Associate in Applied Science (AAS)
Program Code: 10-152-1
Total Credits: 63-64

Graduates of Mid-State's IT Software Developer program have the skills needed to design, develop, and maintain software and software systems on a wide variety of computing devices and to meet the spectrum of business needs. You'll learn to create software to run on all platforms including network servers, desktop workstations, web pages, and Android and iOS mobile devices. You will use state-of-the-art equipment and work in teams to design, develop, test, and implement small-scale software systems for nonprofit organizations or simulated clients.

Salary information: mstc.edu/programsalaries
Estimated tuition and fees: mstc.edu/programcosts

ACADEMIC ADVISORS
To schedule an appointment with your academic advisor, call 715.422.5300.

Tanya Kollross, MS
Marshfield Campus • tanya.kollross@mstc.edu

Juan Veloz, MBA
Stevens Point Campus • juan.veloz@mstc.edu

Diane Andres, MS
Wisconsin Rapids Campus • diane.andres@mstc.edu

CHECKLIST:
This section will be completed when meeting with your academic advisor.

☐ FAFSA (www.fafsa.gov)
☐ Financial Aid Form(s)
  Form(s): __________________________
☐ Follow-Up Appointment:
  Where: ____________________________
  When: ____________________________
  With: ____________________________
☐ Official Transcripts
  Mid-State Technical College
  Attention CPL Coordinator
  500 32nd Street North
  Wisconsin Rapids, WI 54494
☐ Other: ____________________________
  ________________________________
BACHELOR'S DEGREE OPTIONS
Lakeland University
BA Computer Science
UW-Stout
BS Information and Communication Technologies

For more information and additional opportunities, visit mstc.edu/transfer.

IT SOFTWARE DEVELOPER
ASSOCIATE IN APPLIED SCIENCE
63-64 CREDITS

CAREER OPTIONS
Computer Applications Engineer
Mobile Applications Developer
Software Developer

HIGH SCHOOL STUDENT
COLLEGE TRANSFER
RETURNING ADULT

College Credit • Dual Credit • Military Experience • Work Experience
Learn about Credit for Prior Learning at mstc.edu/cpl.

BEGIN AT ANY POINT IN THE PATHWAY

OTHER OPTIONS

RELATED PROGRAMS
• Business Analyst
• IT Security Specialist
• IT Software Developer
• IT Network Specialist
• Microsoft System Administrator

START YOUR CAREER
PROGRAM OUTCOMES
Employers will expect you, as an IT Software Developer graduate, to be able to:
• Design software systems.
• Integrate database systems.
• Develop software applications.
• Develop technical documentation.

STUDENT HANDBOOK
Visit 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.

GRADUATION REQUIREMENT
The GPS for Student Success course is required for all Mid-State students and must be completed prior to obtaining 12 credits. (Not counted in the total credit value for this program.)

GPS for Student Success
10890102 ...............................................................1 credit
Integrate necessary skills for student success by developing an academic plan, identifying interpersonal attributes for success, adopting efficient and effective learning strategies, and utilizing Mid-State resources, policies, and processes. This course must be completed prior to obtaining 12 credits and as a graduation requirement.

ADDITIONAL COURSES AS NEEDED
The following courses may be recommended or required if the student does not achieve minimum Accuplacer scores.

Intro to College Reading
10838104 .............................................................2 credits
Provides learners with the opportunities to develop and expand reading skills, including comprehension and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources.

Intro to College Writing
10831103 ..............................................................3 credits
Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multi-paragraph documents. The purpose of this course is to prepare students for successful entry into required program courses. This course is tuition bearing and under certain circumstances may qualify for financial aid. This course cannot be used to satisfy program completion requirements at Mid-State.
Prerequisite: Accuplacer Sentence Skills score of 60 or equivalent. Proficiency in word processing skills recommended.

