

GENERAL EDUCATION COURSES

GENERAL COLLEGE SKILLS

76862771 // 0 credit

Career Awareness

This short term course helps students reflect upon their strengths and identify possible careers that utilize those strengths. Topics include goal setting, interest inventories, personality styles, career searching, labor market statistics, trend, and projections, and career planning. This is a tuition free class. Students must be 18 years of age or older. This course cannot be used to satisfy program completion requirements at MSTC.

74860743 // 0 credit

Computer Basics

This short term course offers instruction in general computer systems (hardware, software, data, and users); logging into the MSTC network; basic commands and features of Windows 2000; and introductory elements of email and the Internet. This is a tuition free class. This course cannot be used to satisfy program completion requirements at MSTC.

10835103 // 1 credit

Study Skills

This course provides students with strategies to develop study skills with strategies to develop study skills for success in college. Through hands-on experiences, students will apply study skills, learn how to think critically, and use information resources and technology. 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 MSTC.

COMMUNICATION SKILLS

Developmental Communication

The following courses are developmental and do not meet the graduation requirements.

10831103 // 3 credits

Intro to College Writing

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 MSTC. Word processing skills are recommended. *Prerequisite: Accuplacer Sentence Skills score of 55 or equivalent.*

10838105 // 3 credits

Intro to Reading and Study Skills

This course provides students with opportunities to develop study skills and expand reading skills including comprehension, fluency, and vocabulary skills. Students apply reading skills to academic tasks and read to acquire information from a variety of sources. The purpose of this course is to prepare students for successful entry into required program courses. This course is tuition bearing and may qualify for financial aid. This course cannot be used to satisfy program completion requirements at MSTC. 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 MSTC.

Associate Degree /Technical Diploma Communication Skills

Please check which communication skills class meets your program requirements.

10801195 // 3 credits

Written Communication

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 the analysis of a variety of written documents. Word processing skills are recommended. *Prerequisite: Accuplacer Sentence Skills score of 85 or equivalent or Intro to College Writing 10831103 with a grade of "C" or better.*

10801196 // 3 credits

Oral/Interpersonal Communication

Focuses upon developing speaking, verbal and non-verbal communication and listening skills through individual presentations, group activities and other projects.

10801197 // 3 credits

Technical Reporting

The student will prepare and present 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. Word processing skills are recommended. *Prerequisite: Written Communication 10801195 or consent of instructor.*

10801198 // 3 credits

Speech

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.

10801199 // 3 credits

Employment Strategies

Employment Strategies is a course designed to assist students in securing employment. This communications-based course will help 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. *Prerequisite: Student must have completed at least one half of his/her program prior to taking this course.*

31801351 // 2 credits

Occupational Communication

Occupational Communication is designed to help a student develop communication skills needed for employment. Student will examine the communication process and learn to avoid communication breakdown. The course develops reading and information-finding skills, reviews using standard English usage in written messages, strengthens effective oral and written communication needed to apply for a job, builds effective listening skills and develops appropriate spoken messages and nonverbal communication.

MATHEMATICS

Developmental Math

The following courses are developmental and do not meet graduation requirements.

77854783 & 77854784 // 0 credit

ASC Math Prep V/VI

Students must enroll in ASC Math Prep V / VI concurrently. This course is designed to prepare students with low or rusty math skills to prepare for the math GED test, prepare for the Accuplacer math test, study to increase their Accuplacer math score, or as a prerequisite for their required program math class. Topics include calculations, percents, fractions, decimals, area, perimeter, and the basics of algebra. These are tuition free classes. Math preparation for GED & Accuplacer testing is also available in a flexible lab format in the Academic Support Center. These courses cannot be used to satisfy program completion requirements at MSTC.

10834109 // 3 credits

Pre-Algebra

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 or Accuplacer Algebra score of 30 or higher*

Associate Degree/Technical Diploma / Certificate Level Math

Please check which math class meets your program requirements.

10804107 // 3 credits

College Mathematics

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

10804110 // 3 credits

Elementary Algebra with Applications

This course offers traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. *Prerequisite: Accuplacer Arithmetic score of 65 or ASC Math Prep V 77854783*

10804118 // 4 credits

Intermediate Algebra with Applications

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, 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; or Accuplacer Algebra score of 45*

10804145 // 3 credits

Algebra & Computational Skills

This programmed course is designed for individualized instruction in a math-lab setting. Basic concepts from beginning algebra and the use of a scientific calculator for arithmetic, algebra and geometry applications are included. Specific topics from algebra include operations with rational numbers, non-fractional and fractional equations, graphing, algebraic fractions and formula rearrangement. The calculator support topics are operations with real numbers, ratio, proportion, percent, scientific notation, formula evaluation, measurement systems and concepts, areas and volumes, powers, roots, logarithms and estimating.

Prerequisite: Accuplacer Arithmetic score of 65 or equivalent

10804189 // 3 credits

Introductory Statistics

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, foundational skills in mathematics and recent computer skills in Excel are important for success in this course.

