Course Descriptions

LTCA 1312 Resident Care in the Long-Term Care Facility
This course includes a study of the delivery of quality services to residents of long-term care facilities. It is an overview of the methods for accessing and implementing strategies to promote quality resident care, and includes a presentation of philosophical and ethical considerations. (3:3-0)

LTCA 1313 Organization and Management of Long Term Care Facilities
This is an overview of the functional organizational structures common to long-term care facilities. It includes an examination of the departments in long-term care facilities, chain of command, personnel, regulatory requirements, quality indicators, and the role of the long-term care administrator. (3:3-0)

LTCA 2314 Long Term Care Law
This is an examination of the types and sources of law relating to the long term care industry. A study of federal, state, and local statutes and regulations affecting the long-term care industry is covered. (3:3-0)

LTCA 2315 Financial Management of Long Term Care Facilities
This is a study of techniques and strategies for gathering and using financial information to make decisions in the long-term care facility and includes an examination of budget processes, accounting principles, financial statements, and inventory controls. Topics include the special accounting requirements of Medicare, Medicaid, and other third-party payment systems. (3:3-0)

LTCA 2388 Internship-Health Care Facilities Administration/Management
This is a work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer. (3:0-18)

LTCA 2488 Internship-Health Care Facilities Administration/Management
This is a work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer. (3:0-22)

LTCA 2489 Internship-Health Care Facilities Administration/Management
This is a work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer. (3:0-23)

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MAMT 2333 Anatomy/Positioning and Patient Assessment
This course is a presentation of specialized instruction in breast imaging. Emphasis will be placed on breast anatomy, physiology, positioning, patient education, and assessment. Anatomy instruction will include surface anatomy as well as deep anatomy. Further emphasis will be placed on routine and additional projections and positioning modifications. Prerequisite: Graduate of a 2-year accredited medical radiography program in Radiology, ARRT certification in Radiography. (3:3-0)

MAMT 2363 Clinical - Mammography Technology
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: Graduate of a 2-year accredited medical radiography program in Radiology, ARRT certification in Radiography. (3:0-10)

MARA 2401 Introduction to Ships and Shipping
Introduction to the maritime industry and ships used in the transportation of goods and services. Shipboard nomenclature, types and missions of merchant ships, shipbuilding nomenclature and dimensions, shipbuilding materials and methods, modes of cargo handling and their impact on ship design. Prerequisite: Reading level 7 (4:3-2)

MART 1471 Introduction to Ships and Shipping
This is an introduction to the maritime industry and ships used in the transportation of goods and services. Shipboard nomenclature, types and missions of merchant ships, shipbuilding, shipbuilding materials and methods, modes of cargo handling and their impact on ship design. Prerequisite: Reading level 4 (4:4-0)

MATH 0106 NCBO Preparation for Academic Mathematics
This course is intended for students who nearly place into a transfer-level math course. The course includes the study of relations and functions, inequalities, algebraic expressions and equations (absolute value, polynomial, radical, rational), with a special emphasis on linear and quadratic expressions and equations. The use of an online software package is required. (1:1-0)

MATH 0303 Basic Mathematics
This is an arithmetic course which builds basic skills of addition, subtraction, multiplication and division with whole numbers, fractions, and decimals. Additional topics include graphing whole numbers, fractions and decimals on a number line as well as area and perimeter concepts. This course is designed specifically for students who need a review of the basic arithmetic skills or have not yet mastered them. This course is not applicable toward any degree. Prerequisite: Math level 2 (3:2-2)
MATH 0304 Pre-Algebra
This is a pre-algebra course which integrates the study of integers, fractions, decimals, percents, ratio and proportion with basic algebra. Additional topics covered include: measurement, estimation, elementary statistics, reasoning skills, number relationships, order of operations, and basic geometry. The emphasis in all topics is on their application to real life situations. This course is not applicable toward any degree. Prerequisite: Math level 4 (3:3-1)

MATH 0305 Introductory Algebra
This course is a study of the basic algebra of solving and graphing linear equations, inequalities, and systems. Other topics include formulas, literal equations, polynomials, integral exponents, factoring, basic operations of radicals and rational expressions. Algebraic and basic geometric applications are included. This course promotes critical thinking and problem solving techniques. This course is not applicable toward any degree. Prerequisite: a grade of C or better in MATH 0304 or Math level 6 (3:3-0)

MATH 0306 Intermediate Algebra
This course is a study of intermediate algebra including sets, variation, polynomials, exponents, radicals, and functions. Studies of quadratic and rational equations and inequalities, as well as graphs of quadratics and other nonlinear equations and inequalities are also included. The course emphasizes applications in both single- and multi-step real world problems. This course is not applicable toward any degree. Prerequisite: a grade of C or better in MATH 0305 or math score within defined range (3:3-0)