Pre-Algebra
10834109 .............................................................3 credits
Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.
Prerequisite: Accuplacer Math score of 65, Accuplacer Algebra score of 30, ABE Math Prep V 76854785 and ABE Math Prep VI 76854786 with a grade of “S.” (Note: ABE Math Prep V and VI courses cannot be used to satisfy program completion requirements at Mid-State.)
### Sample Full-Time Curriculum Option

<table>
<thead>
<tr>
<th>Term</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-16 credits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10152101</td>
<td>3</td>
<td>Intro to Programming</td>
</tr>
<tr>
<td>10152121</td>
<td>3</td>
<td>Object-Oriented Programming 1</td>
</tr>
<tr>
<td>10152150</td>
<td>3</td>
<td>Web Design 1</td>
</tr>
<tr>
<td>10801136</td>
<td>3</td>
<td>English Composition 1 <em>or</em></td>
</tr>
<tr>
<td>10801195</td>
<td>3</td>
<td>Written Communication</td>
</tr>
<tr>
<td>10804107</td>
<td>3</td>
<td>College Mathematics</td>
</tr>
<tr>
<td>10804118</td>
<td>4</td>
<td>Intermediate Algebra with Applications</td>
</tr>
<tr>
<td>10804189</td>
<td>3</td>
<td>Introductory Statistics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 credits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10152122</td>
<td>3</td>
<td>Object-Oriented Programming 2</td>
</tr>
<tr>
<td>10152174</td>
<td>3</td>
<td>Collaborate Application Development</td>
</tr>
<tr>
<td>10156101</td>
<td>3</td>
<td>Database Concepts and Design</td>
</tr>
<tr>
<td>10801196</td>
<td>3</td>
<td>Oral/Interpersonal Communication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 credits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10150110</td>
<td>3</td>
<td>Networking I</td>
</tr>
<tr>
<td>10152123</td>
<td>3</td>
<td>Object-Oriented Programming 3</td>
</tr>
<tr>
<td>10152155</td>
<td>3</td>
<td>Web Programming 1</td>
</tr>
<tr>
<td>10152160</td>
<td>3</td>
<td>Introductory Mobile Application Development</td>
</tr>
<tr>
<td>10152175</td>
<td>3</td>
<td>Software Architecture</td>
</tr>
<tr>
<td>10156102</td>
<td>3</td>
<td>SQL Development</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Term</th>
<th>Credits</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 credits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10102130</td>
<td>3</td>
<td>Career Development <em>or</em></td>
</tr>
<tr>
<td>10152161</td>
<td>3</td>
<td>Intermediate Mobile Application Development <em>or</em></td>
</tr>
<tr>
<td>10152177</td>
<td>3</td>
<td>Software Developer Internship <em>or</em></td>
</tr>
<tr>
<td>10801199</td>
<td>3</td>
<td>Employment Strategies</td>
</tr>
<tr>
<td>10152158</td>
<td>3</td>
<td>Web Programming 2</td>
</tr>
<tr>
<td>10152176</td>
<td>3</td>
<td>Application Development Capstone</td>
</tr>
<tr>
<td>10809122</td>
<td>3</td>
<td>Intro to American Government <em>or</em></td>
</tr>
<tr>
<td>10809166</td>
<td>3</td>
<td>Intro to Ethics: Theory &amp; Application <em>or</em></td>
</tr>
<tr>
<td>10809172</td>
<td>3</td>
<td>Introduction to Diversity Studies <em>or</em></td>
</tr>
<tr>
<td>10809195</td>
<td>3</td>
<td>Economics <em>or</em></td>
</tr>
<tr>
<td>10809196</td>
<td>3</td>
<td>Intro to Sociology</td>
</tr>
</tbody>
</table>

Total credits 63-64

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.
Application Development Capstone 10152176 .................................................3 credits
Builds team software development and communication skills. Learners form small teams, each identifying, designing, and implementing an attractive and usable software application. Project teams each use Agile software development principles to manage their projects, communicate project status, adapt to changing requirements, and overcome technical challenges. Additional topics include a review of the Agile software development methodology.
Prerequisites: Software Architecture 10152175; Web Programming 1 10152155; SQL Development 10156102

Career Development 10102130 .........................................................3 credits
Prepares 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, and 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 percent of technical program credits or receive department approval. See program advisor, program faculty, program counselor, or department dean/associate dean to register.

