connections among social, economic, and environmental systems; employ energy conservation strategies to reduce the use of fossil fuels; investigate alternative energy options; evaluate options to current waste disposal and recycling in the US; and analyze approaches used by your community to promote and implement sustainability.

## Programmable Logic Controllers-Beginning

**10605117 ..... 3 credits**

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60, Arithmetic 65*

## Solar Site Assessment & Evaluation

**10482101 ..... 3 credits**

Students learn the steps to perform solar electric and solar water heating site assessments of a home or business. Class content covers solar window determination, load analysis, site selection, system types, system sizing and efficiency measures, and energy output estimation. The course also covers an overview of existing renewable electric incentive programs.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores - Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Stand-Alone Renewable Electric Systems

**10482116 ..... 2 credits**

This course will cover stand-alone systems for both wind and PV renewable electric systems. Topics include battery types and their specific uses, battery bank sizing and configuration, along with safety, maintenance, and components related to stand-alone systems.

*Prerequisite: Photovoltaic System Design & Installation 1 10482110*

## Wind Energy System Design and Installation

**10482120 ..... 3 credits**

Students learn the steps to perform wind site assessments of a home or business. Class content covers measuring wind energy potential, site selection, system types, and energy output estimation. This course involves students in the installation of a tilt-up tower. Topics include proper use of tools and rigging systems, system design, layout, and turbine performance as well as electrical integration of a wind system, wiring, and installation techniques.

*Prerequisite: Photovoltaic System Design & Installation 1 10482110*

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# STAINLESS STEEL WELDING

Technical Diploma

Program Code: 30-442-7

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## STAINLESS STEEL WELDING



Mid-State's Stainless Steel Welding program prepares students for entry-level employment as a stainless steel welder in production, construction, manufacturing, and servicing industries. Experienced instructors will teach you basic TIG (tungsten inert gas) welding of stainless steel as well as fabrication, blueprint reading, and more. Instruction will combine lecture with hands-on practice, giving you the confidence you need to start your career in this rewarding field.

Graduates of the Stainless Steel Welding technical diploma may advance into the Welding program.

**Technical Diploma**

**Careers:** Stainless Steel TIG Welder

**Total Credits: 7**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

## WELDING



The Welding program at Mid-State prepares graduates for a wide variety of welding jobs in production, maintenance, construction, manufacturing, and servicing industries. You will receive hands-on instruction and practice in a number of welding processes, including shielded metal arc, gas tungsten arc, gas metal arc, submerged arc, oxyacetylene cutting and brazing, plasma arc, and arc-air cutting. You will also become familiar with various types of metals, fabrication of metals, and welding under industry codes. Successful completion of this program prepares you to take welding certification tests.

**Technical Diploma**

**Total Credits: 33-35**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Combination and Construction Welder, Counterperson in Distributorship, Fabricator Maintenance Welder, MIG Welder, Pipeline Welder, Production Line Welder, Shipyard Welder, Structural Welder, TIG Welder, Welder, Fitter, and Welding Repair

In general, there is growing demand for these careers. Example: Welders, Cutters, and Welder Fitters career has grown by 2% over the last two years and is expected to grow by 10% over the next 10 years. Currently 6,311 Welders, Cutters, and Welder Fitters are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Industrial Mechanical Technician and Machine Tool Technician

### RELATED APPRENTICESHIPS

Ironworker and Steamfitting

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Stainless Steel Welding graduate, to be able to:

- Demonstrate appropriate safe work habits when operating welding equipment.
- Use terminology associated with welding to communicate effectively with coworkers, supervisors, customers, inspectors, engineers, and vendors.
- Perform welding operations using TIG processes on stainless steel in a variety of situations.
- Interpret blueprint and welding symbols to fabricate components.
- Analyze given procedures to simulate state weld tests.

## PROTECTIVE CLOTHING

Students are required to provide their own protective clothing and equipment. Details of the requirements and where they may be purchased are provided by the program instructor at the beginning of each semester.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.







# SUPERVISORY MANAGEMENT

Associate in Applied Science (AAS)

Program Code: 10-196-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)





## PROGRAM OUTCOMES

Employers will expect you, as a Supervisory Management graduate, to be able to:

- Analyze the job of the supervisor in an organization.
- Develop and nurture an effective work environment.
- Establish plans to accomplish goals and achieve organizational objectives.
- Supervise the work group.
- Organize the work group.
- Analyze financial information.
- Maintain a safe work environment.
- Lead the work group.
- Staff the work group.
- Make effective decisions.
- Manage change.
- Manage projects.

## ADDITIONAL ENTRY CRITERIA

To apply to the Supervisory Management program, please submit the following documents to Mid-State Admissions:

Employment Verification form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



## SAMPLE FULL TIME CURRICULUM OPTION

Term		15 credits
10102101	Intro to Business	3
10103106	Microsoft Office-Introduction	3
10196191	Supervision	3
10196192	Managing for Quality	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3

Term		15 credits
10196164	Personal Skills for Supervisor	3
10196189	Team Building & Problem Solving	3
10196190	Leadership Development	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

Term		22-23 credits
10101111	Accounting I	4
10102104	Business Law	3
10196134	Legal Issues for Supervisors	3
10196169	Diversity & Change Management	3
10196193	Human Resource Management	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10809195	Economics	3

Term		15 credits
10102117	Business Finance	3
10196168	Organizational Development	3
10196188	Project Management	3
10809166	Intro to Ethics: Theory & Application	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

**Total Credits 67-68**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		9 credits
10102101	Intro to Business	3
10196191	Supervision	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3

Term		9 credits
10196192	Managing for Quality	3
10809166	Intro to Ethics: Theory & Application	3
10102104	Business Law	3

Term		9 credits
10196190	Leadership Development	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3

Term		9 credits
10196189	Team Building & Problem Solving	3
10196193	Human Resource Management	3
10809122	Intro to American Government <b>-or-</b>	
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

Term		9 credits
10103106	Microsoft Office-Introduction	3
10196134	Legal Issues for Supervisors	3
10196164	Personal Skills for Supervisor	3

Term		10 credits
10101111	Accounting I	4
10809195	Economics	3
10196169	Diversity & Change Management	3

Term		6-7credits
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3
10196188	Project Management	3

Term		6 credits
10102117	Business Finance	3
10196168	Organizational Development	3

**Total Credits 67-68**





## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent.* Learners assess the current extent of diversity in the workplace; analyze the effect of perceptions, attitudes, biases, and organization culture on diversity; remove barriers; apply change management strategy, process, and reactions; measure progress; and celebrate success.

*Prerequisite: Minimum Accuplacer scores: Reading 55, Sentence Skills 60, Arithmetic 34*

## Economics

**10809195 ..... 3 credits**

This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors that influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. A student scoring between 55-80 on Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills, is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Human Resource Management

**10196193..... 3 credits**

Apply skills and tools necessary to perform human resource functions in an organization. Each learner demonstrates skill in following EEOC laws; writing job descriptions; recruiting, selecting, and orienting employees; developing policies and procedures; developing and conducting training; designing performance appraisal plans; developing employee development plans; and selecting compensation and benefit strategies.

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Business

**10102101..... 3 credits**

An introduction to what a business is, how it operates, and how it is managed. Students identify forms of ownership and the processes used in production and marketing, finance, personnel, and management in business operations.

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Leadership Development

**10196190 ..... 3 credits**

Apply skills and tools necessary to fulfill his/her role as a modern leader. Each learner will evaluate personal leadership effectiveness, use individual and group motivation strategies, implement mission and goals, demonstrate ethical behavior, adapt personal leadership style to worker readiness, use power, facilitate employee development, coach, manage change, and resolve conflict.

## Legal Issues for Supervisors

**10196134 ..... 3 credits**

Apply skills and tools necessary for a supervisor to effectively function in today's legal work environment. Learners apply legal practices in union and nonunion environments, analyze the impact of US employment laws on the global economy, use the appeal process to settle disputes, manage legal charges, document the hiring and firing process, manage harassment and privacy issues, and summarize the legal issues facing contemporary supervisors.

## Managing for Quality

**10196192..... 3 credits**

Apply skills and tools necessary to implement and maintain a continuous improvement environment. Each learner will demonstrate the application of a personal philosophy of quality, identify stakeholder relationships, identify ways to meet/exceed customer expectations, apply a systems-focused approach, use quality models and tools, manage a quality improvement project, and measure effectiveness of continuous improvement activities.

