

completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**INT 292 COOPERATIVE EDUCATION (15I) 3 credits**  
**PREREQUISITE: Permission of Instructor**

This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**INT 293 COOPERATIVE EDUCATION (15I) 3 credits**  
**PREREQUISITE: Permission of Instructor**

This course provides students work experience with a college-approved employer in an area directly related to the student's program of study. Emphasis is placed on integrating classroom experiences with work experience. Upon completion, students should be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies.

**MACHINE TOOL TECHNOLOGY (MTT)**

**MTT 107 MACHINING CALCULATIONS I (3T) 3 credits**  
**PREREQUISITES: MTT 147 and MTT 149 or Permission of instructor**

This course introduces basic calculations as they relate to machining occupations. Emphasis is placed on basic calculations and their applications in the machine shop. Upon completion, students should be able to perform basic shop calculations. This course is aligned with NIMS certification standards.

**MTT 108 MACHINIST HANDBOOK FUNCTIONS I (3T) 3 credits**  
**PREREQUISITES: MTT 107 or Permission of instructor**

This course covers the machinist's handbook. Emphasis is placed on formulas, tables, usage and related information. Upon completion, students should be able to use the handbook in the calculation and set-up of machine tools. This course is aligned with NIMS certification standards.

**MTT 109 ORIENTATION TO COMPUTER ASSISTED MANUFACTURING (3T) 3 credits**  
**PREREQUISITE: MTT 140 and MTT 141 or Permission of Instructor**

This course serves as an overview and introduction to computer assisted manufacturing (CAM) and prepares students for more advanced CAM courses. Topics covered are basic concepts and terminology, CAM software environments, navigation commands and file management, 2-D geometry, construction modification, and toolpath generation for CAM machining processes.

**MTT 121 BASIC BLUEPRINT READING FOR MACHINISTS (3T) 3 credits**  
**FORMERLY: MTT 126**  
**PREREQUISITES: Permission of instructor**

This course covers the basic principles of blueprint reading

and sketching. Topics include multiview drawings; interpretation of conventional lines; and dimensions, notes, and thread notations. Upon completion, students should be able to interpret basic drawings, visualize parts, and make pictorial sketches. This is a CORE course and is aligned with NIMS certification standards.

**MTT 128 GEOMETRIC DIMENSIONING AND TOLERANCING I (3T) 3 credits**  
**PREREQUISITES: MTT 121 or Permission of instructor**

This course is designed to teach students how to interpret engineering drawings using modern conventions, symbols, datums, datum targets, and projected tolerance zones. Special emphasis is placed upon print reading skills, and industry specifications and standards. This course is aligned with NIMS certification standards.

**MTT 130 MACHINING CALCULATIONS II (3T) 3 credits**  
**FORMERLY MTT 142**  
**PREREQUISITE: MTT 107**

This course emphasizes advanced calculations common to machining operations. Students use these calculations for advanced applications for machine setup and planning. Specific topics include positive and negative numbers, symbolism, and algebraic expressions and operations. At the conclusion of this course students will be able to apply advanced machine calculations to equipment set-up and planning.

**MTT 134 ENGINE LATHE I (2T,2E) 3 credits**  
**PREREQUISITE: MTT 149 AND MTT 150**  
**COREQUISITE: MTT 135**

This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.

**MTT 135 ENGINE LATHE LAB I (6E) 3 credits**  
**FORMERLY MTT 129**  
**PREREQUISITE: MTT 107**  
**COREQUISITE: MTT 134**

This course includes more advanced lathe practices such as set-up procedures, work planning, inner- and outer-diameter operations, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced lathe techniques. This course is aligned with NIMS standards.

**MTT 137 MILLING I (2T,2E) 3 credits**  
**FORMERLY MTT 136**  
**PREREQUISITE: MTT 149 AND MTT 107**  
**COREQUISITE: MTT 138**

This course covers manual milling operations. Emphasis is placed on related safety, types of milling machines and their uses, cutting speed, feed calculations, and set-up and operation procedures. Upon completion, students should be able to apply manual vertical milling techniques to produce machine tool projects. This course is aligned with NIMS certification standards.

## Course Descriptions

- MTT 138 MILLING I LAB (6E)** **3 credits**  
**FORMERLY MTT 136**  
**COREQUISITE: MTT 137**  
 This course provides basic knowledge of milling machines. Emphasis is placed on types of milling machines and their uses, cutting speed, feed calculations, and set-up procedures. Upon completion, students should be able to apply milling techniques to produce machine tool projects. This course is aligned with NIMS certification criteria.
- MTT 139 BASIC COMPUTER NUMERICAL CONTROL (2T, 2E)** **3 credits**  
**PREREQUISITES: MTT 135 or Permission of instructor**  
 This course introduces the concepts and capabilities of computer numeric control (CNC) machine tools. Topics include set-up, operation, and basic applications. Upon completion, students should be able to develop a basic CNC program to safely operate a lathe and milling machine. This course is aligned with NIMS certification standards.
- MTT 140 BASIC COMPUTER NUMERICAL CONTROL TURNING PROGRAMMING I (1T, 4E)** **3 credits**  
**PREREQUISITES: MTT 130 AND MTT 135 AND MTT 139 or Permission of instructor**  
 This course covers concepts associated with basic programming of a computer numerical control (CNC) turning center. Topics include basic programming characteristics, motion types, tooling, workholding devices, set-up documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC turning program that will be used to produce a part. This course is aligned with NIMS certification standards.
- MTT 141 BASIC COMPUTER NUMERICAL CONTROL MILLING PROGRAMMING I (1T, 4E)** **3 credits**  
**PREREQUISITES: MTT 138 AND MTT 139 or Permission of instructor**  
 This course covers concepts associated with basic programming of a computer numerical control (CNC) milling center. Topics include basic programming characteristics, motion types, tooling, workholding devices, setup documentation, tool compensations, and formatting. Upon completion, students should be able to write a basic CNC milling program that will be used to produce a part. This course is aligned with NIMS certification standards.
- MTT 144 ELECTRICAL DISCHARGE MACHINING I (1T, 4E)** **3 credits**  
**PREREQUISITES: MTT 140 AND MTT 141 or Permission of instructor**  
 This course introduces the student to the concepts of Electrical Discharge Machining (EDM) and the importance of EDM in an industrial setting. Emphasis is placed on safety procedures and machinist responsibility in the set-up and operation of EDM machines and electrode selection. Upon completion, students should be able to produce basic machine products using both the wire-type and plunge-type EDM machines. This course is aligned with NIMS certification standards.
- MTT 147 INTRODUCTION TO MACHINE SHOP I (2T, 2E)** **3 credits**  
**PREREQUISITE: Permission of instructor**  
**COREQUISITE: MTT 148**  
 This course introduces machining operations as they relate to the metalworking industry. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. This is a CORE course.
- MTT 148 INTRODUCTION TO MACHINE SHOP I LAB (6E)** **3 credits**  
**PREREQUISITE: Permission of instructor**  
**COREQUISITE: MTT 147**  
 This course provides practical application of the concepts and principles of machining operations learned in MTT 147. Topics include machine shop safety, measuring tools, lathes, saws, milling machines, bench grinders, and layout instruments. Upon completion, students will be able to perform the basic operations of measuring, layout, drilling, sawing, turning, and milling. This is a CORE course. This course is aligned with NIMS certification standards.
- MTT 149 INTRODUCTION TO MACHINE SHOP II (2T, 2E)** **3 credits**  
**PREREQUISITE: MTT 147 AND MTT 148 OR Permission of instructor**  
**COREQUISITE: MTT 150**  
 This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on set-up and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning, and milling. This is a CORE course and is aligned with NIMS certification standards.
- MTT 150 INTRODUCTION TO MACHINE SHOP II LAB (6E)** **3 credits**  
**PREREQUISITE: MTT 147 AND MTT 148 or Permission of instructor**  
**COREQUISITE: MTT 149**  
 This course provides additional instruction and practice in the use of measuring tools, lathes, milling machines, and grinders. Emphasis is placed on set-up and operation of machine tools including the selection of work holding devices, speeds, feeds, cutting tools and coolants. Upon completion, students should be able to perform intermediate level procedures of precision grinding, measuring, layout, drilling, sawing, turning, and milling. This is a CORE course and is aligned with NIMS certification standards.
- MTT 162 PRECISION GRINDING (2T, 2E)** **3 credits**  
**FORMERLY MTT 146 AND MTT 161**  
**PREREQUISITE: MTT 138**  
**COREQUISITE: MTT 163**  
 This course includes more advanced precision grinder practices such as set-up procedures, work planning, surface grinding, cylindrical grinding, tool and cutter grinding, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced precision grinding techniques. This course is aligned with NIMS standards.