Collaborative Application Development 10152174 .................................................3 credits
Introduces the Agile software development methodology and applies it to managing a software development project. Learners will work in small teams, taking an application through its entire lifecycle including the phases of requirements gathering, analysis, design, development, testing, deployment and maintenance. Additional topics include an introduction to the following disciplines and related tools: project management, version control, issue tracking, unit/regression testing, automated build/deployment, and team dynamics.
Prerequisites: Web Design 1 10152150; Intro to Programming 10152101; Corequisite: Speech 10801198

College Mathematics 10804107 .........................................................3 credits
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: Minimum Accuplacer scores - Arithmetic 65, Algebra 30; or Pre-Algebra 10834109 with a grade of “C” or better

Database Concepts and Design 10156101 .........................................................3 credits
Introduces the concepts of relational database design, development, and maintenance. Topics include relational normalization, referential integrity, and SQL.
Corequisite: English Composition 1 10801136

Developmental Psychology 10809188 .........................................................3 credits
Studies human development throughout the lifespan and 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 Accuplacer Reading Comprehension is recommended to co-enroll in the Introduction to College Reading course.
Prerequisite: Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better

Economics 10809195 .........................................................3 credits
Provides an overview of how a market-oriented economic system operates and 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, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better

Employment Strategies 10801199 .........................................................3 credits
A course 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 percent of technical program credits or receive department approval. See program advisor, program faculty, program counselor, or department dean/associate dean to register.
<table>
<thead>
<tr>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English Composition 1</strong></td>
</tr>
<tr>
<td><strong>10801136</strong></td>
</tr>
<tr>
<td>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. <strong>Prerequisite:</strong> Accuplacer Sentence Skills score of 85 or equivalent, or Intro to College Writing 10831103 with a grade of “C” or better. <strong>Proficiency in word processing skills recommended.</strong></td>
</tr>
</tbody>
</table>

| **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 Mobile Application Development** |
| **10152161** | 3 credits |
| Provides instruction in developing software applications for mobile devices building upon the knowledge gained in Introductory Mobile Application Development. **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, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better |

| **Intro to Ethics: Theory & Application** |
| **10809166** | 3 credits |
| 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 systemic decision-making process to these situations. 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 course, respectively. **Prerequisite:** Minimum Accuplacer Scores - Reading 55, Sentence Skills 60 or equivalent, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better |

| **Intro to Programming** |
| **10152101** | 3 credits |
| Applies the basic concepts of computer programming using JavaScript, with an emphasis on structured programming, debugging, and testing. Learners will create JavaScript applications. Additional topics include: online software development resources, programming and documentation standards, variable lifetime/scope, data types, control structures and mathematical calculations. **Corequisite:** English Composition 1 10801136 |

| **Intro to Psychology** |
| **10809198** | 3 credits |
| This introductory course surveys 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 Accuplacer Reading Comprehension is recommended to co-enroll in the Introduction to College Reading course. **Prerequisite:** Minimum Accuplacer scores - Reading 55, Sentence Skills 60 or equivalent, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better |

| **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, or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better |
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 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 or Intro to College Reading 10848104 with a grade of “C” or better and Intro to College Writing 10831103 with a grade of “C” or better.

Introductory Mobile Application Development 10152160 ..............................................................3 credits 
Provides instruction in developing software applications for mobile devices using the Microsoft Visual Studio and Xamarin. 
Prerequisite: Object-Oriented Programming 2 10152122; Collaborative Application Development 10152174; Database Design and Concepts 10156101 or consent of instructor.

Introductory Statistics 10804189 .................................................................................3 credits 
Students taking Introductory Statistics 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 grade of “C” or better. (A student scoring a “C” or lower should enroll in the Math Lab supplementary instruction with the next level math class.)