MATH 0310 College Preparatory Math
This course is computer-based using a software program to accelerate students through the College Preparatory math curriculum. It covers all topics that are taught in Prealgebra, Introductory Algebra, and Intermediate Algebra. Topics include: basic arithmetic and order of operations using integers, fractions and decimals; algebraic concepts using real numbers, percents, ratios, proportions and algebraic expressions; basic geometry, reasoning skills, measurement and elementary statistics; solving linear, quadratic, absolute value, rational and radical equations; solving and graphing linear, quadratic and rational inequalities, including interval notation; graphing linear and quadratic equations; applications using linear, quadratic and rational equations; properties of functions and function notation; solving 2 x 2 and 3 x 3 systems of equations and applications of 2 x 2 systems; polynomial operations, exponent properties and scientific notation; factoring polynomials; operations with rational expressions, radicals and complex numbers. This course is not applicable toward any degree. Prerequisite: MATH 0310, Math level 4 (3:3-0)

MATH 0320 College Preparatory Math
This course is a continuation of MATH 0310 and is computer-based using a software program to accelerate students through the College Preparatory math curriculum. It covers all topics that are taught in Prealgebra, Introductory Algebra, and Intermediate Algebra. Topics include: basic arithmetic and order of operations using integers, fractions and decimals; algebraic concepts using real numbers, percents, ratios, proportions and algebraic expressions; basic geometry, reasoning skills, measurement and elementary statistics; solving linear, quadratic, absolute value, rational and radical equations; solving and graphing linear, quadratic and rational inequalities, including interval notation; graphing linear and quadratic equations; applications using linear, quadratic and rational equations; properties of functions and function notation; solving 2 x 2 and 3 x 3 systems of equations and applications of 2 x 2 systems; polynomial operations, exponent properties and scientific notation; factoring polynomials; operations with rational expressions, radicals and complex numbers. This course is not applicable toward any degree. Prerequisite: MATH 0320, Math level 4 (3:3-0)

MATH 1314 Algebraic Foundations
This course is a study of the basic algebraic concepts necessary for success in MATH 1314 (College Algebra), to include exponent rules, radical and rational expressions, and the solution of equations and inequalities. This course is not applicable toward any degree. Prerequisites: a grade of B or better in MATH 0304 or Math level 6, Reading level 7. Co-requisite: MATH 1314 (3:3-0)

MATH 0316 Plane Trigonometry
This course is an in-depth study and application of trigonometry including definitions, identities, inverse functions, solutions of equations, graphing, and solving triangles. Additional topics such as vectors, polar coordinates and parametric equations may be included. Prerequisites: MATH 1314 or approval by department chair (3:3-0)
MATH 1324 Mathematics for Business and Social Sciences I (Finite Mathematics)
This course includes topics from college algebra (linear equations, quadratic equations, functions and graphs, inequalities), mathematics of finance (simple and compound interest, annuities), linear programming, matrices, systems of linear equations, applications to management, economics, and business. Prerequisite: MATH 1314 or approval by department chair (3:3-0)

MATH 1325 Mathematics for Business and Social Sciences II (Business Calculus)
This course covers limits and continuity, derivatives, graphing and optimization, exponential and logarithmic functions, antidifferentiation, integration, applications to management, economics, and business. Prerequisite: MATH 1324 or equivalent. (The content of MATH 1325 is expected to be below the content level of MATH 2413) (3:3-0)

MATH 1332 Contemporary Mathematics I (Math for Liberal Arts Majors I)
This course contains topics which may include introductory treatments of sets, logic, number systems, number theory, relations, functions, probability and statistics. Appropriate applications are included. Prerequisites: a grade of C or better in MATH 0306 or math score within defined range (3:3-0)

MATH 1333 Contemporary Mathematics for Technical Programs
This course provides a broad background in principles and applications of mathematics found in many technical and vocational degree programs. Topics may include: a survey of equations (linear, quadratic, rational, exponential and logarithmic); geometry; trigonometry; relations and functions; statistics; matrices; and select applications. This course will satisfy the math requirement of the Associate of Applied Science degree, but does not satisfy the math requirement of the associate of arts, associate of science, or associate of arts in teaching degree. Prerequisite: a grade of C or better in MATH 0306 or Math level 9 (3:3-0)

MATH 1342 Elementary Statistical Methods (Statistics)
This course covers collection, analysis, presentation and interpretation of data, and probability. Analysis includes descriptive statistics, correlation and regression, confidence intervals and hypothesis testing. Use of appropriate technology is recommended. Prerequisite: MATH 1314 or approval by department chair (3:3-0)

MATH 1350 Fundamentals of Mathematics I
This course focuses on concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real number systems with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek EC-8 teacher certification. Prerequisites: MATH 1314 (3:3-0)

MATH 1351 Fundamentals of Mathematics II
This course focuses on concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement, with an emphasis on problem solving and critical thinking. This course is designed specifically for students who seek EC-8 teacher certification. Prerequisite: MATH 1314 or approval by department chair (3:3-0)