**MTT 163 PRECISION GRINDING LAB (6E) 3 credits**  
**FORMERLY MTT 146 AND MTT 162**

**COREQUISITE: MTT 162**

This course provides practical application of the concepts and principles of precision grinding learned in MTT 161. Topics include set-up procedures, work planning, surface grinding, cylindrical grinding, tool and cutter grinding, and inspection and process improvement. Additional emphasis is placed on safety procedures. Upon completion, students will be able to apply advanced precision grinding techniques. This course is aligned with NIMS standards.

**MTT 212 ADVANCED COMPUTER NUMERICAL CONTROL TURNING (1T, 4E) 3 credits**  
**PREREQUISITE: MTT 243**

This course details the use of canned cycles and subprograms in computer numerical control (CNC) turning programs. Upon completing this course, the student should be able to write CNC turning programs using canned cycles and subprograms.

**MTT 213 ADVANCED COMPUTER NUMERICAL CONTROL MILLING (1T, 4E) 3 credits**  
**PREREQUISITE: MTT 235**

This course details the use of canned cycles and subprograms in computer numerical control (CNC) milling programs. Upon completing this course, the student should be able to write CNC milling programs using canned cycles and subprograms.

**MTT 218 COMPUTER INTEGRATED MANUFACTURING (CIM) (3T) 3 credits**  
**PREREQUISITES: MTT 219 AND MTT 220**

This course is a basic introduction to concepts related to the computer integrated manufacturing (CIM) process. Students cover the design requirements associated with such a cell (center), how a center is integrated into the full system, and the technician's role in the process improvement of not only the cell but the full CIM system. Related safety and inspection and process adjustment are also covered.

**MTT 219 COMPUTER NUMERICAL CONTROL GRAPHICS: TURNING (1T, 4E) 3 credits**  
**PREREQUISITES: MTT 140 AND MTT 149 or Permission of instructor**

This course covers techniques involved in writing a program for a multi-axis computerized numeric control (CNC) turning machine using computer assisted manufacturing (CAM) software. In addition, CNC turning machine set-up, programming, and operation are detailed. Upon completion, the student should be able to set-up, program, and operate a 3-axis CNC turning machine to produce a 2-axis part using CAM software. This course is aligned with NIMS certification standards.

**MTT 220 COMPUTER NUMERICAL CONTROL GRAPHICS: MILLING (1T, 4E) 3 credits**  
**PREREQUISITES: MTT 109 AND MTT 141 or Permission of instructor**

This course covers techniques involved in writing a program for a multi-axis computerized numeric control (CNC) milling machine using computer assisted manufacturing (CAM) software. In addition, CNC milling machine set-up,

programming, and operation are detailed. Upon completion, the student should be able to set-up, program, and operate a 3-axis CNC milling machine to produce a 2-axis part using CAM software. This course is aligned with NIMS certification standards.

**MTT 241 CNC MILLING LAB I (6E) 3 credits**  
**PREREQUISITE: MTT 141**  
**Formerly: MTT 235**

This course covers basic (3-axis) computer numeric control (CNC) milling machine setup and operating procedures. Upon completion, the student should be able to load a CNC program and set-up and operate a 3-axis CNC milling machine to produce a specified part. Related safety, inspection, and process adjustment are also covered.

**MTT 242 CNC MILLING LAB II (6E) 3 credits**  
**PREREQUISITES: MTT 213**  
**Formerly: MTT 236**

This course covers advanced (including 4-axis) computer numeric control (CNC) milling machine set-up and operating procedures. Upon completion, the student should be able to load a CNC program and set-up and operate a CNC milling machine (including 4-axis) to produce a specified part. Related safety and inspection and process adjustment are also covered.

**MTT 243 CNC TURNING LAB I (6E) 3 credits**  
**PREREQUISITE: MTT 140**

This course covers basic computer numeric control (CNC) turning machine set-up and operating procedures (inner diameter and outer diameter). Upon completion, the student should be able to load a CNC program and set-up and operate a CNC turning machine to produce a simple part. Related safety and inspection and process adjustment are also covered.

**MTT 244 CNC TURNING LAB II (6E) 3 credits**  
**PREREQUISITE: MTT 212**

This course covers advanced computer numeric control (CNC) turning machine set-up and operating procedures. Upon completion, the student should be able to load a CNC program and set-up and operate a CNC turning machine to produce a specified part. Related safety and inspection and process adjustment are also covered.

**MTT 281 SPECIAL TOPICS IN MACHINE TOOL TECHNOLOGY (1T, 4E) 3 credits**  
**PREREQUISITE: MTT 244**

This course is a guided study of special projects in machine tool technology. Emphasis is placed on student needs. Upon completion, students should be able to demonstrate skills developed to meet specific needs.

**MASS COMMUNICATIONS (MCM)**

**MCM 130 NEWS REPORTING (3E) 3 credits**  
**PREREQUISITE: Typing ability**

This course includes instruction and practice in newsgathering and news writing techniques including methodology, observation, interviews, and use of sources.

## Course Descriptions

### MCM 250 MASS COMMUNICATIONS PRACTICUM (3T)

**3 credits**

This course provides practical experience in media through supervised part or full-time employment with a newspaper, radio or television station, or public relations/advertising agency.