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Organizational Development

**10196168 ..... 3 credits**

Develop skill to assist organizations to achieve greater effectiveness, including increased financial performance and improved quality of work life. Skills developed include collecting, analyzing, and diagnosing organization development data; developing plans to enhance human processes, organization structure, and employee involvement, work design, human resources, and organization environment; and leading and managing the implementation of these plans.

## Personal Skills for Supervisor

**10196164 ..... 3 credits**

Apply skills and tools necessary to enhance personal professional success through the use of time and stress management and assertive behavior. Learners use time management techniques, conduct personal planning, engage in lifelong learning, value the rights of others, communicate effectively, display assertive behavior, and manage stress.

## Project Management

**10196188..... 3 credits**

Apply skills and tools necessary to design, implement, and evaluate formal projects. Each learner will write a project proposal, work with project teams, sequence project tasks, develop project budgets, identify project resources, implement the project, chart project progress, deal with variations, evaluate the project, and use various technology in these processes.

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Supervision

**10196191 ..... 3 credits**

Apply skills and tools necessary to perform the functions of a contemporary frontline leader. Students engage in operational planning, analyze organizational structures, review the staffing process, employ techniques to enhance employee personal and group effectiveness, and develop control techniques to measure effectiveness in the above areas.

## Team Building & Problem Solving

**10196189 ..... 3 credits**

Apply skills and tools necessary to facilitate problem solving in a team environment. Each learner assumes the roles and responsibilities of team leadership in the stages of team development, uses a systematic problem-solving process, and employs consensus building and conflict management strategies.

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# SURGICAL TECHNOLOGIST

Technical Diploma

Program Code: 31-512-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)

# surgical technologist career pathway

## SURGICAL TECHNOLOGIST



The Surgical Technologist program at Mid-State prepares graduates to work as part of the surgical team in operating rooms, providing instruments and supplies to the surgeon. You'll also learn skills and techniques used in central service with instrument processing. Instruction encompasses both classroom and lab instruction. At five weeks into the program you will gain hands-on clinical experience, including in surgery, ambulatory centers, central service, and other related areas. After successful completion of the program and certification exam, you will be a Certified Surgical Technologist (CST).

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Technical Diploma**

**Total Credits: 38-40**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Ambulatory Surgery Technician, Cath Lab Surgical Technologist, Central Service Technician, Dental Office Assistant, Emergency Room Technician, Material Management, Surgical Technologist, and Veterinary Surgery Assistant

In general, there is growing demand for these careers. Example: Surgical Technologist career has grown by 1% over the last two years and is expected to grow by 19% over the next 10 years. Currently 1,127 Surgical Technologists are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## CENTRAL SERVICE TECHNICIAN



Mid-State's hands-on Central Service Technician program prepares students to work with supplies and equipment related to surgery, obstetrics, emergency departments, and other patient care settings. Effective communication is vital within this multi-service area. The curriculum includes online instruction, lab, and clinical experience. The clinical portion of the course places students at a minimum of two sites. Students learn the principles of standard precautions, asepsis, disinfection, and sterilization procedures. Course completion leads to a technical diploma and eligibility for certification exams.

Graduates of the Central Service Technician technical diploma may advance into the Surgical Technologist program.

**Technical Diploma**

**Total Credits: 19-22**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Central Processing or Instrument Technician, Central Service Aide, Central Service Technician, Central Service Technologist, Materials Management, Medical Equipment Preparer, and Processing/Distributions Technician

In general, there is growing demand for these careers. Example: Medical Equipment Preparer career has declined by 4% over the last two years but is expected to grow by 15% over the next 10 years. Currently 434 Medical Equipment Preparers are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

**approved transfer college credit**

**dual credit**

**credit by examination**

**credit for military or work experience**

## OTHER OPTIONS

### RELATED PROGRAMS

Medical Assistant and Phlebotomy Technician

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Surgical Technologist graduate, to be able to:

- Apply health care and technological science principles to the perioperative environment.
- Maintain principles of sterile technique in the surgical environment.
- Provide a safe, efficient, and supportive environment for the patient.
- Prepare the patient, operating room, and surgical team for the preoperative phase.
- Perform intraoperative case management in the scrub role.
- Perform postoperative case management.
- Function as an ethical, legal, and professional member of the health care team as determined by governing bodies.

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The Mid-State Technical College Surgical Technologist program is accredited by the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA), under the auspices of:

### Commission on Accreditation of Allied Health Education Programs

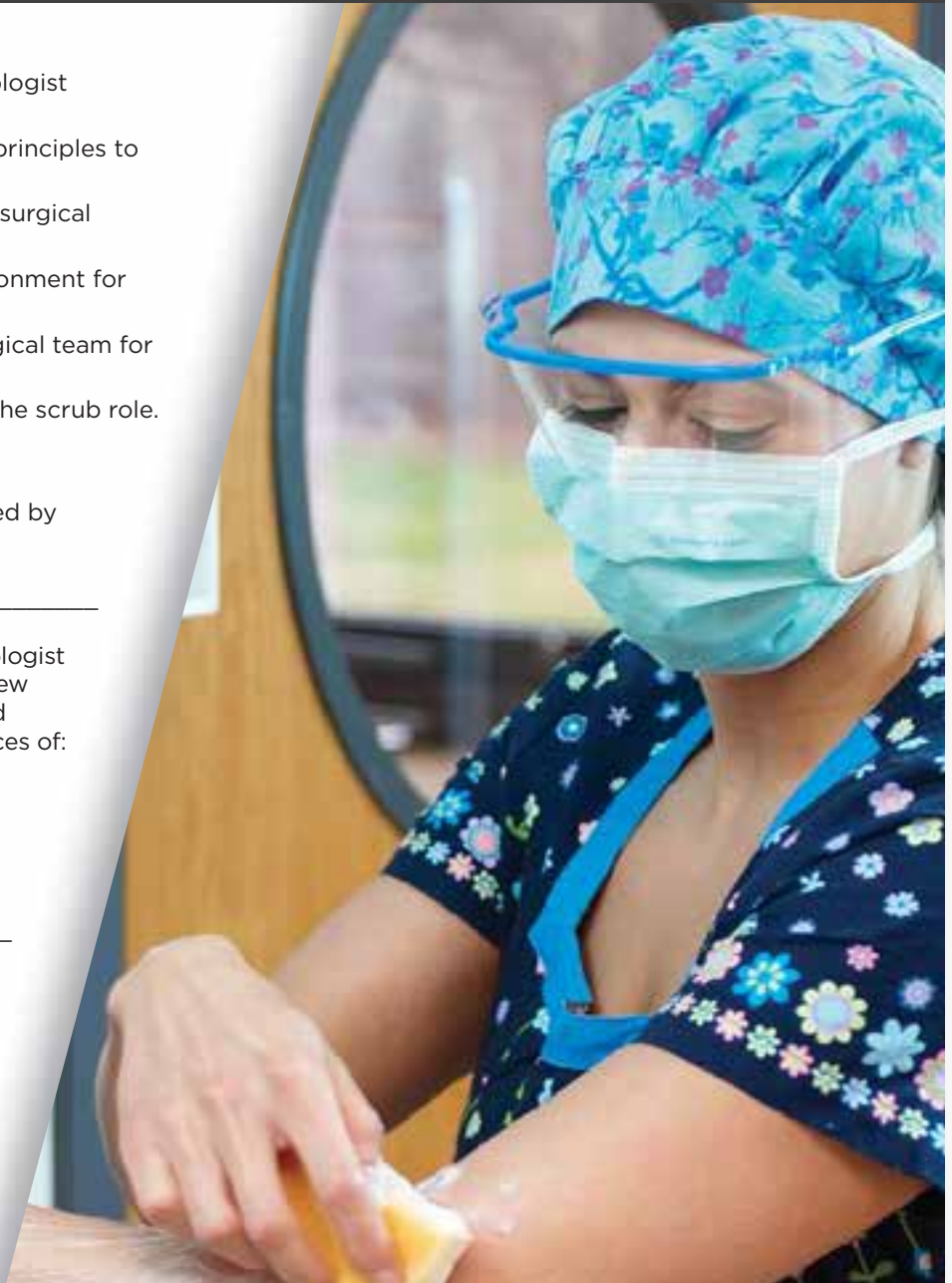
25400 US Highway 19 North, Suite 158  
Clearwater, FL 33763  
727.210.2350 • [www.caahep.org](http://www.caahep.org)

## ADDITIONAL ENTRY CRITERIA

To apply to the Surgical Technologist program, please submit the following documents to Mid-State Admissions:

Criminal Background Statement of Understanding and Release of Information form.