Networking I 10150110 .........................................................................................3 credits 
Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, participants will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes. This course is the first of four courses that align with CCNA certification. Covers the objectives of the first CCNA exam but is not designed or intended to be a “test prep” course.

Object-Oriented Programming 110152121 ........................................................................3 credits 
Introduces object-oriented programming and design, with a focus on building the conceptual framework necessary to understand and build object-oriented programs. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications, applying the object-oriented basics of abstraction, encapsulation, inheritance and polymorphism. Additional topics include: object instantiation/lifetime/scope, methods, properties, visibility modifiers and collections/multiplicity. 
Corequisites: Intro to Programming 10152101; Intro to College Math 10804107

Object-Oriented Programming 2 10152122 ..............................................................3 credits 
Builds upon the object-oriented concepts learned in Object-Oriented Programming 1, continuing with an in-depth application of object-oriented design principles and patterns. Learners will translate design patterns from Java and implement them in C# .NET. Additional topics include delegates, iterators, and data structures. 
Prerequisite: Object-Oriented Programming 1 10152121

Object-Oriented Programming 3 10152123 ..............................................................3 credits 
Builds upon the object-oriented concepts learned in Object-Oriented Programming 1, continuing with an in-depth application of object-oriented design principles and patterns. Learners will translate design patterns from Java and implement them in C# .NET. Additional topics include delegates, iterators, and data structures. 
Prerequisite: Object-Oriented Programming 2 10152122

Oral/Interpersonal Communication 10801196 ...............................................................3 credits 
Focuses upon developing speaking, verbal, and non-verbal communication, and listening skills through individual presentations, group activities, and other projects. For a student scoring between 55-80 on their Accuplacer Reading Comprehension exam and 60-80 on the Sentence Skills exam, it 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

Software Architecture 10152175 ..................................................................................3 credits 
Introduces N-tier software architecture through the exploration of various data access methodologies. Learners will work in teams to create a C# .NET application comprised of data access, business and presentation layers using MVVM architecture. The application will access data from Microsoft SQL Server using a variety of object-relational mapping (ORM) frameworks. Additional topics include: ADO.NET, LINQ, Entity Framework and object-oriented databases. 
Prerequisites: Collaborative Application Development 10152174, Object-Oriented Programming 2 10152122, Database Concepts and Design 10152156
Software Developer Internship
10152177 ...............................................................3 credits
Integrates software development skills developed in classroom study with specific occupational experiences at local employment sites. Develops work behavior appropriate to the computer information systems environment.
Prerequisite: Completion of at least 18 credits in IT Software Developer courses or consent of instructor

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 Communication in lieu of Speech, provided the Accuplacer scores are minimum of Reading 55 and Sentence Skills 60, or the student has completed Intro to College Writing and/or Intro to College Reading with a “C” or better.
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 equivalent

SQL Development
10156102 ..............................................................3 credits
Expands on earlier courses with advanced SQL syntax (indexes, views, stored procedures, and triggers), database design, and data transformation. Additional topics include alternate database technologies, emerging database trends, and database administration and security. Data Warehousing concepts are discussed.
Prerequisite: Database Concepts and Design 10156101

User Experience Design
10152159 ...............................................................3 credits
Examines the design, prototyping, and evaluation of user interfaces. Learners will apply user experience standards in the development of web and software interfaces to provide a quality user experience. Topics include psychological and interaction principles, requirements analysis, designing for different devices, style guides, usability testing, and visual design principles.
Prerequisite: Web Design 1 10152150

Web Programming 1
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.
Prerequisites: Web Design 1 10152150, Intro to Programming 10152101, and Database Concepts and Design 10156101

Web Programming 2
10152158 ...............................................................3 credits
Builds on the prior Web Design 1 and Web Programming 1. Introduces advanced topics of JQUERY DOM Manipulations, JQUERY Events, Call backs, Chaining, Hierarchy, and AJAX calls. Also includes Angular JS, Modules using type script, imports/exports, templates and binding, and form controls.
Prerequisite: Web Programming 1 10152155

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.