## MASSAGE THERAPY (MSG)

### MSG 100 MASSAGE THERAPY HISTORY AND THEORY (1T)

**1 credit**

In this course, students learn the origin of massage as well as the types of massage that have existed throughout the world from inception to the present. Emphasis is placed on the benefits of massage, contraindication, client interviews, and client-therapist relationship. In addition to massage history, students will receive theories and research data that substantiate the efficacy of massage for modern times. Information will be provided explaining the theory and value of such techniques as Swedish massage, deep tissue massage, neuromuscular therapy, somatic re-education, myofascial release and integration.

### MSG 101 MASSAGE THERAPY LABORATORY I (8E)

**4 credits**

In this course, students learn therapeutic massage techniques to the regions of the back, neck and torso. Students learn the variety of joint movements and introduction to sports massage. Sports massage includes principles of health-related fitness, core exercises, pre- and post-event massage, hydrotherapy, body mobilization techniques (BMT) and stretching techniques.

### MSG 102 MASSAGE THERAPY LABORATORY II (8E)

**4 credits**

**PREREQUISITE: MSG 101**

In this course, students learn various techniques to work soft tissue dysfunction in specific areas of the body, to apply massage to specific muscles, affect the body's fascial sheets, palpate muscles more clearly, work in different directions of the muscle fibers (transversely and longitudinally), and to work different levels of musculature. New techniques include Myofascial release, trigger points, neuromuscular therapy, and deep tissue massage. Students learn therapeutic massage techniques to the regions of the shoulders, arms, hips, legs, feet and hands.

### MSG 111 ANATOMY AND PHYSIOLOGY (1T, 4E)

**3 credits**

In this course, students learn how the body works, from the smallest cells to the largest systems. The course provides a general introduction to epithelial, connective, muscular and nervous tissue as well as to the nervous, endocrine, cardiovascular, immune, respiratory, gastrointestinal, genitourinary and integument systems. Students will also be taught standard first aid measures for common injuries and basic cardio-pulmonary resuscitation (CPR). The instructor uses visual tools as well as hands-on activities to enhance learning. Upon completion of this course, students will have a basic understanding of the various systems of the body and the effects of massage on these systems. Students will also be tested on competencies in standard first aid CPR.

### MSG 112 MUSCULO-SKELETAL AND KINESIOLOGY I (1T, 4E)

**3 credits**

In this course, students learn advance study of the Musculo-skeletal system. They learn basic names and landmarks of the bones and joints as well as the origins, insertions and actions of the major muscles of the body that are important to massage therapy. Students also learn how to demonstrate muscle locations and how to palpate and shorten each of the muscles studied. Topics included specific therapeutic approaches to the regions of the back, torso, neck, examinations of these regions, the movements they produce, and common conditions of the back, torso, and neck. Students will also be able to identify and discuss common pathological conditions related to these areas.

### MSG 113 MUSCULO-SKELETAL AND KINESIOLOGY II (1T, 4E)

**3 credits**

**PREREQUISITE: MSG 112**

In this course, students learn advance study of the Musculo-skeletal system. Topics include specific therapeutic approaches to the regions of the shoulders, arms, hips and legs, examination of these regions, the movement they produce, and common pathological conditions of the shoulders, arms, hips and legs. Upon completion the students should be able to identify and discuss the regions of the shoulders, arms, hips, lets and the movements they produce and common pathological conditions.

### MSG 114 PATHOLOGY (3T)

**3 credits**

This course presents baseline information on pathologies which massage therapists may encounter in clinical practice including conditions of the musculoskeletal, neurological, cardiovascular, lymphatic, integumentary, digestive, and immune systems. Content will include etiology, symptomatology, medical approaches to treatment and the potential positive or negative impact of massage.

### MSG 120 MASSAGE THERAPY SUPERVISED CLINICAL I (3C)

**1 credit**

**PREREQUISITE AND/OR COREQUISITE: MSG 100, MSG 101, MSG 112**

In this course, students are required to demonstrate competency in specific therapeutic techniques to the back, neck and torso. Students are required to demonstrate core exercises, hydrotherapy and other health related fitness techniques such as BMT and stretching techniques.

### MSG 121 MASSAGE THERAPY SUPERVISED CLINICAL II (3C)

**1 credit**

**PREREQUISITES OR COREQUISITES: MSG 120**

In this course, students are required to demonstrate competency in the proper application of specific therapeutic techniques to the whole body.

### MSG 130 SPECIAL POPULATIONS (3T)

**3 credits**

In this course, students learn to adapt massage sessions to the needs of special populations such as pregnant women, infants, the elderly, terminally ill, survivors of abuse and persons living with HIV/AIDS. Topics include technique variations, length of session, contraindications, cautions, and possible benefits. Upon completion, students should

be able to discuss and demonstrate the techniques for special populations.

**MSG 156 CAREER & PERSONAL DEVELOPMENT AND ETHICAL BEHAVIOR (2T) 2 credits**

This course is designed to focus on personal development and career building skills. Emphasis is placed on building and retaining clientele, communication skills, customer services, continuing professional education and setting goals and objectives. Upon completion, the student should be able to list types of communication skills, articulate personal goals and develop a continuing education plan.

**MSG 160 NATIONAL CERTIFICATION EXAM REVIEW (1T) 1 credit**

This course provides a consolidated and intensive review of the basic areas of expertise needed by the entry-level massage therapist. Upon completion, the student should be able to pass a comprehensive exam on information covered in the therapeutic massage program.

**MATHEMATICS (MTH)**

***MATHEMATICS COURSE NUMBERS DO NOT NECESSARILY REFLECT THE DIFFICULTY OF THE COURSE.***

**MTH 080 MATHEMATICS LABORATORY (1T) 1 credit**  
**PREREQUISITE: As required by program**

This course is designed to offer supplemental help to students in mathematics. Students work in a laboratory situation under qualified instructors. This course may be repeated as needed. Emphasis is on arithmetic and algebra as determined by the individual need of the students.

**MTH 090 BASIC MATHEMATICS (3T) 3 credits**  
**PREREQUISITE: None**

This is a developmental course reviewing arithmetical principles and computations designed to help the student's mathematical proficiency for selected curriculum entrance.

**MTH 091-DEVELOPMENTAL ALGEBRA I AND II MTH 092 (3T) 3 credits each**

**PREREQUISITE: A grade of "C" or better in MTH 090 or appropriate mathematics placement score. (Placement score will determine where student begins in sequence.)**

This sequence of developmental courses provides the student with a review of arithmetic and algebraic skills designed to provide sufficient mathematical proficiency necessary for entry into Intermediate College Algebra.

**MTH 098 ELEMENTARY ALGEBRA (4T) 4 credits**  
**PREREQUISITE: A grade of "C" or better in MTH 090 (Basic Mathematics) or appropriate mathematics placement score**

This course is a review of the fundamental arithmetic and algebra operations. The topics include the numbers of ordinary arithmetic and their properties; integers and rational numbers; the solving of equations; polynomials and factoring; and an introduction to systems of equations and graphs.