MATH 2318 Linear Algebra
This course introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. Prerequisite: MATH 2414 (3:3-0)

MATH 2320 Differential Equations
This course focuses on ordinary differential equations, including linear equations, systems of equations, equations with variable coefficients, existence and uniqueness of solutions, series solutions, singular points, transform methods, and boundary value problems; application of differential equations to real-world problems. Prerequisite: MATH 2414 (3:3-0)

MATH 2412 Pre-Calculus Math
This course is an in-depth combined study of algebra, trigonometry, and other topics for calculus readiness. Prerequisite: MATH 1314 or approval by department chair (4:4-0)

MATH 2413 Calculus I
This course covers limits and continuity, the Fundamental Theorem of Calculus, the definition of the derivative of a function, techniques of differentiation, applications of the derivative to maximizing or minimizing a function, the chain rule, mean value theorem, and rate of change problems, curve sketching, definite and indefinite integration of elementary functions with an application to the calculation of areas. Prerequisite: MATH 2412 or equivalent preparation (4:4-0)

MATH 2414 Calculus II
This course covers differentiation and integration of transcendental functions, parametric equations and polar coordinates, techniques of integration, sequences and series, improper integrals. Prerequisite: MATH 2413 (4:4-0)

MATH 2415 Calculus III
This course covers advanced topics in calculus, including vectors, and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, and Jacobians; application of the line integral, including Green's Theorem, the Divergence Theorem, and Stokes' Theorem. Prerequisite: MATH 2414 (4:4-0)
MDCA 1254 Medical Assisting Credentialing Exam Review
This is a preparation for the Certified Medical Assistant (American Association of Medical Assistants) or Registered Medical Assistant (American Medical Technologists) credentialing exam. Prerequisites: Reading level 6, Writing level 6, Math level 6 (2:1-2)

MDCA 1302 Human Disease/Pathophysiology
This is a study of anatomy and physiology with emphasis on human pathophysiology, including etiology, prognosis, medical treatment, signs and symptoms of common diseases of all body systems. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

MDCA 1305 Medical Law and Ethics
This course covers instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants in ambulatory care settings. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

MDCA 1309 Anatomy and Physiology for Medical Assistants
This course emphasizes structure and function of human cells, tissues, organs, and systems with overview of common pathophysiology. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-1)

MDCA 1310 Medical Assistant Interpersonal and Communication Skills
This course emphasizes the application of basic psychological principles and the study of behavior as they apply to special populations. Topics include procedures for self-understanding and social adaptability in interpersonal communication with patients and co-workers in an ambulatory care setting. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

MDCA 1343 Medical Insurance
This course emphasizes medical office coding procedures for payment and reimbursement by patient or third party payers for ambulatory care settings. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:2-2)

MDCA 1348 Pharmacology and Administration of Medications
This course covers instruction in concepts and application of pharmacological principles. It focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medico-legal responsibilities of the medical assistant. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:2-2)

MDCA 1417 Procedures in a Clinical Setting
This course emphasizes patient assessment, examination, and treatment as directed by physicians. It includes vital signs, collection and documentation of patient information, asepsis, office clinical procedures, and other treatments as appropriate for ambulatory care settings. Prerequisites: Reading level 6, Writing level 6, Math level 6, and MDCA 1421 (4:3-3)

MDCA 1421 Administrative Procedures
This course focuses on medical office procedures including appointment scheduling, medical records creation and maintenance, interpersonal communications, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office. Prerequisites: Reading level 6, Writing level 6, Math level 6 (4:2-6)

MDCA 1560 Clinical - Medical/Clinical Assistant
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional (faculty or Preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience. Prerequisites: Reading level 6, Writing level 6, Math level 6 and MDCA 1417. (5:0-15)

METL 1313 Introduction to Corrosion
This course provides an introduction to internal, external, and atmospheric corrosion including terminology, causes of common problems in industry, and general remedies such as cathodic protection, protective coatings, material selection, and chemical treatments. (3:2-2)

METL 1405 Welding Metallurgy I
This is a study of metallurgy and its application related to welding including studies of metal characteristics, testing, effects of alloying and heat treating, and basic properties, with an emphasis on conducting tests and metallurgical techniques. (4:3-3)

METL 2435 Welding Metallurgy II
This is an advanced course in the application of metallurgy principles to the processes and procedures pertaining to various metal compositions and fusions. Studies include the metallurgy and selection of filler metal groups, the nature of defects, metal fusion problems, thermal effects in metal fusion, and the welding of various kinds of steel and nonferrous materials. Prerequisite: METL 1405 or department chair approval (4:3-3)