**Mid-State Technical College • Admissions**  
**500 32nd Street North**  
**Wisconsin Rapids, WI 54494**





## FUNCTIONAL ABILITIES

A list of specific physical, emotional, and mental tasks needed to function as a surgical technologist is available at [mstc.edu/programs/surgical-technologist](http://mstc.edu/programs/surgical-technologist). Contact the disability services coordinator in the Student Services Office to receive assistance.

## CLINICAL-RELATED REQUIREMENTS

Prior to placement at a clinical site, students need to pay for a criminal background check and provide documentation of required health work to a private vendor.

Students are responsible for ensuring all requirements remain current during program enrollment.

Clinical sites have the right to refuse a student's placement based on inadequate health records, pending charges, or conviction records. Students with a criminal history may not be able to complete clinical courses. Mid-State will make two attempts to place a student in an appropriate clinical experience. If Mid-State is unable to place the student after two attempts, the student will be withdrawn from the clinical course and will not be able to advance in the program.

## PROGRAM PROGRESSION AND COMPLETION

In order to maintain a passing status and progress in the program, students must:

- Repeat courses not completed with a grade of "C" or better prior to progressing in core courses or other courses with co- or prerequisites.

- Receive a grade of "C" or better in all courses required for graduation.

Please note that the ability to repeat courses is dependent upon availability in courses. Students may be required to apply for program re-entry in order to repeat courses within the program's instructional area.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.



This ACT program is 100% funded with a TAACCCT Round IV \$19.9 million grant awarded by the US Department of Labor's Employment and Training Administration. This program is an equal opportunity program, and auxiliary aids and services are available upon request to individuals with disabilities. This workforce product was funded by a grant awarded by the US Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the US Department of Labor. The US Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

### SAMPLE FULL TIME CURRICULUM OPTION

Term		7 credits
10501101	Medical Terminology	3
10806177	General Anatomy & Physiology	4
Term		16-18 credits
10501123	Student Success in Allied Health	1
31512327	ST: Introduction to Surgical Technology	4
31512328	ST: Fundamentals 1	4
31512329	ST: Fundamentals 2	2
31512330	ST: Clinical 1	3
10806197	Microbiology	4
	<b>-or-</b>	
31806311	Applied Microbiology	2
Term		15 credits
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication <b>-or-</b>	
10801196	Oral/Interpersonal Communication	3
31512331	ST: Surgical Procedures	4
31512332	ST: Clinical 2	4
31512334	ST: Clinical 3	4
<b>Total credits</b>		<b>38-40</b>

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

### SAMPLE PART-TIME CURRICULUM OPTION

Term		7 credits
10501101	Medical Terminology	3
10806177	General Anatomy & Physiology	4
Term		5-7 credits
10806197	Microbiology	4
	<b>-or-</b>	
31806311	Applied Microbiology	2
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication <b>-or-</b>	
10801196	Oral/Interpersonal Communication	3
Term		14 credits
10501123	Student Success in Allied Health	1
31512327	ST: Introduction to Surgical Technology	4
31512328	ST: Fundamentals 1	4
31512329	ST: Fundamentals 2	2
31512330	ST: Clinical 1	3
Term		12 credits
31512331	ST: Surgical Procedures	4
31512332	ST: Clinical 2	4
31512334	ST: Clinical 3	4
<b>Total credits</b>		<b>38-40</b>





## Applied Microbiology

**31806311..... 2 credits**

Directs the learner's understanding of aseptic techniques, antimicrobial methods, specimen collection, preparation of cultures, body defenses against microorganisms, the infectious process, and the transmission of disease-causing organisms. Students learn such techniques as standard and transmission based precautions, sanitization, disinfection, sterilization, preparation of cultures, and microscopic slide preparations with simple staining and gram staining.

*Prerequisites: Human Body in Health and Disease 10509102 or General Anatomy & Physiology 10806177*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## General Anatomy & Physiology

**10806177..... 4 credits**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare healthcare professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision making and professional communication with colleagues and patients.

*Prerequisite: Minimum Accuplacer score for Reading is 55 (Students scoring between 55-80 are encouraged to enroll in Introduction to College Reading) and one semester of college-level Biology or Chemistry with a "C" or better, or Human Body in Health and Disease 10509102 with a "C" or better or Emergency Medical Technician-Basic 10531168 with a "C" or better*

## Medical Terminology

**10501101..... 3 credits**

Students focus on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems as well as systemic and surgical terminology.

## Microbiology

**10806197..... 4 credits**

Examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms, and the medical impact of microbes in the environment, industry, and biotechnology are also addressed.

*Prerequisite: General Anatomy & Physiology 10806177, General Biology 10806114, or Plant Biology 10806184 with a grade of "C" or better*

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## ST: Clinical 1

**31512330 ..... 3 credits**

Apply basic surgical theories, principles, and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Surgical rotation case requirements are documented.

*Prerequisites: Introduction to Surgical Technology 31512327, Fundamentals 1 31512328, and CPR certification*

## ST: Clinical 2

**31512332..... 4 credits**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Surgical rotation case requirements are documented.

*Prerequisites: ST: Clinical 1 31512330, ST: Fundamentals 2 31512329; Corequisite: ST: Surgical Procedures 31512331*

## ST: Clinical 3

**31512334 ..... 4 credits**

Enhances the student's technical experience and employee skills. Serves as a transition between student and employee. Application of advanced skills for the entry-level surgical technologist in the clinical setting. Surgical rotation case requirements are documented.

*Prerequisite: ST: Clinical 2 31512332; Corequisite: ST: Surgical Procedures 31512331*

**ST: Fundamentals 1**

**31512328 ..... 4 credits**

Includes the basic clinical skills needed by the surgical technologist in the scrub role. Learners develop skills in disinfection, sterilization, identifying basic instrumentation, supplies, drains, catheters, dressings and sponges. Includes practice experience in creating a sterile field, draping, passing instruments and supplies, performing counts, and preparing supplies.

*Prerequisites: Admission to Surgical Technologist program 315121; Medical Terminology 10501101, Human Body in Health and Disease 10509102, or General Anatomy & Physiology 10806177*

**ST: Fundamentals 2**

**31512329 ..... 2 credits**

Builds upon and reinforces the role of the surgical technologist as a member of the operating room team. Discusses care of the patient before, during, and after surgery with emphasis on surgical wounds, wound closure materials, and vital signs. Includes lecture and lab experience.

*Prerequisites: Introduction to Surgical Technology 31512327, Fundamentals 1 31512328*

**ST: Introduction to Surgical Technology**

**31512327 ..... 4 credits**

Provides the foundational knowledge of infection control and asepsis. Legal and ethical issues encountered in the healthcare environment are explored. Simulated laboratory practice enables the learner to develop beginning technical skills.

*Prerequisites: Admission to Surgical Technologist program 315121; Medical Terminology 10501101, Human Body in Health and Disease 10509102, or General Anatomy & Physiology 10806177*

**ST: Surgical Procedures**

**31512331 ..... 4 credits**

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure.

*Prerequisites: ST: Fundamentals 2 31512329 and Clinical 1 31512330*

**Student Success in Allied Health**

**10501123 ..... 1 credit**

Learners explore success strategies for allied health programs, including time management, study skills, test preparation and test-taking skills, planning, and stress management.

*Prerequisite: Admission to Central Service 305341 or Surgical Technologist 315121 programs*

**Written Communication**

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

**NOTES:**

Horizontal lines for notes.





# SUSTAINABLE HEATING AND COOLING TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-483-1

our graduates  
INDEMAND

2016/2017



MID-STATE  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## SUSTAINABLE HEATING AND COOLING TECHNICIAN



Graduates of the Sustainable Heating and Cooling Technician program have the skills needed to design, install, operate, and maintain heating, ventilation, and air conditioning/refrigeration (HVAC/R) systems. Students in the program gain hands-on experience in the installation of both traditional and cutting-edge systems in both residential and commercial applications. The program places a strong emphasis on the most modern and efficient techniques, such as solar thermal, geothermal, biomass, radiant, and low temperature heat delivery systems and high-efficiency furnaces and boilers.