**MTH 100 INTERMEDIATE COLLEGE ALGEBRA (3T) 3 credits**

**PREREQUISITE: A grade of "C" or better in MTH 092 (Developmental Algebra II) or MTH 098 (Elementary Algebra) or appropriate mathematics placement score**

This course provides a study of algebraic techniques such as linear equations and inequalities, quadratic equations, systems of equations, and operations with exponents and radicals. Functions and relations are introduced and graphed with special emphasis on linear and quadratic functions. This course does not apply toward the general core requirement for mathematics.

**MTH 103 INTRODUCTION TO TECHNICAL MATHEMATICS (3T) 3 credits**

**PREREQUISITE: A grade of "C" or better in MTH 092 (Developmental Algebra II) or MTH 098 (Elementary Algebra) or appropriate mathematics placement score**

This course is designed for the student in technology needing simple arithmetic, algebraic, and right triangle trigonometric skills.

**MTH 104 PLANE TRIGONOMETRY (3T) 3 credits**  
**PREREQUISITE: A grade of "C" or better in MTH 100 (Intermediate College Algebra)**

This course emphasizes such topics as the solution of triangles, vectors, geometric concepts and complex numbers.

**MTH 110 FINITE MATHEMATICS (3T) 3 credits**

**PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as pass/fail) MTH 100 - Intermediate College Algebra**

This course is intended to give an overview of topics in finite mathematics together with their applications, and is taken primarily by students who are not majoring in science, engineering, commerce or mathematics (i.e., students who are not required to take Calculus). This course will draw on and significantly enhance the student's arithmetic and algebraic skills. The course includes sets, counting, permutations, combinations, basic probability (including Bayes' Theorem), and introduction to statistics (including work with Binomial Distributions and Normal Distributions), matrices and their applications to Markov chains and decision theory. Additional topics may include symbolic logic, linear models, linear programming, the simplex method and applications.

**MTH 112 PRECALCULUS ALGEBRA (3T) 3 credits**

**PREREQUISITE: A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score. An alternative to this is that the student should successfully pass with a "C" or higher (S if taken as pass/fail) MTH 100- Intermediate College Algebra.**

This course emphasizes the algebra of functions—including polynomial, rational, exponential, and logarithmic functions. The course also covers systems of equations and inequalities, quadratic inequalities, and the binomial theorem. Additional topics may include matrices, Cramer's Rule, and mathematical induction.

## Course Descriptions

**MTH 113 PRECALCULUS TRIGONOMETRY (3T) 3 credits**  
**PREREQUISITE:** A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a “C” or higher (S if taken as a pass/fail) MTH 112-Precalculus Algebra

This course includes the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations. The course also covers vectors, complex numbers, DeMoivre’s Theorem, and polar coordinates. Additional topics may include conic sections, sequences, and using matrices to solve linear systems.

**MTH 115 PRECALCULUS ALGEBRA & TRIGONOMETRY (4T) 4 credits**  
**PREREQUISITE:** A minimum prerequisite of high school Algebra I, Geometry, and Algebra II, with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a “C” or higher (S if taken as pass/fail) MTH 100 (Intermediate College Algebra) and receive permission from the academic division dean.

This course is a one-semester combination of Precalculus Algebra and Precalculus Trigonometry intended for superior students. The course covers the following topics: the algebra of functions (including polynomial, rational, exponential, and logarithmic functions), systems of equations and inequalities, quadratic inequalities, and the binomial theorem, as well as the study of trigonometric (circular functions) and inverse trigonometric functions, and includes extensive work with trigonometric identities and trigonometric equations, vectors, complex numbers, DeMoivre’s Theorem, and polar coordinates.

**MTH 116 MATHEMATICAL APPLICATIONS (3T) 3 credits**  
**PREREQUISITE:** MTH 090 (Basic Mathematics) or appropriate mathematics placement score

This course provides practical applications of mathematics and includes selected topics from consumer math and algebra. Some topics included are integers, percent, interest, ratio and proportion, metric system, probability, linear equations, and problem solving.

**MTH 120 CALCULUS AND ITS APPLICATIONS (3T) 3 credits**  
**PREREQUISITE:** A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a “C” or higher MTH 112-Precalculus Algebra.

This course is intended to give a broad overview of calculus and is taken primarily by students majoring in Commerce and Business Administration. It includes differentiation and integration of algebraic, exponential, and logarithmic functions and applications to business and economics. The course should include functions of several variables, partial derivatives (including applications), Lagrange Multipliers, L’Hopital’s Rule, and multiple integration (including applications).

**MTH 125 CALCULUS I (4T) 4 credits**  
**PREREQUISITE:** A minimum prerequisite of high school Algebra I, Geometry and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a “C” or higher MTH 113 (Precalculus Trigonometry) or MTH 115 (Precalculus Algebra & Trigonometry).

This is the first of three courses in the basic calculus sequence taken primarily by students in science, engineering, and mathematics. Topics include the limit of a function; the derivative of algebraic, trigonometric, exponential, and logarithmic functions; and the definite integral and its basic applications to area problems. Applications of the derivative are covered in detail, including approximations of error using differentials, maximum and minimum problems, and curve sketching using calculus.

**MTH 126 CALCULUS II (4T) 4 credits**  
**PREREQUISITE:** A minimum prerequisite of high school Algebra I, Geometry, and Algebra II with an appropriate mathematics placement score is required. An alternative to this is that the student should successfully pass with a “C” or higher MTH 125 (Calculus I).

This is the second of three courses in the basic calculus sequence. Topics include vectors in the plane and in space, lines and planes in space, applications of integration (such as volume, arc length, work and average value), techniques of integration, infinite series, polar coordinates, and parametric equations.

**MTH 227 CALCULUS III (4T) 4 credits**  
**PREREQUISITE:** A grade of “C” or better in MTH 126 (Calculus II)

This is the third of three courses in the basic calculus sequence. Topics include vector functions, functions of two or more variables, partial derivatives (including applications), quadratic surfaces, multiple integration, and vector calculus (including Green’s Theorem, Curl and Divergence, surface integrals, and Stokes’ Theorem).

**MTH 231 MATHEMATICS FOR THE ELEMENTARY TEACHER I (3T) 3 credits**  
**PREREQUISITE:** MTH 090 (Basic Mathematics)

This course is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include logic, sets and functions, operations and properties of whole numbers and integers including number theory, and use of manipulatives by teachers to demonstrate abstract concepts and by students while learning these abstract concepts as emphasized in the class. Upon completion, students are required to demonstrate proficiency in each topic studied as well as to learn teaching techniques that are grade level and subject matter appropriate, and test for mathematical proficiency and the learning of teaching concepts.