MLAB 1201 Introduction to Clinical Laboratory Science
This course is an introduction to clinical laboratory science including quality control, laboratory math, safety, laboratory equipment, laboratory settings, accreditation, certification, professionalism and ethics. Prerequisites: to enroll in this course, a student must have qualified to enter the medical laboratory technology program or have permission from the program director of the medical laboratory technology department. (2:2-1)

MLAB 1227 Coagulation
This is a course in coagulation theory, procedures, and practical applications. It includes quality control, quality assurance, safety and laboratory procedures which rely on commonly performed manual and/or semi-automated methods. Prerequisite: MLAB 1201 (2:2-1)
MLAB 1231 Parasitology/Mycology
This course is a study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures, quality control, quality assurance, and safety. Prerequisite or co-requisite: MLAB 2434 (2:2-1)

MLAB 1235 Immunology/Serology
This course is an introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and the principles of serological procedures as well as quality control, quality assurance, and safety. Prerequisite: MLAB 1201 (2:2-1)

MLAB 1311 Urinalysis and Body Fluids
This course is an introduction to the study of urine and body fluid analysis. It includes the anatomy and physiology of the kidney, physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids as well as quality control, quality assurance and safety. Prerequisite: a student must enroll in the medical laboratory technology program. (3:2-2)

MLAB 1415 Hematology
This is a study of blood cells in normal and abnormal conditions. It includes instruction in the theory and practical application of hematology procedures, including quality control, quality assurance, safety, manual and/or automated methods as well as blood cell maturation sequences, and normal and abnormal morphology with associated diseases. Prerequisite: a student must have been accepted into the medical laboratory technology program or have permission from the department chair, MLAB 1201. (4:3-4)

MLAB 2166 Practicum I-Medical Laboratory Technician
This course covers practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2434 (1:0-9)

MLAB 2266 Practicum II-Medical Laboratory Technician
This course covers practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2431 (2:0-17)

MLAB 2267 Practicum III-Medical Laboratory Technician
This course covers practical general training and experiences in the workplace. The College and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. This course may be repeated if topics and learning outcomes vary. Prerequisite: MLAB 2501 (2:0-17)

MLAB 2338 Advanced Topics in Medical Laboratory Technician
This course examines the integration of all areas of the clinical laboratory and correlates laboratory test data with diagnostic applications and pathophysiology using critical thinking skills. This capstone course provides the student with the synthesis of knowledge and skills in preparation for professional employment and establishes the framework for continuous growth in the medical laboratory technology field. Prerequisites: MLAB 2434 and MLAB 2266 (3:3-0)

MLAB 2431 Immunohematology
This is a study of blood antigens and antibodies. It presents quality control, basic laboratory technique and safety. It includes the principles, procedures and clinical significance of test results in genetics, blood group systems, pre-transfusion testing, adverse effects of transfusions, donor selection and components, and hemolytic disease of the newborn. Prerequisite or co-requisite: MLAB 1235 (4:3-4)

MLAB 2434 Microbiology
This course covers instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, quality control, quality assurance, safety, setup, identification, susceptibility testing, and reporting results. Prerequisite: MLAB 1201 or department chair approval (4:3-4)

MLAB 2501 Chemistry
This course is an introduction to the principles and procedures of various tests performed in Clinical Chemistry. It presents the physiological basis, principle and procedure, and clinical significance of test results, including quality control and reference values. It includes basic chemical laboratory technique and safety, electrolytes, acid-base balance, proteins, carbohydrates, lipids, enzymes, endocrine function, and toxicology. Prerequisite or co-requisite: MLAB 1201 (5:3-6)

MRIT 2330 Principles of Magnetic Resonance Imaging
This course is an in-depth coverage of magnetic resonance imaging techniques. Image quality assurance and safety protocols are emphasized. Prerequisites: ARRT registered or registry eligible, or department approval. (3:3-0)

MRIT 2334 Magnetic Resonance Equipment and Methodology
This course covers skill development in the operation of magnetic resonance imaging equipment, focusing on routine procedures and safety protocols, image quality, and quality assurance. Prerequisites: RADR 2340, MRIT 2360, MRIT 2330, or departmental approval. (3:3-0)

MRIT 2360 Clinical 1-Magnetic Resonance Imaging Technology/Technician
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: ARRT registered or registry eligible or departmental approval. (3:0-18)
MRIT 2361 Clinical 2-Magnetic Resonance Imaging Technology/Technician
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: RADR 2340, MRIT 2360, MRIT 2330, or departmental approval. (3:0-18)

MRKG 1311 Principles of Marketing
This is an introduction to basic marketing mix functions and process: identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of the importance of marketing research. Prerequisite: Reading level 4 (3:3-0)

MRKG 2312 E-Commerce Marketing
This course explores the convergence and divergence of traditional marketing principles and strategies with those of electronic marketing. The focus is on marketing communications and developing customer relationships in this dynamic environment. How e-marketers use electronic tools to pursue and evaluate these goals also are considered. Prerequisite: Reading level 4 (3:3-0)