**Associate in Applied Science**

**Total Credits: 68-70**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Controls Technician; Geothermal Installation, Maintenance, and Service Technician; Heat Load Estimator; Heating and Air Conditioning Mechanics and Installers; HVAC/R Installation, Maintenance, and Service Technician; Pre-Apprentice/Laborer; Renewable Energy Site Assessor; Solar Thermal Installation, Maintenance, and Service Technician; and Technical Sales Representative

In general, there is growing demand for these careers. Example: Heating and Air Conditioning Mechanics and Installers career has grown by 4% over the last two years and is expected to grow by 18% over the next 10 years. Currently 2,460 Heating and Air Conditioning Mechanics and Installers are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

UW-River Falls,  
BS Sustainable Management

UW-Stout,  
BS Sustainable Management

For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Renewable Energy Specialist and Solar Electric Technician

### RELATED APPRENTICESHIPS

Steamfitting and Steamfitting Service

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## NOTES:

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## PROGRAM OUTCOMES

Employers will expect you, as a Sustainable Heating and Cooling Technician graduate, to be able to:

- Work safely with HVAC/R, solar thermal, geothermal, and biomass systems.
- Install solar thermal collectors.
- Install geothermal heat pumps.
- Install boilers and furnaces.
- Install piping, pipe insulation, and pipe supports.
- Install ductwork and ventilation components.
- Install water heaters and solar storage tanks.
- Install electrical control systems.
- Analyze heating and cooling system performance.
- Select and adapt an HVAC/R system design.
- Configure heating and cooling system performance for optimum efficiency.
- Conduct a renewable energy site assessment.
- Perform a system checkout and inspection.
- Estimate a heating and cooling load.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.





## SAMPLE FULL TIME CURRICULUM OPTION

Term		16-18 credits
10103106	Microsoft Office-Introduction	3
10480101	Intro to Renewable Energy Systems	4
10483120	Heating & Plumbing Fundamentals	2
10483121	Piping Fundamentals	2
10605105	Electrical Circuits I	3
	<b>-or-</b>	
10605108	Intro to Electronics	2
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3

Term		18 credits
10462114	Metals & Machining <b>-or-</b>	
10462116	Metal Fabrication	3
10482107	Construction Fundamentals	2
10483110	Solar Heating System Design & Installation 1	3
10483122	Ventilation, Cooling, & Refrigeration Fundamentals	2
10623106	Intro to AutoCAD	2
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

Term		18 credits
10481110	Building Science, Performance, & Evaluation	3
10482101	Solar Site Assessment & Evaluation	3
10483111	Solar Heating System Design & Installation 2	3
10483130	HVACR Circuits & Controls	3
10809166	Intro to Ethics: Theory & Application	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

Term		16 credits
10483115	Heat Load Estimation & Modeling	3
10483131	HVACR Installation & Service	2
10483161	Advanced Renewable Thermal Systems	2
10605117	Programmable Logic Controllers-Beginning	3
10806112	Principles of Sustainability	3
10809122	Intro to American Government	3

**Total credits 68-70**

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## SAMPLE PART-TIME CURRICULUM OPTION

Term		11-12 credits
10480101	Intro to Renewable Energy Systems	4
10483120	Heating & Plumbing Fundamentals	2
10483121	Piping Fundamentals	2
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
	<b>-or-</b>	
10804189	Introductory Statistics	3

Term		12 credits
10462114	Metals & Machining <b>-or-</b>	
10462116	Metal Fabrication	3
10482107	Construction Fundamentals	2
10623106	Intro to AutoCAD	2
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10483122	Ventilation, Cooling, & Refrigeration Fundamentals	2

Term		11-12 credits
10103106	Microsoft Office-Introduction	3
10481110	Building Science, Performance, & Evaluation	3
10605105	Electrical Circuits I	3
	<b>-or-</b>	
10605108	Intro to Electronics	2
10809166	Intro to Ethics: Theory & Application	3

Term		12 credits
10483110	Solar Heating System Design & Installation 1	3
10483115	Heat Load Estimation & Modeling	3
10809122	Intro to American Government	3
10801196	Oral/Interpersonal Communication <b>-or-</b>	
10801198	Speech	3

Term		12 credits
10482101	Solar Site Assessment & Evaluation	3
10483111	Solar Heating System Design & Installation 2	3
10483130	HVACR Circuits & Controls	3
10809172	Introduction to Diversity Studies <b>-or-</b>	
10809196	Intro to Sociology	3

Term		10 credits
10483131	HVACR Installation & Service	2
10483161	Advanced Renewable Thermal Systems	2
10605117	Programmable Logic Controllers-Beginning	3
10806112	Principles of Sustainability	3

**Total credits 68-70**





generation, capacitors, inductors, and transformers and their applications in electronic circuits. Approximately 50% of the course is spent in the laboratory applying the principles and theory presented in the classroom.  
*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65; Corequisite: Intermediate Algebra with Applications 10804118*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Heat Load Estimation & Modeling

**10483115..... 3 credits**

Teaches the student how to use "Manual J" from ACCA. The student will develop the skills to do residential heating and cooling heat loads. Students will calculate heat loss and also losses or gains due to infiltration, sun loads, etc. The student will do calculations on actual buildings using ACCA industry standard form J-1. The student will also estimate energy upgrades such as insulation, window improvements, and calculate payback and fuel savings.

## Heating & Plumbing Fundamentals

**10483120..... 2 credits**

Heating system topics include introduction to heat principles, temperature measurement, fuels and other sources of heat, combustion, basic heating systems, basic furnace design, gas furnace design and operation, venting of furnaces, chimney or exhaust gases, and system controls. Plumbing system topics include fluid dynamics (pressure, resistance, and flow), basic system design, water heating, and operation of standard plumbing fixtures.

## HVACR Circuits & Controls

**10483130..... 3 credits**

Topics in this course include an introduction to AC/DC electricity and the physical laws that apply to electronic circuits. Direct Current (DC) covers basic definitions of voltage, current, and resistance and analysis of series and parallel resistive circuits. Alternating Current (AC) includes an introduction to AC generation, capacitors, inductors, and transformers and their applications in electronic circuits. Additional topics include control circuits, symbols, diagrams, protection devices, relays, thermostats, single-phase motors, control components, and troubleshooting ACR system wiring diagrams.

*Prerequisite: Electrical Circuits I 10605105 or Intro to Electronics 10605108*

## HVACR Installation & Service

**10483131..... 2 credits**

Addresses residential and light commercial heating, cooling, and refrigeration systems. Emphasis is placed on the diversity of heating and cooling systems and how

they operate. Students will participate in the installation of a variety of HVACR systems and will troubleshoot and service systems.

*Prerequisite: Heating and Plumbing Fundamentals 10483120, Ventilation, Cooling, and Refrigeration Fundamentals 10483122*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to American Government

**10809122..... 3 credits**

Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties, and public opinion in the political process. Also explores the role of state and national government in our federal system. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Electronics

**10605108 ..... 2 credits**

This course presents a survey of electricity and electronics, which includes lab activities and is designed for persons wishing to learn some of the basics of electricity and electronics. It is an excellent refresher course to get back into electronics or improve a skills list. The course is intended for persons where electronics has become a part of their regular occupation and/or a need exists to identify various electronic components and perform basic tests using test equipment, such as multimeters. The course covers concepts and applications of DC and AC electricity and some semiconductor components using basic math skills.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Intro to Renewable Energy Systems

**10480101..... 4 credits**

In this course, students investigate the need for renewable energy systems and emerging careers in renewable energy. Students examine the basic design, function, cost, and other considerations associated with solar photovoltaic, solar thermal, wind, geothermal, and biomass renewable energy systems. Students will also explore energy efficiency and conservation methods.