**MTH 232 MATHEMATICS FOR THE ELEMENTARY TEACHER II (3T) 3 credits**  
**PREREQUISITE:** MTH 231 (Mathematics for the Elementary Teacher I)

This course is the second of a three-course sequence and

is designed to provide appropriate insights into mathematics for students majoring in elementary education and to ensure that students going into elementary education are more than proficient at performing basic arithmetic operations. Topics include numeration skills with fractions, decimals and percentages, elementary concepts of probability and statistics, and analytic geometry concepts associated with linear equations and inequalities. The use of manipulatives and calculators in the teaching and learning process is stressed. Upon completion, students will test for mathematical proficiency and the learning of teaching concepts. Students also will demonstrate an appropriate teaching technique by preparing a lesson and teaching it to the class for their final exam grade.

**MTH 237 LINEAR ALGEBRA (3T) 3 credits**  
**PREREQUISITE: A grade of "C" or better in MTH 126 (Calculus II)**

This course introduces the basic theory of linear equations and matrices, real vector spaces, bases and dimension, linear transformations and matrices, determinants, eigenvalues and eigenvectors, inner product spaces, and the diagonalization of symmetric matrices. Additional topics may include quadratic forms and the use of matrix methods to solve systems of linear differential equations.

**MTH 238 APPLIED DIFFERENTIAL EQUATIONS I (3T) 3 credits**  
**COREQUISITE: MTH 227 (Calculus III)**

An introduction to numerical methods, qualitative behavior of first order differential equations, techniques for solving separable and linear equations analytically, and applications to various models (e.g. populations, motion, chemical mixtures, etc.); techniques for solving higher order linear differential equations with constant coefficients (general theory, undetermined coefficients, reduction of order and the method of variation of parameters), with emphasis on interpreting the behavior of solutions, and applications to physical models whose governing equations are of higher order; the Laplace transform as a tool for the solution of initial value problems whose inhomogeneous terms are discontinuous.

**MTH 265 ELEMENTARY STATISTICS (3T) 3 credits**  
**PREREQUISITE: MTH 100 (Intermediate College Algebra) or appropriate mathematics placement score**

This course provides an introduction to methods of statistics, including the following topics: sampling, frequency distributions, measures of central tendency, graphic representation, reliability, hypothesis testing, confidence intervals, analysis, regression, estimation, and applications. Probability, permutations, combinations, binomial theorem, random variables, and distributions may be included.

**MTH 270 PROBABILITY AND STATISTICS CONCEPTS (3T) 3 credits**  
**COREQUISITE: MTH 126 (Calculus II)**

This course provides an examination of the theory and applications of probability and statistics based on topics from calculus. It includes probability, sample spaces, random variables, probability distributions, estimation, confidence intervals, hypothesis testing, experimental analysis, moments and moment-generating functions, and computer-assisted data analysis using appropriate computer software.

**MUSIC (MUL) (MUP) (MUS)**

**MUL 192-193A PIANO ENSEMBLE (2-4E) 1 credit**  
**MUL 292-293A PREREQUISITE: Audition and Permission of instructor**

This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned.

**MUL 101-02 CLASS PIANO I, II (2E) 1 credit**

These courses, to be taken in sequence, present fundamentals of keyboard technique for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in playing and a knowledge of music fundamentals.

**MUL 111-12 CLASS VOICE I, II, III, IV (2E) 1 credit**

These courses must be taken in sequence. Emphasis is placed on fundamentals of correct breathing, tone production, and diction for students with little or no previous voice training. Literature appropriate for class level is studied. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in singing and a knowledge of music fundamentals. A minimum grade of "C" is required to progress to next level.

**MUL 161-63 CLASS FRETTED INSTRUMENTS I, II, III (2E) 1 credit**

These courses must be taken in sequence. These courses include basic techniques, chords, scales, fingering, rhythm, strumming, and playing simple melodies. They are designed for students with little or no previous training. Emphasis is placed on the rudiments of music, basic performance technique and general musicianship skills. Upon completion of one or a sequence of courses, students should be able to demonstrate a basic proficiency in playing and a knowledge of music fundamentals.

**MUL 180-81 CHORALE (2-4E) 1-2 credits**  
**MUL 280-81 PREREQUISITE: Permission of instructor**

These courses are selected performing ensembles open to all students. Chorale is required for voice majors and minors. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned.

**MUL 182-83 MADRIGAL SINGERS (2-4E) 1-2 credits**  
**MUL 282-83 PREREQUISITE: Permission of instructor and audition**

This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. This course is a select a cappella performing ensemble. Enrollment is limited. Performances are assigned.

## Course Descriptions

MUL 184-85 MUL 284-85	<b>CONNECTION (2-4E)</b> <b>PREREQUISITE: Permission of instructor and audition</b>	1-2 credits	developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.
This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by ensemble. Performances are assigned.	<b>MUP 133</b> <b>134, 233</b> <b>234</b>	<b>GUITAR (2-4E)</b> <b>PREREQUISITE: MUL 161, 162</b>	1-2 credits
MUL 192-93B MUL 292-93B	<b>GUITAR ENSEMBLE (2-4E)</b> <b>PREREQUISITE: Permission of instructor</b>	1-2 credits	Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. Minimum grade of "B" is required to progress to the next level.
This course provides ensemble experience for guitar students in playing standard literature and arrangements and transcriptions for classical technique. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Performances are assigned. This course is open to all students and is required for guitar majors.	<b>MUP 141</b> <b>142, 241</b> <b>242</b>	<b>FLUTE (2-4E)</b>	1-2 credits
MUL 196-97 MUL 296-97	<b>JAZZ BAND (2-4E)</b> <b>PREREQUISITE: Permission of instructor</b>	1-2 credits	Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. Minimum grade of "B" is required to progress to the next level.
This course provides an opportunity for students to participate in a performing ensemble. Emphasis is placed on rehearsing and performing literature appropriate to the mission and goals of the group. Upon completion, students should be able to effectively participate in performances presented by the ensemble. Performances are assigned.	<b>MUP 143</b> <b>144, 243</b> <b>244</b>	<b>CLARINET (2-4E)</b>	1-2 credits
MUP 101 102, 201 202	<b>PIANO (2-4E)</b> <b>PREREQUISITE: MUL 101, 102 or Permission of instructor</b>	1-2 credits	Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.
Individual study, minimum grade of "B" is required to progress to next level. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. At the conclusion of the last semester of study, a sophomore recital is required.	<b>MUP 145</b> <b>146, 245</b> <b>246</b>	<b>CLARINET (2-4E)</b>	1-2 credits
MUP 103 104, 203, 204	<b>ORGAN (2-4E)</b>	1-2 credits	Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.
Individual study, minimum grade of "B" is required to progress to next level. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. Upon completion, students should be able to effectively perform assigned repertoire and technical studies in an appropriate performance evaluation setting. At the conclusion of the last semester of study, a sophomore recital is required.	<b>MUP 151</b> <b>152, 251</b> <b>252</b>	<b>OBOE (2-4E)</b>	1-2 credits
MUP 111 112, 211 212	<b>VOICE (2-4E)</b> <b>PREREQUISITE: MUL 111</b>	1-2 credits	Individual instruction to include the study of standard literature and technique. Emphasis is placed on

**MUP 153**     **BASSOON (2-4E)**     **1-2 credits**  
**154, 253,**  
**254**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUP 161**     **TRUMPET (2-4E)**     **1-2 credits**  
**162, 261**  
**262**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUP 163**     **FRENCH HORN (2-4E)**     **1-2 credits**  
**164, 263**  
**264**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUP 171**     **TROMBONE (2-4E)**     **1-2 credits**  
**172, 271**  
**272**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUP 173**     **EUPHONIUM (2-4E)**     **1-2 credits**  
**174, 273**  
**274**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUP 175**     **TUBA (2-4E)**     **1-2 credits**  
**176, 275**  
**276**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is

required. A minimum grade of "B" is required to progress to the next level.