MRKG 2333 Principles of Selling
This course is an overview of the selling process. Identification of the elements of the communication process between buyers and sellers is discussed as well as examination of the legal and ethical issues of organizations which affect salespeople. Prerequisite: Reading level 4(3:3-0)

MRMT 1307 Medical Transcription I
This course teaches the fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. The course utilizes transcribing and information processing equipment compatible with industry standards, and is designed to develop speed and accuracy. Prerequisites or co-requisites: HPRS 1106 and 1271(3:3-1)

MSCI 1126 Physical Readiness Training
This is a physical conditioning class designed to promote high levels of performance on the Army Physical Fitness Test (APFT), and to improve the health, endurance, and strength of the body. Emphasis is placed on implementations of the Army's physical fitness program through lecture and practical exercise. Students will also become familiar with Army height, weight, and body fat standards. Participate in three assessment sessions to track individual improvement and participate as leaders in the conduct of the physical training session in the vicinity of SJCD area. Prerequisite or co-requisite: MSCI 1125 (1:0-1)

MSCI 1210 Introduction to ROTC
This course explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework. Aspects of personal motivation and team building are practiced, executing and assessing team exercises. While participation in the leadership labs is not mandatory during the MSL II year, significant experience can be gained in a multitude of areas and participation in the labs is highly encouraged. The focus continues to build on developing knowledge of the leadership attributes and core leader competencies through the understanding of Army rank, structure, and duties as well as broadening knowledge of land navigation and squad tactics. Case studies will provide a tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment. (2:1-2)

MSCI 1220 Introduction to Leadership
This course introduces you to the personal challenges and competencies that are critical for effective leadership. You will learn how the personal development of life skills such as goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the Army profession. The focus is on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining a big picture understanding of the ROTC program, its purpose in the Army, and its advantages for the student. (2:1-2)

MSCI 2210 Military Leadership Development Cr. 2
This course focuses on characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation, basic radio communication, marksmanship, fitness training, and rappelling. Fitness training required two times per week in addition to class and lab. (2:2-2)

MSCI 2220 Military Leadership Development Cr. 2
This course focuses on characteristics of leadership, problem analysis, decision making, oral presentations, first aid, small unit tactics, land navigation, basic radio communication, marksmanship, fitness training, and rappelling. Fitness training required two times per week in addition to class and lab. (2:2-2)

MSCI 2810 Basic Camp Cr. 8
No military obligation is associated with this course. Student will not receive credit for both basic course work and Basic Camp. Six week off-campus
field training practicum. Introduces students to the Army and leadership.
Prerequisite: Approval of the department chair. (8:0-8)

**MSSG 1105 Hydrotherapy**
This course is a study of the use of accepted hydrotherapy and holistic health care modalities of external application of temperature for its reflexive effect. It meets the minimum 20 contact hour requirement for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 32 contact hours (1:1-1)

**MSSG 1109 Health and Hygiene**
This course is the study of safety and sanitation practices including universal precautions. The importance of proper body mechanics, maintaining a healthy lifestyle, maintaining the massage environment, and the advantage of therapeutic relationships is also included. It meets the minimum 20 contact hour requirement for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 32 contact hours (1:1-1)

**MSSG 1207 Business Practices and Professional Ethics**
This course is a study of physical and financial office practices and marketing. It includes ethical practices for massage therapists as established by law or regulatory agency. It meets the minimum 45 contact hours requirement of licensure. Prerequisite or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 48 contact hours (3:2-1)

**MSSG 1411 Massage Therapy Fundamentals I**
This course is an introduction to the theory and the application of skills necessary to perform Swedish massage to meet the minimum 125 contact hour requirement for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 128 contact hours (4:2-6)

**MSSG 1413 Anatomy and Physiology for Massage**
This course offers an in-depth coverage of the structure and function of the human body. It includes cell structure and function, tissues, body organization, and the integumentary, skeletal, muscular, and nervous, and endocrine systems, and emphasizes homeostasis/wellness care. It meets the minimum 75 contact hour requirement for Anatomy and Physiology for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 80 contact hours (4:3-2)

**MSSG 2101 Chair Massage**
This course provides therapy and practice of chair massage using proper techniques for a variety of settings. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 16 contact hours (1:1-1)

**MSSG 2186 Internship-Massage Therapy/Therapeutic Massage**
This is a work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. A learning plan is developed by the College and the employer. (1:0-6)

**MSSG 2311 Massage Therapy Fundamentals II**
This course is a continuation of Massage Therapy Fundamentals I, emphasizing specialized techniques and assessment of client needs to identify a specific plan of care. It completes the requirements for Massage Techniques for Licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 96 contact hours (3:1-5)