## Intro to Sociology

**10809196 ..... 3 credits**

Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions of family, politics, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, and social organization. A student scoring between 55-80 on Accuplacer Reading Comprehension, or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in Introduction to College Reading and/or Introduction to College Writing, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introduction to Diversity Studies

**10809172..... 3 credits**

Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Introductory Statistics

**10804189 ..... 3 credits**

Students display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate

parameters, and test hypotheses. They draw inferences about relationships, including ANOVA. Algebra knowledge and foundational skills in mathematics are important for success in this course.

*Prerequisite: Accuplacer Algebra score of 45 or greater or ACT math score of 19 or greater or Pre-Algebra 10834109 with a grade of "C" or better or College Math 10804107 with a "C" or better (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Metal Fabrication

**10462116 ..... 3 credits**

An introduction to structural steel and plate fabrication, sheet metal fabrication, and basic electric arc and oxyacetylene welding. Fabrication techniques, metal selection, layout, cutting, bending, drilling, threading, and joining are presented. Information is presented to the student, followed by lab activities to provide a hands-on experience. Emphasis is placed on developing an understanding of the tools, techniques, safe work habits, and application of metal fabrication skills.

*Prerequisite: Admission to Automotive Technician 324042, Automotive Maintenance Technician 314043, Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Machine Tool Technician 324201, Solar Electric Technician 104822, or Sustainable Heating & Cooling Technician 104831 programs*

## Metals & Machining

**10462114 ..... 3 credits**

A two-part class that introduces the basics of metal science and machine shop practice. Metallurgical concepts of steel and iron production, properties of metals, testing of metals, carbon and its role, heat-treating, steel designations, and cast iron and non-ferrous metals are introduced. Students participate in lab exercises examining the properties of metal and are introduced to machine shop safety practices, measurement, and machining through the use of hand tools, drilling machines, saws, and engine lathes. Classroom includes presentation and hands-on shop experiences.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Solar Electric Technician 104822, Sustainable Heating & Cooling Technician 104831, Machine Tool Technician 324201 programs*

## Microsoft Office-Introduction

**10103106 ..... 3 credits**

Develops introductory skills in the Microsoft Office Suite (Word, Excel, Access, PowerPoint, and Outlook) while reinforcing students' knowledge of computer concepts, Windows Explorer, and Internet usage. Students should possess basic keyboarding, mouse, and Windows 7 or Windows 8 skills. Students may develop these skills in the Learning Commons while concurrently enrolled in this course.

## Oral/Interpersonal Communication

**10801196 ..... 3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the

Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60 or equivalent*

## Piping Fundamentals

**10483121..... 2 credits**

This course presents the theory of basic methods of plumbing and piping installation practices. Laboratory activities provide students with basic pipe joining processes associated with the plumbing field.

## Principles of Sustainability

**10806112 ..... 3 credits**

Prepares the student to develop sustainable literacy; analyze the interconnections among the physical and biological sciences and environmental systems; summarize the effects of sustainability on health and well-being; analyze connections among social, economic, and environmental systems; employ energy conservation strategies to reduce the use of fossil fuels; investigate alternative energy options; evaluate options to current waste disposal and recycling in the US; and analyze approaches used by your community to promote and implement sustainability.

## Programmable Logic Controllers-Beginning

**10605117 ..... 3 credits**

An overview of programmable logic controllers (PLCs) that provides a foundation of knowledge of the programming techniques, operation, and maintenance of PLCs used in typical industrial automation.

*Prerequisite: Minimum Accuplacer scores – Reading 55, Sentence Skills 60, Arithmetic 65*

## Solar Heating System Design & Installation 1

**10483110 ..... 3 credits**

Involves students in the installation and design of a solar hot water system. Topics include safety, system design and layout, component selection, mounting collectors, plumbing and insulating copper pipe, and installing a storage tank, heat exchanger, circulation pump, and other system components.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Solar Heating System Design & Installation 2

**10483111 ..... 3 credits**

This course is a continuation of Solar Water Heating System Installation 1 and will focus on system integration and advanced installations. It addresses solar space heating, solar pool heating and solar cooling systems.

*Prerequisite: Solar Heating System Design & Installation 1 10483110*

## Solar Site Assessment & Evaluation

**10482101 ..... 3 credits**

Students learn the steps to perform solar electric and solar water heating site assessments of a home or business. Class content covers solar window determination, load analysis, site selection, system types, system sizing and efficiency measures, and energy output estimation. The course also covers an overview of existing renewable electric incentive programs.

*Prerequisite: Intro to Renewable Energy Systems 10480101*

## Speech

**10801198 ..... 3 credits**

Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of this course. If a student earns below the minimum Accuplacer score in each category (Reading 80, Sentence Skills 85), he/she is eligible to take Oral/Interpersonal Communication, provided the Accuplacer score is 55 (Reading Comprehension) and 60 (Sentence Skills) or higher or he/she completes Intro to College Writing and/or Intro to College Reading with a "C" or better as a prerequisite to this course.

*Prerequisite: Minimum Accuplacer scores – Reading 80, Sentence Skills 85 or completion of Intro to College Writing and/or Intro to College Reading with a "C" or better or equivalent*

## Ventilation, Cooling, & Refrigeration Fundamentals

**10483122 ..... 2 credits**

Topics covered include air conditioning principles and terms, physical principles of air movement, air filtering and humidity, and methods of conditioning air for comfort and health. In addition, the proper use of psychrometers, dry bulb thermometers, hygrometers, and the reading and interpretation of psychrometric charts and scales are covered, along with ASHRAE and BPI ventilation standards for residential units. Descriptions of new products, and maintenance and operations for residential and commercial cooling systems are also covered, emphasizing energy conservation and efficiency options for new and existing equipment.

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

### ADAMS COUNTY CENTER

401 North Main  
Adams, WI 53910  
608.339.3379

### MARSHFIELD CAMPUS

2600 West 5th Street  
Marshfield, WI 54449  
715.387.2538

### STEVENS POINT CAMPUS

1001 Centerpoint Drive  
Stevens Point, WI 54481  
715.344.3063

### WISCONSIN RAPIDS CAMPUS

500 32nd Street North  
Wisconsin Rapids, WI 54494  
715.422.5300



# URBAN FORESTRY TECHNICIAN

Associate in Applied Science (AAS)

Program Code: 10-001-5

our graduates  
INDEMAND

2016/2017



**MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



# urban forestry technician career pathway

## URBAN FORESTRY TECHNICIAN



Mid-State's Urban Forestry Technician graduates enter the workforce with real-world knowledge and skills. Our students learn the fundamentals of pruning, plant health care, tree planting and maintenance, plant identification, tree risk assessment, and landscape installation and management. Our unique aerial component gives our graduates experience working safely high up in the trees. You'll learn rope and saddle climbing, work with aerial lifts, and operate brush clippers and other industry equipment.

**Associate in Applied Science**

**Total Credits: 68-69**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Arborist in commercial, utility, and municipal/government tree care programs; Golf Course Arborist; Landscape Contractor/Grounds Technician; Nursery Technician; Plant Healthcare Technician; Tree Trimmer and Pruner; and Vegetation Management

In general, there is growing demand for these careers. Example: Tree Trimmer and Pruner career has grown by 7% over the last two years and is expected to grow by 21% over the next 10 years. Currently 297 Tree Trimmers and Pruners are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

### bachelor's degree opportunities

UW-River Falls, BS Sustainable Management  
UW-Stevens Point, BS Forestry  
For more information and additional opportunities, go to [mstc.edu/transfer](http://mstc.edu/transfer)

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED APPRENTICESHIP

Arborist

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## ARBORIST TECHNICIAN



In response to urban forestry industry needs for trained employees, Mid-State offers an advanced certificate for arborists. This certificate enables individuals presently employed on the technical level in the field to advance their careers.

**Certificate**

**Total Credits: 12**

## PROGRAM OUTCOMES

Employers will expect you, as an Urban Forestry Technician graduate, to be able to:

- Explain proper tree care to clients.
- Identify and diagnose tree diseases and pests.
- Identify trees by common and scientific name.
- Plant and maintain commercial and residential landscapes.
- Properly prune, plant, maintain, and remove trees and shrubs.

## TOOL AND EQUIPMENT KIT

While the college provides much of the equipment you'll be working with in the hands-on training, there are some items each student is personally responsible for.

Mid-State works with industry vendors to get discount prices on professional-grade tools. The equipment kit will cost approximately \$250 - \$300. Students accepted into the program will get specific details about purchasing the equipment.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.