**MUP 181**     **PERCUSSION (2-4E)**     **1-2 credits**  
**182, 281**  
**282**  
 Individual instruction to include the study of standard literature and technique. Emphasis is placed on developing technique, repertoire and performance skills commensurate with the student's educational goals. Students are required to practice a minimum of five hours per week for each credit hour. At the conclusion of the last semester, a sophomore recital is required. A minimum grade of "B" is required to progress to the next level.

**MUS 101**     **MUSIC APPRECIATION (3T)**     **3 credits**  
 This course is designed for non-music majors and requires no previous musical experience. It is a survey course that incorporates several modes of instruction including lecture, guided listening, and similar experiences involving music. The course will cover a minimum of three (3) stylistic periods, provide a multi-cultural perspective, and include both vocal and instrumental genres. Upon completion, students should be able to demonstrate a knowledge of music fundamentals, the aesthetic/stylistic characteristics of historical periods, and an aural perception of style and structure in music. This course is offered in a tele-course, self-paced and lecture format.

**MUS 103**     **SURVEY OF POPULAR MUSIC (1-2T)**     **1-2 credits**  
 This course provides a study of the origins, development and existing styles of popular music. Topics include ragtime, jazz, rhythm and blues, rock, country and western, folk and world music. Upon completion, students should be able to demonstrate a knowledge, understanding and an aural perception of the stylistic characteristics of popular music. This course is offered in a self-paced and lecture format.

**MUS 110**     **BASIC MUSICIANSHIP (3T)**     **3 credits**  
 This course is designed to provide rudimentary music knowledge and skills for the student with a limited music background. Topics include a study of notation, rhythm, scales, keys, intervals, chords and basic sight singing and ear training skills. Upon completion, students should be able to read and understand musical scores and demonstrate basic sight singing and ear training skills for rhythm, melody and harmony. Required for music majors or acceptable score on placement test (75%).

**MUS 111**     **MUSIC THEORY I (3T)**     **3 credits**  
**PREREQUISITE: Minimum grade of "C" in MUS 110 or acceptable score on placement test (75%)**  
**COREQUISITE: MUS 113**  
 This course introduces the student to the diatonic harmonic practices in the Common Practice Period. Topics include fundamental musical materials (rhythm, pitch, scales, intervals, diatonic harmonies) and an introduction to the principles of voice leading and harmonic progression. Upon completion, students should be able to demonstrate a basic competency using diatonic harmony through analysis, writ-

**Course Descriptions**

**COURSE DESCRIPTIONS**

	ing, sight singing, dictation and keyboard skills. Open lab required. Spring; Decatur campus.		
<b>MUS 112</b>	<b>MUSIC THEORY II (3T)</b> <b>PREREQUISITE: Minimum grade of "C" in MUS 111</b> <b>COREQUISITE: MUS 114</b> This course completes the study of diatonic harmonic practices in the Common Practice Period and introduces simple musical forms. Topics include principles of voice leading used in three- and four- part triadic harmony and diatonic seventh chords, non-chord tones, cadences, phrases and periods. Upon completion, students should be able to demonstrate competence using diatonic harmony through analysis, writing, sight singing, dictation and keyboard skills. Open lab required. Fall; Decatur campus.	<b>3 credits</b>	
<b>MUS 113</b>	<b>MUSIC THEORY LAB I (1E)</b> <b>PREREQUISITE: MUS 110 or suitable placement score or permission of instructor</b> <b>COREQUISITE: MUS 111</b> This course provides the practical application of basic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, simple triads, diatonic stepwise melodies, basic rhythmic patterns in simple and compound meter and four-part triadic progressions in root position. Upon completion, students should be able to write, sing and play intervals, scales, basic rhythmic patterns, diatonic stepwise melodies, simple triads and short four-part progressions in root position. Spring; Decatur campus.	<b>1 credit</b>	
<b>MUS 114</b>	<b>MUSIC THEORY LAB II (1E)</b> <b>PREREQUISITE: MUS 113</b> <b>COREQUISITE: MUS 112</b> This course continues the practical application of diatonic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include intervals, scales, diatonic melodies with triadic arpeggiations, more complex rhythmic patterns in simple and compound meter and four-part diatonic progressions in all inversions. Upon completion, students should be able to write, sing and play all intervals, rhythmic patterns employing syncopations and beat divisions, diatonic melodies and four-part progressions. Fall; Decatur campus.	<b>1 credit</b>	
<b>MUS 211</b>	<b>MUSIC THEORY III (3T)</b> <b>PREREQUISITE: Minimum grade of "C" in MUS 112</b> <b>COREQUISITE: MUS 213</b> This course introduces the student to the chromatic harmonic practices in the Common Practice Period. Topics include secondary functions, modulatory techniques, and binary and ternary forms. Upon completion, students should be able to demonstrate competence using chromatic harmony through analysis, writing, sight singing, dictation and keyboard skills. Open lab required. Spring; Decatur campus.	<b>3 credits</b>	
<b>MUS 213</b>	<b>MUSIC THEORY LAB III (1E)</b> <b>PREREQUISITE: MUS 114</b> <b>COREQUISITE: MUS 211</b> This course provides the practical application of chromatic musical materials through sight singing; melodic, harmonic and rhythmic dictation; and keyboard harmony. Topics include melodies with simple modulations, complex rhythms in simple and compound meter, and secondary function chords. Upon completion, students should be able to write, sing and play modulating melodies, rhythmic patterns with beat subdivisions and four-part chromatic harmony. Spring; Decatur campus.	<b>1 credit</b>	
<b>MUS 251</b>	<b>INTRODUCTION TO CONDUCTING (3T)</b> <b>PREREQUISITE: MUS 110 or acceptable score on placement test (75%)</b> This course introduces the fundamentals of conducting choral and/or instrumental ensembles. Topics include a study of simple and compound meters, score reading and techniques for conducting effective rehearsals. Upon completion, students should be able to prepare and conduct a choral and/or instrumental score in a rehearsal or performance setting.	<b>3 credits</b>	
<b>MUS 270</b>	<b>ORGANIZATION OF THE CHURCH MUSIC PROGRAM (2-3T)</b> <b>PREREQUISITE: MUS 110</b> This course is designed to explore administrative models of a comprehensive church music program. Topics include leadership, administrative structure, music personnel, facilities, equipment, vestments, music library, budgeting, planning, vocal and instrumental ensembles and scheduling for a music program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a comprehensive church music program.	<b>2-3 credits</b>	
<b>MUS 271</b>	<b>CHURCH MUSIC LITERATURE (2-3T)</b> <b>PREREQUISITE: MUS 110</b> This course provides an historic survey of traditional church music from the 17th century to the present and introduces contemporary Christian styles. Topics include criteria for choosing appropriate music for graded church choirs at easy, medium and advanced levels of difficulty, and a survey of publishing resources and cataloging systems. Upon completion, students should be able to demonstrate a knowledge and understanding of church music literature.	<b>2-3 credits</b>	
<b>MUS 272</b>	<b>THE CHILDREN'S CHOIR (2-3T)</b> This course is designed to provide techniques for working with the child's voice in a choral setting. Topics include working with children's voices, rehearsal techniques, selecting literature, vestments and organizing a graded choir program. Upon completion, students should be able to demonstrate how to plan, coordinate and administer a graded choir program in a church.	<b>2-3 credits</b>	