**MSSG 2314 Pathology for Massage**
This course covers general discussion of pathologies as they relate to massage therapy. Includes universal precautions and their management in professional practice. It also covers etiology, signs, symptoms, and the physiological and psychological reactions to disease and injury. It meets the minimum 40 contact hour requirement for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 48 contact hours (3:3-0)

**MSSG 2413 Kinesiology for Massage**
This course focuses on applied study of human kinesiology. Muscle movements and dysfunctions will be discussed and palpated. It includes theory and practice of functional muscle testing. It meets the minimum 50 contact hour requirement for licensure. Prerequisites or co-requisites: Reading level 4 and courses taken in level sequence order or department chair approval, 64 contact hours (4:1-5)

### Applied Music - Private Lessons

Private instruction on instruments and in voice is available to students majoring or minoring in music and to other students who desire to gain or improve proficiency in voice or an instrument. Private lessons are offered for one credit hour at the beginning level or two-credit hours at secondary-level or concentration-level. Students are assigned private lessons on the basis of audition and/or counseling by the music faculty. One-credit-hour private lessons meet for one-half hour per week; two-credit-hour private lessons meet for one hour per week. A maximum of 20 credit hours in applied music (all private lessons) may be applied toward a degree. A music major who is not concentrating (or majoring) in piano should enroll in class piano or in a secondary-level piano course, unless the student passes a keyboard barrier exam. Private instruction is available in voice, piano, organ, flute, oboe, clarinet, bassoon, saxophone, French horn, trumpet, baritone, trombone, tuba and percussion instruments. Private instruction in guitar, violin, viola, and string bass is also available. Courses involving private instruction in applied music have certain minimum weekly practice time requirements. For information concerning these requirements, contact the appropriate department chair.

**MUEN 1121 Instrumental Ensemble**
Membership is open to all students on the basis of audition and/or conference. Instruments may include all orchestra instruments. The instrumental ensemble meets three laboratory hours per week with special rehearsals called as needed. The course may be taken a maximum of six times for credit. (1:0-3)
MUEN 1122 Concert Band
Membership is open to all students on the basis of audition and/or conference. Performance literature represents many styles of music. Concert band meets three hours per week, with special rehearsals called as needed. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1124 Wind Ensemble
Membership is open to all students on the basis of audition and/or conference. Performance literature represents many styles of music, making Wind Ensemble interesting and enjoyable. The Wind Ensemble meets three hours per week, with special rehearsals called as needed. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1125 Jazz Ensemble
Membership is open to all students on the basis of audition and/or conference. Instruments in the Jazz Ensemble include trumpets, trombones, saxophones, clarinets, flutes, piano, bass, guitar and drums. Performance literature represents many styles of music; big band jazz, swing, Latin jazz, and jazz/rock. The Jazz Ensemble meets three hours per week with special rehearsals as needed. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1131 Small Instrumental Ensemble
Membership is open to all students on the basis of audition and/or conference. Instruments in the small instrumental ensemble may vary from semester to semester. The small instrumental ensemble meets three laboratory hours per week with special rehearsals called as needed. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1141 College Choir
Membership is open to all students on the basis of audition and/or conference. The College choir performs many styles of sacred and secular literature. This course may be repeated a maximum of six times for credit. (1:0-3)

MUEN 1143 Concert Choir
Membership is open to all students on the basis of audition. This group has a limited membership which performs serious and entertaining music throughout the semester. This course may be taken a maximum of six times for credit. (1:0-3)

MUEN 1154 Small Vocal Ensemble
Membership is open to all students on the basis of audition and/or conference. This group has a limited membership which performs serious and entertaining music throughout the semester. Compositions performed may include for madrigals, duets, trios, quartets, sextets, or other small vocal ensembles. Students enrolled in this course are also expected to enroll in MUEN 1141 (College choir). This course may be repeated a maximum of six times for credit. (1:0-3)

MUSB 1305 Survey of Music Business
This course includes an overview of the music industry including song writing, live performance, the record industry, music merchandising, contracts and licenses and career opportunities. (3:3-0)

MUSC 1323 Audio Electronics Troubleshooting
This course covers basic concepts in electricity, Ohm’s Law, circuit analysis and troubleshooting audio problems. Topics include soldering techniques, audio electronic alignment procedures for tape machines, console maintenance, and sound reinforcement equipment maintenance. (3:2-2)

MUSC 1327 Audio Engineering I
This course provides an overview of the modern recording studio and related personnel. Topics include basic studio electronics and acoustic principles, waveform and analysis, microphone concepts and miking techniques, studio setup and signal flow, recording console theory, signal processing concepts, tape machine principles and operation, and overview of mixing and editing. (3:3-1)

MUSC 1331 Musical Instrument Digital Interface
This course provides an overview of Musical Instrument Digital Interface (MIDI) systems and applications. Topics include the history and evolution of MIDI, hardware requirements, computer numbering systems, channels and modes, the MIDI language and typical implementation of MIDI applications in the studio environment using software-based sequencing programs. Prerequisites: MUSI 1301, MUSI 1181 (3:2-2)