10804195 // 3 credits

College Algebra with Applications

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 Apps 10804196 with a grade of "C" or better*

10804196 // 3 credits

Trigonometry with Applications

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 w/Apps 10804118 with a grade of "C" or better*

10804198 // 4 credits

Calculus 1

Analyze and graph algebraic expressions, especially conic sections. Develop an intuitive understanding of limits, derivatives and integrals. Apply the derivative and the integral to certain physical problems. *Prerequisite: College Algebra with Applications 10804195 with a grade of "C" or better*

NATURAL SCIENCE

Developmental Science

The following courses are developmental and do not meet graduation requirements.

10836113 // 2 credits

Prep for Basic Biology

Introduces students to basic principles of biology. Students will become familiar with the nature of science, basic biochemistry concepts, and the structure and function of the cell. 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 MSTC.

10836133 // 2 credits

Prep for Basic Chemistry

Introduces basic principles of chemistry including the properties of matter, atomic structure, and the classification of chemical reactions. Students learn to characterize solutions, acids, and bases and differentiate between elements and compounds. 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 MSTC.

Associate Degree/Technical Diploma Level Science

Please check which science class meets your program requirements.

10806112 // 3 credits

Principles of Sustainability

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 U.S., and analyze approaches used by your community to promote and implement sustainability.

10806114 // 4 credits

General Biology

Introduces general biological concepts and principles. Emphasis is on cell structure and function, genetics, evolution, and taxonomical relationships. Consideration is also given to diversity among the various kingdoms.

Prerequisite: Prep for Basic Biology 10836113 or two semesters of high school biology with a grade of "C" or better

10806134 // 4 credits

General Chemistry

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.

Prerequisites: Prep for Basic Chemistry 10836133 or two semesters of high school chemistry with a grade of "C" or better

10806154 // 4 credits

General Physics 1

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 w/Apps 10804196

10806177 // 4 credits

General Anatomy & Physiology

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: Prep for Basic Biology 10836113; Prep for Basic Chemistry 10836133; General Chemistry 10806134; General Biology 10806114; Human Body in Health and Disease 31509302; or two semesters of high school biology or chemistry with a grade of "C" or better

10806179 // 4 credits

Advanced Anatomy & Physiology

Advanced Anatomy and Physiology is 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 will include 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

10806184 // 3 credits

Plant Biology

This lecture/laboratory course provides students with an indepth 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.

10806197 // 4 credits

Microbiology

This course 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

32806351 // 2 credits

Applied Science

Applied Science is a survey course in basic physics designed for students in the Automotive Technician, Diesel and Heavy Equipment Technician, and Machine Tool Technician programs. Topics have been specially selected to provide students with basic support material for principles

applied in the above listed programs. Topics to be 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

SOCIAL SCIENCE

10809122 // 3 credits

Intro to American Government

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.

10809143 // 3 credits

Microeconomics

This course examines the behavior of individual decision makers, primarily consumers and firms. Topics include choices of how much to consume and to produce, the functioning of perfectly and imperfectly competitive markets, the conditions under which markets may fail, and arguments for and against government intervention. The student applies the fundamental tools of economics to real world problems.

10809144 // 3 credits

Macroeconomics

Macroeconomics is an introductory course. Basic social choices regarding economic systems, basic economic aggregates, fiscal policy, the banking system, monetary policy, and international trade are the principle topics discussed in the course. A balance is drawn between description, theory, analysis, and a critique of the institutions that characterize modern mixed-capitalist economies. Conflicting social goals, economic constraints, and environmental concerns provide the framework through which the Macroeconomy is analyzed.

10809159 // 3 credits

Abnormal Psychology

The course in Abnormal Psychology surveys the essential features, possible causes, and assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced in the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology.

Prerequisite: Intro to Psychology 10809198

10809166 // 3 credits

Intro to Ethics: Theory & Application

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systemic decision-making process to these situations.

10809172 // 3 credits

Race, Ethnic & Diversity Studies

Race, Ethnic, & Diversity is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a history of immigrants and conquest, principles of transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives.

10809188 // 3 credits

Developmental Psychology

Developmental Psychology is 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 will enable students to gain an increased knowledge and understanding of themselves and others.

10809196 // 3 credits

Intro to Sociology

Introduces students to the basic concepts of Sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions including family, politics, economics, religion and education. Other topics include: demography, deviance, technology, environment, social issues, social change and social organization.

10809198 // 3 credits

Intro to Psychology

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.

31809351 // 2 credits

Applied Human Relations

In an effort to better understand human behavior, students investigate topics designed to examine the challenges of coping with an ever-changing world of work and life. Students are given an opportunity to improve their understanding of themselves and others through discussion of topics such as dealing with stress, suicide, grief, defense mechanisms, perception, problem solving, nutrition and physical fitness, drug abuse, mental illness, self-concept and personality, emotions, attitudes, motivation, value clarification, work relationships, and family life styles.