**MUS 290 INTRODUCTION TO COMMERCIAL MUSIC (2-3T) 2-3 credits**  
This course provides an introduction to the commercial music industry and the types of careers in commercial music. Topics include music publishing, recording, contracts, agents and managers, copyrights, unions, music companies and dealers. Upon completion, students should be able to demonstrate a basic knowledge and understanding of the different components of the commercial music industry and the various career options.

**MUS 291 MUSICAL ACOUSTICS (2-3T) 2-3 credits**  
**PREREQUISITE: Permission of instructor**  
This course is designed to acquaint the student with the nature of musical acoustics and the science of sound. Topics include terminology, symbols, the nature and transmission of sound, vibration, frequency, pitch, intervals, harmonies, resonance, consonance and dissonance. Upon completion, students should be able to demonstrate an understanding of the basic skills and concepts through the successful presentation of an individual project in musical acoustics.

**MUS 292 SONG WRITING (3T) 3 credits**  
**PREREQUISITE: As required by program**  
This course provides an introduction to song writing and marketing techniques. Topics include lyric writing, song structures, preparing a lead sheet, notation, rhythmic and melodic dictation, key signatures, basic chord structures, recording, basic copyright laws and publishing. Upon completion, students should be able to compose a song, prepare a lead sheet and demo tape, apply for a copyright and market a song.

**MUSIC INDUSTRY COMMUNICATIONS (MIC)**

**MIC 100 INTRODUCTION TO MASS COMMUNICATIONS 3 credits**  
This course provides the student with general study of mass communications and journalism. This course includes theory, development, regulation, operation, and effects upon society. Upon completion of this class, students should be able to decide which field of mass communications on which to focus.

**MIC 153 INTRODUCTION TO RECORDING TECHNOLOGY (3T) 3 credits**  
This course is designed to acquaint the student with basic recording fundamentals. Emphasis is placed on microphone techniques, recording principals, musician and recording engineers' code. Upon completion, students should be able to do basic analog recordings.

**MIC 201 PUBLISHING FOR THE RECORDING INDUSTRY (3T) 3 credits**  
This course is an introduction to the operation and functions of publishing in the recording industry.

**MIC 250 MASS COMMUNICATIONS PRACTICUM (3T) 3 credits**  
**PREREQUISITE: MIC 153 or instructor approval**

This course provides practical experience in media through supervised part- or full-time employment with a newspaper, radio or television station, recording studio, or public relations/advertising agency. Upon completion, students should be able to receive employment based on demonstration of their skills in their subject area.

**MIC 251 RECORDING STUDIO PRODUCTION (3T) 3 credits**  
**PREREQUISITE: MIC 153 or instructor approval**  
This course is designed to acquaint the student with the functional roles of the commercial recording studio. Emphasis will be placed on studio production projects, and include a study of contracts, managers, agents, recording rights, copyright laws, unions, publishers, and music companies. Upon completion, students should be able to produce studio quality recordings and have an understanding of the music industry.

**MIC 253 COMPUTER LITERACY FOR THE MUSICIAN I (3T) 3 credits**  
This course is designed to teach musicians how to use computers for music writing, ear training, theory, and sequencing. Topics include an introduction to MIDI, sequencing, Master Tracks Pro, Studio 3.1 and 4.0, Cakewalk and Musicator. Upon completion, students should have an understanding of MIDI, Charting and Sequencing on the computer.

**MIC 254 COMPUTER LITERACY FOR THE MUSICIAN II (3T) 3 credits**  
**PREREQUISITE: MIC 253 or instructor approval**  
This course is designed to teach advanced computer sequencing techniques. Emphasis is placed on projects and the use of computer sequencing software and hardware. Students should be able to sequence and perform advanced editing using MIDI.

**MIC 255 DIGITAL RECORDING (3T) 3 credits**  
**PREREQUISITE: MIC 253 or instructor approval**  
This course is designed to teach Digital Recording using hard disk wave recording techniques. Emphasis is placed on projects and the use of Digital Recording software and hardware. Upon completion, students should be able to do recordings on the "Special Audio Engine" and other software with masters of digital quality.

**MIC 293 MUSIC NOTATION (3T) 3 credits**  
**PREREQUISITE: MIC 253 or instructor approval**  
This course is designed to teach students the music program for charting and writing music. Emphasis will be placed on the use of the software program "FINALE". Upon completion, students should be able to chart and write music using industry standards.

**NURSING ASSISTANT (NAS)**

**NAS 100 FUNDAMENTALS OF LONG TERM CARE (3T, 3C) 4 credits**  
This course fulfills the seventy-five (75) hour Omnibus Budget Reconciliation Act (OBRA) requirements for training of long-term care nursing assistants in preparation for cer-

## Course Descriptions

tification through competency evaluation. Emphasis is placed on the development of the knowledge, attitudes, and skills required of the long-term care nursing assistant. Upon completion of this course, the student should demonstrate satisfactory performance on written examinations and clinical skills.

### NURSING (ADN/LPN)

#### NUR 102 FUNDAMENTALS OF NURSING (3T, 6S/3C) 6 credits

**PREREQUISITE: As required by program**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students learn concepts and theories basic to the art and science of nursing. The role of the nurse as a member of the healthcare team is emphasized. Students are introduced to the concepts of client needs, safety, communication, teaching/learning, critical thinking, ethical-legal, cultural diversity, nursing history, and the program's philosophy of nursing. Additionally, this course introduces psychomotor nursing skills needed to assist individuals in meeting basic human needs. Skills necessary for maintaining microbial, physical, and psychological safety are introduced along with skills needed in therapeutic interventions. At the conclusion of this course, students demonstrate competency in performing basic nursing skills for individuals with common health alterations.

#### NUR 103 HEALTH ASSESSMENT (3S) 1 credit

**PREREQUISITE: As required by program**

This course is designed to provide students the opportunity to learn and practice history taking and physical examination skills with individuals of all ages, with emphasis on the adult. The focus is on symptom analysis along with physical, psychosocial, and growth and development assessments. Students will be able to utilize critical thinking skills in identifying health alterations, formulating nursing diagnoses and documenting findings appropriate to nursing.