## SAMPLE FULL TIME CURRICULUM OPTION

Term		17-18 credits
10001118	Landscape Plant Identification	2
10001124	Fundamentals of Aerial Tree Work	2
10001133	Chain Saw Safety and Operation	2
10001173	Urban Tree Maintenance	2
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
10806184	Plant Biology	3
<b>Term</b>		<b>16 credits</b>
10001102	Plant Health Care Applicator	2
10001110	Tree Biology	2
10001111	Intro to Horticulture	3
10001121	Tree Crew Practicum 1 <b>-or-</b>	
10001125	Aerial Tree Work Practicum 1	2
10001148	People, Resources, and Sustainability	3
10806134	General Chemistry	4
<b>Term</b>		<b>18 credits</b>
10001104	Applied Landscape Architecture	2
10001105	Dendrology and Silvics	3
10001138	Landscape & Turf Management I	2
10001199	Intro to Fisheries, Forestry, & Wildlife Resources	3
10801196	Oral/Interpersonal Communication	3
10809166	Intro to Ethics: Theory & Application Elective	3 2
<b>Term</b>		<b>17 credits</b>
10001103	Applied Urban Forestry	2
10001113	Ornamental Plant Health Care	3
10001139	Landscape & Turf Management II	2
10001149	Ecological Basis for Natural Resource Management	3
10001198	Intro to Soil & Water Resources	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology Elective	3 1
<b>Total credits 68-69</b>		

Please Note:

- This curriculum sequence is only for student planning. Actual student schedules will vary depending on course availability.
- Program completion time may vary based on student scheduling and course availability. For details, go to [mstc.edu/classfinder](http://mstc.edu/classfinder).

## NOTES:

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## SAMPLE PART-TIME CURRICULUM OPTION

Term		11-12 credits
10001118	Landscape Plant Identification	2
10001124	Fundamentals of Aerial Tree Work	2
10001133	Chain Saw Safety and Operation	2
10001173	Urban Tree Maintenance	2
10804107	College Mathematics	3
	<b>-or-</b>	
10804118	Intermediate Algebra with Applications	4
<b>Term</b>		<b>13 credits</b>
10001102	Plant Health Care Applicator	2
10001110	Tree Biology	2
10001111	Intro to Horticulture	3
10001121	Tree Crew Practicum 1 <b>-or-</b>	
10001125	Aerial Tree Work Practicum 1	2
10806134	General Chemistry	4
<b>Term</b>		<b>11 credits</b>
10001138	Landscape & Turf Management I	2
10806184	Plant Biology	3
10001199	Intro to Fisheries, Forestry, & Wildlife Resources	3
10801196	Oral/Interpersonal Communication	3
<b>Term</b>		<b>10 credits</b>
10001103	Applied Urban Forestry	2
10001139	Landscape & Turf Management II	2
10001149	Ecological Basis for Natural Resource Management	3
10801136	English Composition 1 <b>-or-</b>	
10801195	Written Communication	3
<b>Term</b>		<b>11 credits</b>
10001104	Applied Landscape Architecture	2
10001105	Dendrology and Silvics	3
10809166	Intro to Ethics: Theory & Application Elective	3 1
	Elective	2
<b>Term</b>		<b>12 credits</b>
10001148	People, Resources, and Sustainability	3
10001113	Ornamental Plant Health Care	3
10001198	Intro to Soil & Water Resources	3
10809188	Developmental Psychology <b>-or-</b>	
10809198	Intro to Psychology	3
<b>Total credits 68-69</b>		



# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Aerial Tree Work Practicum 1

**10001125** ..... **2 credits**

This course emphasizes implementation of the basic requirements and techniques employed by arborists who work aloft. Students perform independent study activities and participate as members of a working crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, aerial rescue, ground work, and worksite management.

*Prerequisites: Fundamentals of Aerial Tree Work 10001124, Urban Tree Maintenance 10001173, and Chainsaw Safety and Operation 10001133*

### Applied Landscape Architecture

**10001104**..... **2 credits**

Introduces the student to the landscape design process, a structured approach for shaping outdoor settings for human use and enjoyment. Develop skills in graphic techniques to communicate your landscaping ideas in plan drawings and sketches. Gain experience in presenting your ideas before large and small groups.

*Prerequisites: Admission to Urban Forestry Technician program 100015 and Landscape Plant Identification 10001118*

### Applied Urban Forestry

**10001103**..... **2 credits**

Students gain familiarity with several techniques, tools, and pieces of equipment used in the management of trees and tree populations. Also serves to create an awareness of urban forestry careers as applied to commercial, municipal, and utility employers.

*Prerequisites: Urban Tree Maintenance 10001173 and Tree Biology 10001110*

### Chain Saw Safety and Operation

**10001133** ..... **2 credits**

Familiarizes students with common chainsaw practices

within the urban forestry industry. Personal protective equipment, safe operation, routine maintenance, and common cutting techniques in accordance with current industry standards is emphasized. Students operate chainsaws in a variety of field exercises that simulate tree removal operations. Additional exposure to relevant pieces of industry equipment is included.

### College Mathematics

**10804107** ..... **3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

### Dendrology and Silvics

**10001105**..... **3 credits**

This course provides the student with an understanding of how trees interact with their environment and with

one another, at different spatial and temporal scales. This course builds on concepts from botany and ecology with an emphasis on woody plant systematics and silvics. Tree identification is a major component of this course.

*Prerequisites: Landscape Plant Identification 10001118 and Plant Biology 10806184*

## Developmental Psychology

**10809188..... 3 credits**

The study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills enable students to gain an increased knowledge and understanding of themselves and others. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Ecological Basis for Natural Resource Management 10001149..... 3 credits

This course introduces the basic principles of ecology and their application to management of natural resources. The scientific method and interactions between and among species are examined. Lab exercises are designed to give hands-on experience with measurement and data collection, preparation of technical reports, use of library resources, use of computer models, and development of critical thinking skills.

*Prerequisite: Plant Biology 10806184*

## English Composition 1

**10801136 ..... 3 credits**

Designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students analyze audience and purpose, use elements of research, and format documents using standard guidelines. Individuals develop critical-reading skills through analysis of various written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

## Fundamentals of Aerial Tree Work

**10001124 ..... 2 credits**

Introduces students to the basic safety requirements, equipment, and techniques employed by arborists who work aloft. Topics include applied rope-and-saddle and aerial lift usage, electrical hazard recognition, and common knots used in the industry.

*Corequisites: Urban Tree Maintenance 10001173 and Chain Saw Safety and Operation 10001133*

## General Chemistry

**10806134 ..... 4 credits**

Covers the fundamentals of chemistry. Topics include the metric system; problem solving; periodic relationships; chemical reactions; chemical equilibrium; properties of water; acids, bases, and salts; and gas laws.

*Prerequisite: College Math 10804107 with a "C" or better or Intermediate Algebra with Applications 10804118 with a "C" or better or Accuplacer Algebra score of 57 or greater*

## Intermediate Algebra with Applications

**10804118 ..... 4 credits**

This course offers algebra content with applications. Topics include properties of real numbers; order of operations; algebraic solution for linear equations and inequalities; operations with polynomial and rational expressions, operations with rational exponents and radicals; and algebra of inverse, logarithmic, and exponential functions.

*Prerequisite: Pre-Algebra 10834109 with a grade of "C" or better, Accuplacer Arithmetic score of 110, Accuplacer Arithmetic score of 90 and Accuplacer Algebra score of 30 (A student scoring a "C" or lower, should enroll in the Math Lab supplementary instruction with the next level math class.)*

## Intro to Ethics: Theory & Application

**10809166 ..... 3 credits**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives are used to analyze and compare relevant issues. Students critically evaluate individual, social, and/or professional standards of behavior, and apply a systematic decision-making process to these situations. A student scoring between 55-80 on their Accuplacer Reading Comprehension or 60-80 on Accuplacer Sentence Skills is recommended to co-enroll in the Introduction to College Reading course and/or Introduction to College Writing course, respectively.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Fisheries, Forestry, & Wildlife Resources

**10001199 ..... 3 credits**

Integrated introduction to principles and practices of fisheries, forestry, and wildlife management, including production of goods and services while maintaining ecosystem integrity and functions. Emphasis on contemporary issues.