MUSC 2101 Audio Engineering Practices
This course is a practical application of the concepts, techniques and procedures presented in Audio Engineering I and Audio Engineering II. The students will be divided into several working units comprised of 3-4 students per unit. Each group will be required to complete two recording projects during the semester. It may be repeated for credit up to three times if topics and learning outcomes vary. Prerequisite: MUSC 2427 (1:0-3)

MUSC 2355 Musical Instrument Digital Interface II
This is a continuation of MIDI I with emphasis on advanced sequencer operation and SMPTE-based synchronization in the interaction of multiple recording and playback systems. Topics also include synthesis and its relation to software and hardware devices, sampling and sampling manipulation utilizing software sequencers, and sequencing for video. The student will perform advanced MIDI techniques, execute multimachine synchronization and demonstrate advanced use of software-based sequencing, synthesis and sampling devices. Prerequisite: MUSC 1331 (3:2-2)

MUSC 2386 Internship-Recording Arts Technology/Technician
This is a practical, general training and experience in the workplace. The College, with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning experiences vary. Prerequisite: MUSC 2447, MUSC 2355 (3:0-18)
MUSC 2427 Audio Engineering II
This is a continuation of Audio Engineering I with emphasis on implementation of techniques and theories of the recording process. Topics include applications of microphones, the audio console, the multi-track tape recorder, and signal processing devices in the recording session environment. Prerequisite: MUSC 1327 (4:3-3)

MUSC 2447 Audio Engineering III
This course covers presentation of advanced procedures and techniques utilized in recording and manipulating audio information. Topics include advanced computer-based console automation, hard disk-based digital audio editing, nonlinear digital multitrack recording and advanced engineering projects. Prerequisites: MUSC 2427 (4:3-3)

MUSI 1110 Perspective in Jazz
This course will discuss topics related to jazz with special emphasis on its development and contribution to American culture. It is structured for the student interested in jazz music. (1:1-0)

MUSI 1159 Music Theater Production
Membership is open to all students on the basis of audition and/or conference. Students enrolled in this course will present a musical theater production at the end of this course and/or will prepare and perform quality musical theater literature. Students with leading roles also will be expected to concurrently enroll in DRAM 1120 (Rehearsal and Performance). This course may be taken a maximum of two times for credit. (1:0.5-0)

MUSI 1163 Jazz Improvisation I
This is a course designed to provide background knowledge of basic materials and skills used in improvising jazz solos. Jazz Improvisation is structured for any student with a performing medium in music. Prerequisite: knowledge of all major scales (1:1-2)

MUSI 1164 Jazz Improvisation II
This is a continuation of MUSI 1163. Prerequisite: MUSI 1163 or instructor approval (1:1-2)

MUSI 1181 Class Piano I
Beginning Class Piano equips students with little or no background in music with the basic information and techniques necessary to read and perform simple music at the keyboard. Subsequent classes build upon and refine the information and techniques. (1:1-1)

MUSI 1182 Class Piano II
This is a continuation of Class Piano I. (1:1-1)

MUSI 1183 Class Voice I
Class Voice begins with instruction in the fundamentals of correct breathing, tone production and diction. It is a course designed for students with little or no previous training to aid in developing a pleasing tone quality produced with ease and proper enunciation. Additional semesters expand and sharpen these skills in a sequential pattern. (1:1-1)

MUSI 1184 Class Voice II
This is a continuation of Class Voice I. (1:1-1)

MUSI 1186 Music Composition I
This course covers techniques of composition and arranging for various combinations of instruments and voices in differing musical procedures such as tonality, modality, atonality, serialism, pandiatonicism, etc. Prerequisites: MUSI 1301 or 1211. It may be repeated for no credit. Students must have department chair approval to enroll. (1 hour) (1:0.5-0)

MUSI 1187 Music Composition II
This is a continuation of MUSI 1186 or 1286. Prerequisites: MUSI 1186 or 1286, or consent of the department chair. It may be repeated for no credit. (1 hour) (1:0.5-0)

MUSI 1188 Class Percussion I
This course includes class instruction in the fundamental techniques of playing percussion. The course is designed for the student with little or no background in music with the basic information and techniques necessary to read and perform simple repertoire. (1:1-1)

MUSI 1192 Class Guitar I
Beginning Class Guitar is intended to develop student skills in applied music theory, sight-reading, performance and technique on the instrument. The class is for beginning to intermediate level students with limited experience. (1:1-1)

MUSI 1193 Class Guitar II
This is a continuation of Class Guitar I. (1:1-1)

MUSI 1211 Theory of Music I
This is a study of the fundamentals of musicianship, including aspects of notation and part-writing. Prerequisites: approval of the instructor and concurrent enrollment in appropriate ear training course and piano, unless waiver is granted by instructor. (2:3-0)