#### NUR 104 INTRODUCTION TO PHARMACOLOGY (3S) 1 credit

**PREREQUISITE: As required by program**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. This course introduces students to basic principles of pharmacology and the knowledge necessary to safely administer medication. Course content includes legal implications, pharmacokinetics, pharmacodynamics, calculations of drug dosages, medication administration, and an overview of drug classifications. Students will be able to calculate and administer medications.

#### NUR 105 ADULT NURSING (5T, 3S/6C) 8 credits

**PREREQUISITE: As required by program**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Emphasis is placed on providing care to individuals undergoing surgery, fluid and electrolyte imbal-

ance, and common alterations in respiratory, musculoskeletal, gastrointestinal, cardiovascular, endocrine. Nutrition, pharmacology, communication, cultural, and community concepts are integrated.

#### NUR 106 MATERNAL AND CHILD NURSING (4T, 3C) 5 credits

**PREREQUISITE: As required by program**

This course focuses on the role of the nurse in meeting the physiological, psychosocial, cultural and developmental needs of the maternal and child client. Course content includes antepartal, intrapartal, and postpartal care, complications of pregnancy, newborn care, human growth and development, pediatric care, and selected pediatric alterations. Nutrition, pharmacology, cultural diversity, use of technology, communication, anatomy and physiology review, medical terminology, critical thinking, and application of the nursing process are integrated throughout this course. Upon completion of this course, students will be able to provide and manage care for maternal and pediatric clients in a variety of settings.

#### NUR 107 ADULT/CHILD NURSING (5T, 9C) 8 credits

**PREREQUISITE: As required by program**

This course provides students with opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process in a variety of settings. Emphasis is placed on providing care to individuals experiencing complex alterations in: sensory/perceptual, reproductive, endocrine, genitourinary, neurological, immune, cardiovascular, and lower gastrointestinal systems. Additional instruction is provided for care for clients experiencing burns, cancer, and emergent conditions. Nutrition, pharmacology, therapeutic communication, community, cultural diversity, health promotion, error prevention, critical thinking, impacts on maternal and child clients are integrated throughout the course.

#### NUR 108 PSYCHOSOCIAL NURSING (2T, 3C) 3 credits

**PREREQUISITE: As required by program**

This course is designed to provide an overview of psychosocial adaptation and coping concepts used when caring for clients with acute and chronic alterations in mental health in a variety of settings. Topics include therapeutic communication skills, normal and abnormal behaviors, treatment modalities, and developmental needs. Upon completion of this course, students will demonstrate the ability to assist clients in maintaining psychosocial integrity through the use of the nursing process.

#### NUR 109 ROLE TRANSITION FOR THE PRACTICAL NURSE (2T, 3S) 3 credits

**PREREQUISITE: As required by program**

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to practicing nurse. Content includes a discussion of current issues in health care, practical nursing leadership and management, professional practice issues, and transition into the workplace. Emphasis is placed on NCLEX-PN test-taking skills, computer-assisted simulations and practice tests, development of a prescriptive plan for remediation,

and review of selective content, specific to the practice of practical nursing.

**NUR 200 NURSING CAREER MOBILITY ASSESSMENT (3T, 9S)**

**6 credits**

This course is designed to provide LPN mobility students self-directed opportunities to prepare for placement into the third semester of the ADN program. Emphasis is on assessment and validation of selected theory, process, and skills covered in NUR 102, 103, 104, 105, and 106. Upon successful completion of assessments, students are eligible for entry into NUR 201. Students who successfully complete this course are awarded 15 non-traditional hours at the completion of the LPN mobility curriculum.

**NUR 201 NURSING THROUGH THE LIFESPAN (3T, 6C)**

**5 credits**

**PREREQUISITE: As required by program**

This course provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in gastrointestinal, reproductive, sensory, and endocrine systems in a variety of settings. Additional instruction is provided for oncology, mental health, teaching/learning concepts, and advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

**NUR 202 NURSING THROUGH THE LIFESPAN II (3T, 9C)**

**6 credits**

**PREREQUISITE: As required by program**

This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, hematologic, immune, and genitourinary systems in a variety of settings. Additional instruction is provided for psychiatric disorders and high-risk obstetrics. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

**NUR 203 NURSING THROUGH THE LIFESPAN III (4T, 6C)**

**6 credits**

**PREREQUISITE: As required by program**

This course builds upon previous instruction and provides additional opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner using the nursing process. Students manage and provide collaborative care to clients who are experiencing selected alterations in cardiovascular, respiratory, and neurological systems in a variety of settings. Additional instruction is provided in care for selected mental health disorders, selected emergencies, multiple organ dysfunction syndrome and related disorders. Teaching/learning concepts, advanced dosage calculations, nutrition, pharmacology, communication, cultural, and community concepts are integrated.

**NUR 204 ROLE TRANSITION FOR THE REGISTERED NURSE (2T, 6C)**

**4 credits**

**PREREQUISITE: As required by program**

This course provides students with opportunities to gain knowledge and skills necessary to transition from student to registered nurse. Content includes current issues in health care, nursing leadership and management, professional practice issues for registered nurses, and transition into the workplace. Additional instruction is provided for preparing for the NCLEX-RN.

**ORIENTATION (ORI)**

**ORI 101 ORIENTATION TO COLLEGE (1)**

**1 credit**

This course aids new students in their transition to the institution; exposes new students to the broad educational opportunities of the institution; and integrates new students into the life of the institution.

**ORI 103 ORIENTATION (STUDY SKILLS) (2T)**

**2 credits**

This course helps students develop practical knowledge and skills toward a successful college experience, both academically and personally. Topics include time management, reading, memory, notes, tests, diversity, thinking, writing, relationships, health, and career planning.

**PHYSICAL EDUCATION (PED)**

**PED 100 FUNDAMENTALS OF FITNESS (3T)**

**3 credits**

This lecture course includes the basic principles of physical education and physical fitness. It explores psychological and physiological effects of exercise and physical fitness, including effects on the human skeleton, muscle development, respiration and coordination. It is reviewed as an introduction to such laboratory courses as slimnastics, weight training, and conditioning. This course may also include fitness evaluation, development of individual fitness programs, and participation in fitness activities.

**PED 101 SLIMNASTICS (Beginning) (2A)**

**1 credit**

This course provides an individualized approach to physical fitness, wellness, and other health-related factors. Emphasis is placed on the scientific basis for setting up and engaging in personalized physical fitness programs. Upon completion, students should be able to set up and implement an individualized physical fitness program.

**PED 102 SLIMNASTICS (Intermediate) (2A)**

**1 credit**

This course is an intermediate-level class. Topics include specific exercises contributing to fitness and the role exercise plays in developing body systems, nutrition, and weight control. Upon completion, students should be able to implement and evaluate an individualized physical fitness program. This is an individual and dual sport activity.

**PED 103 WEIGHT TRAINING (Beginning) (2A)**

**1 credit**

This course introduces the basics of weight training.