## Intro to Horticulture

**10001111 ..... 3 credits**

This course provides an overview of the science and profession of horticulture. Its role and importance throughout history, current trends, and careers are covered. Particular attention is given to horticultural crops, their use and interrelationships among the environment, plant growth, and plant development.

## Intro to Psychology

**10809198 ..... 3 credits**

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. A student scoring between 55-80 on their Accuplacer Reading comprehension exam is recommended to co-enroll in the Introduction to College Reading course.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Intro to Soil & Water Resources

**10001198** ..... **3 credits**

Introduces the student to integrated concepts of soil and water resources at the landscape level. Physical, chemical, and biological interactions relating to watershed processes and response to land use and management.

*Prerequisites: General Chemistry 10806134 and Plant Biology 10806184*

## Landscape & Turf Management I

**10001138** ..... **2 credits**

Students learn all aspects of landscape and turf management during the fall season. Emphasis is on planning and installing living and non-living landscape materials and turf. Estimating and time management are also key components of this course.

*Prerequisites: Landscape Plant Identification 10001118 and Urban Tree Maintenance 10001173*

## Landscape & Turf Management II

**10001139** ..... **2 credits**

Students learn all aspects of landscape and turf management during the spring season. Emphasis is on planning and installing of living and non-living landscape materials and turf. Estimating and time management are also key components of this course.

*Prerequisites: Landscape Plant Identification 10001118 and Urban Tree Maintenance 10001173*

## Landscape Plant Identification

**10001118** ..... **2 credits**

This course introduces students to woody trees/shrubs and herbaceous plants commonly used in residential and commercial landscapes in Wisconsin. The three plant groups covered in this course are woody trees/shrubs, herbaceous perennial plants, and herbaceous annual plants. Identification, installation, and maintenance are covered for each plant group.

## Oral/Interpersonal Communication

**10801196** ..... **3 credits**

Focuses on developing speaking, verbal and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. A student scoring between 55-80 on the Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam is recommended to co-enroll in the Introduction to College Reading and/or Intro to College Writing courses.

*Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent*

## Ornamental Plant Health Care

**10001113** ..... **3 credits**

Classification and identification of important ornamental plant insects, diseases, and abiotic agents is presented, emphasizing their modes of plant damage. Diagnostics, damage assessment, sample preparation, and control strategies are introduced.

*Prerequisites: Landscape Plant Identification 10001118 and Plant Health Care Applicator 10001102*

## People, Resources, and Sustainability

**10001148** ..... **3 credits**

This course explores the relationship between the human population and natural resources over time, and the effect this relationship has on the biosphere. Global resources,

environmental concerns, and the human dimensions of resource management are explored from biological and socioeconomic perspectives.

## Plant Biology

**10806184** ..... **3 credits**

This lecture/laboratory course provides students with an in-depth study of the plant kingdom. The content includes, but is not limited to, plant cell anatomy and physiology, plant genetics, plant classification, plant anatomy and physiology, plant responses, plant life cycles, and ecology. A survey of viruses, prokaryotes, protista, and fungi as they pertain to plants is presented.

## Plant Health Care Applicator

**10001102** ..... **2 credits**

The focus of this class is training to successfully pass the Wisconsin Department of Agriculture and Consumer Protection's pesticide applicator exam (which will be proctored in this class). Additionally, students are familiarized with chemical handling, mixing, calibration, and application via field exercises.

## Tree Biology

**10001110** ..... **2 credits**

An overview of the tree system with an emphasis on growth and development, compartmentalization of wounds, and how the tree adapts to the urban environment.

*Prerequisites: Admission to Urban Forestry Technician program 100015 and Introduction To Plant Biology 10001147*

## Tree Crew Practicum 1

**10001121** ..... **2 credits**

Emphasizes implementation of the basic requirements and techniques employed by arborists who work on tree crews. Students will perform ground-related activities with limited opportunities to work aloft, and participate as members of a working crew, gaining introductory experience in tree pruning, rigging, hardware installation, electrical hazard awareness, ground work, and worksite management. Emphasis will be placed on equipment operation and ground crew skills expected of plant health care technicians working in support of tree care crews.

*Prerequisites: Fundamentals of Aerial Tree Work 10001124, Urban Tree Maintenance 10001173, Chainsaw Safety & Operation 10001133*

## Urban Tree Maintenance

**10001173** ..... **2 credits**

The art and science of tree pruning are the primary objectives of this course. Young tree training and mature tree maintenance are practiced. Proper pruning cuts and techniques specified in the ANSI A300 Pruning Standard are taught throughout this class.

## Written Communication

**10801195** ..... **3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*







# WELDING

Technical Diploma

Program Code: 31-442-1

our graduates  
INDEMAND

2016/2017

 **MID-STATE**  
TECHNICAL COLLEGE

[mstc.edu](http://mstc.edu)



## WELDING



The Welding program at Mid-State prepares graduates for a wide variety of welding jobs in production, maintenance, construction, manufacturing, and servicing industries. You will receive hands-on instruction and practice in a number of welding processes, including shielded metal arc, gas tungsten arc, gas metal arc, submerged arc, oxyacetylene cutting and brazing, plasma arc, and arc-air cutting. You will also become familiar with various types of metals, fabrication of metals, and welding under industry codes. Successful completion of this program prepares you to take welding certification tests.

**bachelor's degree opportunities**

For more information, visit [mstc.edu/transfer](http://mstc.edu/transfer)

**Technical Diploma**

**Total Credits: 33-35**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Combination and Construction Welder, Counterperson in Distributorship, Fabricator Maintenance Welder, MIG Welder, Pipeline Welder, Production Line Welder, Shipyard Welder, Structural Welder, TIG Welder, Welder, Fitter, and Welding Repair

In general, there is growing demand for these careers. Example: Welders, Cutters, and Welder Fitters career has grown by 2% over the last two years and is expected to grow by 10% over the next 10 years. Currently 6,311 Welders, Cutters, and Welder Fitters are employed in the region (EMSI data within 100-mile radius of Wisconsin Rapids).

## STAINLESS STEEL WELDING



Mid-State's Stainless Steel Welding program prepares students for entry-level employment as a stainless steel welder in production, construction, manufacturing, and servicing industries. Experienced instructors will teach you basic TIG (tungsten inert gas) welding of stainless steel as well as fabrication, blueprint reading, and more. Instruction will combine lecture with hands-on practice, giving you the confidence you need to start your career in this rewarding field.

Graduates of the Stainless Steel Welding technical diploma may advance into the Welding program.

**Technical Diploma**

**Total Credits: 7**

**Salary information:**  
[mstc.edu/programsalaries](http://mstc.edu/programsalaries)

**Careers:** Stainless Steel TIG Welder

## TRANSFER TO MID-STATE

You may be eligible to receive credit for prior knowledge and skills gained. This includes transfer credit for approved coursework from high schools and post-secondary institutions, credit for approved military or occupational experience/training, and credit by examination. Go to [mstc.edu/transfer](http://mstc.edu/transfer) for more information.

approved transfer college credit

dual credit

credit by examination

credit for military or work experience

## OTHER OPTIONS

### RELATED PROGRAMS

Industrial Mechanical Technician and Machine Tool Technician

### RELATED APPRENTICESHIPS

Ironworker and Steamfitting

For estimated tuition and fees, visit [mstc.edu/programcosts](http://mstc.edu/programcosts).

## PROGRAM OUTCOMES

Employers will expect you, as a Welding graduate, to be able to:

- Demonstrate appropriate safe work habits when operating oxyfuel and electric welding equipment.
- Use terminology associated with welding to communicate effectively with coworkers, supervisors, customers, inspectors, engineers, and vendors.
- Perform welding operations using the appropriate process on various metals in a variety of situations.
- Interpret blueprint and welding symbols to fabricate components.
- Analyze given procedures to simulate state weld tests.
- Display manipulative skills with various welding processes to ensure adequate weld integrity and appearance.
- Manufacture and repair parts using thermal cutting processes to include oxy-fuel, air carbon arc, and plasma cutting equipment.
- Setup and operate fabrication equipment, including press brakes, saws, iron workers, punch operations, and tube bending.
- Create a plan and construct a product based on an analyzed need within a team environment.

## PROTECTIVE CLOTHING

Students are required to provide their own protective clothing and equipment. Details of the requirements and where they may be purchased are provided by the program instructor at the beginning of each semester.

## STUDENT HANDBOOK

Visit [mstc.edu/studenthandbook](http://mstc.edu/studenthandbook) to view Mid-State's student handbook, which contains information about admissions, enrollment, appeals processes, services for people with disabilities, financial aid, graduation, privacy, Mid-State's Student Code of Conduct, and technology.







# academic career plan

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

Term/Year	Credits

## course descriptions

### Advanced GTAW (TIG)

**10442103 ..... 2 credits**

This course involves complete penetration stainless steel pipe welds in the 5G and 6G positions.

*Corequisite: Intermediate GTAW (TIG) 10442102*

### Basic GTAW (TIG)

**10442101 ..... 2 credits**

This course is an introduction to the gas tungsten arc welding (GTAW) process commonly known as TIG. The necessary safety and care of equipment and supplies are learned. The student develops skills with the common production welding joints and materials.

*Prerequisites: Admission to Welding 314421 or Stainless Steel Welding 304427 programs; Corequisite: Intro to Welding 10442100*

### Career Development

**10102130 ..... 3 credits**

This course is designed to prepare learners for the process of gaining employment. Learners assess their personal background; practice finding career opportunities through the job search process; develop a cover letter, resume, thank you letter, and complete a job application; participate in a mock interview; and demonstrate how to deal with interpersonal situations found in a work environment.

*Note: To enroll, you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

### College Mathematics

**10804107 ..... 3 credits**

This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between US and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

*Prerequisite: Accuplacer Math score of 65 and Accuplacer Algebra score of 30 or higher or Pre-Algebra 10834109 with a grade of "C" or better*

## Employment Strategies

**10801199 ..... 3 credits**

Designed to assist students in securing employment. This communication-based course helps develop an awareness of personal and academic skills as they relate to the job-seeking process. Topics of study include personal and skill assessments, research of employment sources, completion of application forms, formation of professional resumes, composition of various business letters, interviewing skills, and job offer evaluation.

*Note: To enroll you must have completed 50% of technical program credits or receive department approval. See program advisor, program faculty, student success counselor, or department dean/associate dean to register.*

## Gas Metal Arc Welding (GMAW)

**10442110 ..... 3 credits**

In this course, you develop skills of welding on steel sheet metals and plates using the GMAW process. Emphasis is placed on axial spray, pulse spray, and short circuit mode of transfer. Upon completion of this course, the student is able to weld in several positions, read basic weld symbols, and have an understanding of written welding procedures.

*Corequisite: Intro to Welding 10442100*

## Industrial Safety

**10462107 ..... 2 credits**

This course provides an overview of safety, health, and environmental issues as they relate to industry. Various types of hazards and the controls and equipment used to reduce risks from hazards are discussed. Focus is placed on understanding the Occupational Safety and Health Administration (OSHA) and its function as well as other regulatory and enforcement agencies associated with industrial safety, health, and the environment.

## Intermediate GMAW/FCAW

**10442111 ..... 3 credits**

In this course, students build their skills with the GMAW process and perform welds on stainless steel and aluminum sheet metal and plate. The student is able to differentiate, select proper electrodes and shielding gases, and properly adjust parameters. Emphasis is placed on axial spray, pulse spray, and short circuit mode of transfer depending on base metal. Students learn about and practice the FCAW process, including types of electrodes, fluxes, and shielding gases used in these processes. Upon completion of this course, the student is able to weld in several positions, read some basic weld symbols, and have a basic understanding of written welding procedures.

*Prerequisite: Intro to Welding 10442100*

## Intermediate GTAW (TIG)

**10442102 ..... 2 credits**

In this course, students weld in the horizontal and vertical positions on stainless steel and aluminum. Pulsed current is applied to stainless steel weldments. Complete penetration groove welds in stainless steel are practiced and evaluated.

*Corequisite: Basic GTAW (TIG) 10442101*

## Intro to AutoCAD

**10623106 ..... 2 credits**

This is an introductory course in computer-aided drafting (CAD) using AutoCAD software. It provides foundational skills in using CAD software to create and print two-dimensional technical drawings. This course is available to students in any program. Computer skills and prior knowledge of drawing/drafting techniques are recommended.

## Intro to Welding

**10442100 ..... 1 credit**

Students gain knowledge of general welding shop procedures and safety, arc welding principles and equipment setup, and metal fabrication equipment use. Students work with a lab instructor to begin developing skills with the GMAW and GTAW welding processes by completing simple welding and fabricating tasks in preparation for further exploration in welding and fabricating.

*Prerequisite: Admission to Welding 314421 or Stainless Steel Welding 304427 programs*

## Math for Manufacturing

**32420320 ..... 2 credits**

This course includes the study of machine tool problems involving calculations with fractions, decimals, and percentage. Includes work with the metric system, measurement conversion, geometry, trigonometry of right triangles, and use of a scientific calculator. Formulas with application to the trades are also studied.

*Prerequisite: Admission into Machine Tool Technician 324201, Welding 314421 programs, or consent of instructor*

## Metal Cutting Welding

**10442132 ..... 2 credits**

This course covers oxy-fuel cutting, plasma arc cutting, air-carbon arc cutting, mechanical cutting, and nontraditional cutting. Individual parts are produced using automatic and manual equipment. Both shop and field applications are practiced. The parts may be joined by welding to complete an assembly. Students may work in a team environment to complete assignments. This course is available to Welding program students only.

*Corequisite: Intro to Welding 10442100*

## Metals & Machining

**10462114 ..... 3 credits**

A two-part class that introduces the basics of metal science and machine shop practice. Metallurgical concepts of steel and iron production, properties of metals, testing of metals, carbon and its role, heat-treating, steel designations, and cast iron and non-ferrous metals are introduced. Students participate in lab exercises examining the properties of metal and are introduced to machine shop safety practices, measurement, and machining through the use of hand tools, drilling machines, saws, and engine lathes. Classroom includes presentation and hands-on shop experiences.

*Prerequisite: Admission to Diesel & Heavy Equipment Technician 324121, Industrial Mechanical Technician 104621, Instrumentation & Controls Engineering Technology 106054, Welding 314421, Solar Electric Technician 104822, Sustainable Heating & Cooling Technician 104831, Machine Tool Technician 324201 programs*

## Problem Solving & Critical Thinking

**10623100 ..... 1 credit**

Introductory course in problem setup, organization, and solution. Identification of given and unknown values, equation setup, unit conversions, and use of significant figures. Introduction to physical science and working with units of force, area, volume, time, and distance in metric and imperial systems. This course is designed to help you be successful in technical and engineering classes and should be taken during your first semester of enrollment.

## Shielded Metal Arc Welding (SMAW)

**10442130 ..... 2 credits**

Begins to build the knowledge and skills of the SMAW process commonly known as stick welding. Upon completion of this course, the student is able to weld in several positions, read some basic weld symbols, and have a basic understanding of written welding procedures.

*Corequisite: Intro to Welding 10442100*

## Weld Inspections and Testing

**10442163..... 1 credit**

Emphasizes measurement of weld defects and assessment of weld quality conformance to common welding codes. Students conduct etch tests, bend tests, and break tests on welds. Visual inspection, dye penetrant testing, and magnetic particle testing are practiced.

*Prerequisite: Intro to Welding 10442100*

## Welding Fabrication Techniques

**10442115 ..... 2 credits**

Students fabricate parts from prints and weld assemblies with a specified welding process. Cutting and forming may be required prior to assembly. Depending on the size and complexity of the project, students may be asked to work in a team to complete an assignment.

*Prerequisites: Admission to Welding program 314421 and Intermediate GTAW (TIG) 10442102*

## Welding Metallurgy

**10442159..... 2 credits**

Investigates the effects of welding on the mechanical properties of metals. Learners explore hardness, strength, and weldability of various metals. Concepts are applied in various activities, including heat treating, hardness testing, and tensile testing.

## Welding Print Reading

**10442112 ..... 2 credits**

Students study print format, line types, orthographic views, dimensioning, welding symbols, and bill of materials. Students supply concepts by creating and fabricating from prints in individual and group activities.

## Written Communication

**10801195 ..... 3 credits**

Develops writing skills, which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical-reading and thinking skills through analysis of a variety of written documents.

*Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better. Proficiency in word processing skills recommended.*