MUSI 1212 Theory of Music II
This is a continuation of MUSI 1211. Prerequisite: MUSI 1211 or instructor approval and concurrent enrollment in ear training course and piano. (2:3-0)

MUSI 1216 Ear Training and Sight Singing I
This course provides basic aural, visual and vocal experience in the form of dictation and sight singing. Prerequisites: approval of instructor and concurrent enrollment in appropriate theory course and piano. (2:3-0)

MUSI 1217 Ear Training Sight Singing II
This is a continuation of MUSI 1216. Prerequisites: MUSI 1216 or instructor approval and concurrent enrollment in theory course and piano. (2:3-0)
MUSI 1286 Music Composition I
This course covers techniques of composition and arranging for various combinations of instruments and voices in differing musical procedures such as tonality, modality, atonality, serialism, pandiatonicism, etc. Prerequisites: MUSI 1301 or 1211, or consent of the department chair. It may be repeated for no credit. Students must have department chair approval to enroll. (2 hours.) (2:1-0)

MUSI 1287 Music Composition II
This is a continuation of MUSI 1186 or 1286. Prerequisites: MUSI 1186 or 1286, or consent of the department chair. It may be repeated for no credit. Students must have department chair approval to enroll. (2 hours.) (2:1-0)

MUSI 1289 Electronic Music
This is an introduction to the use of synthesizers, computers, sequencing, and music printing software, multi-track recorders and other MIDI (Music Instrument Digital Interface) devices in notation, arrangement, composition, and performance of music. The course may be repeated once for credit. Prerequisite: MUSI 1301, class or applied piano, or instructor approval. (2:1-2)

MUSI 1301 Music Fundamentals
This course is designed to familiarize students with the meaning of musical notation through the study of scales, chords and rhythm. It is especially adapted for students preparing to become teachers, and other students who wish to gain a broader knowledge of music. (3:3-0)

MUSI 1306 Music Appreciation
This course covers an understanding of music through the study of cultural periods, major composers, and musical elements, illustrated with audio recordings and live performances. (Does not apply to a music major degree.) (3:3-0)

MUSI 1307 Music Literature
This course is a survey of the principal musical forms and cultural periods as illustrated in the literature of major composers. Prerequisite: Reading level 6 (3:3-0)

MUSI 1310 American Music
This course is a general survey of various styles of music in America. Topics may include jazz, ragtime, folk, rock, and contemporary art music. (3:3-0)

MUSI 2181 Class Piano III
This is a continuation of Class Piano II. (1:1-1)

MUSI 2182 Class Piano IV
This is a continuation of Class Piano III. (1:1-1)

MUSI 2183 Class Voice III
This is a continuation of Class Voice II. (1:1-1)

MUSI 2184 Class Voice IV
This is a continuation of Class Voice III. (1:1-1)

MUSI 2186 Music Composition III
This is the third semester of compositional studies in the sequence. Prerequisites: MUSI 1187 or 1287, or consent of the department chair. It may be repeated for no credit. Students must have department chair approval to enroll. (1 hour.) (1:0.5-0)

MUSI 2187 Music Composition IV
This is the fourth semester of compositional studies in the sequence. Prerequisites: MUSI 2186 or 2286, or consent of the department chair. It may be repeated for no credit. Students must have department chair approval to enroll. (1 hour.) (1:0.5-0)

MUSI 2211 Theory of Music III
This is a continuation of the first-year theory course. It includes written and keyboard harmonic analysis. Prerequisites: MUSI 1212 or approval of the instructor, and concurrent enrollment in ear training course and piano. (2:3-0)

MUSI 2212 Theory of Music IV
This is a continuation of MUSI 2211. Prerequisites: MUSI 2211 and concurrent enrollment in ear training course and piano. (2:3-0)

MUSI 2216 Ear Training and Sight Singing III
This is a continuation of the first-year course in Ear Training and Sight Singing. Prerequisite: MUSI 1217, co-requisite: concurrent enrollment in appropriate theory course and piano. (2:3-0)

MUSI 2217 Ear Training and Sight Singing IV
This is a continuation of MUSI 2216. Prerequisite: MUSI 2216, co-requisite: concurrent enrollment in appropriate theory course and piano. (2:3-0)

MUSI 2286 Composition III
This is the third semester of compositional studies in the sequence. Prerequisites: MUSI 1187 or 1287, or consent of the department chair, may be repeated for no credit. (2 hours.) (2:1-0)

NAUT 1171 Medical Care Provider
This course is designed for licensed deck officers who provide immediate first aid to ship’s personnel and to assist the ship’s medical person-in-charge. The course provides training for candidates who provide medical care to the sick and injured when they remain on board ship. (1:1-0)

NAUT 1172 Vessel Security Officer
This 2-day DNV approved course provides knowledge to those who may be designated to perform the duties and responsibilities of a Vessel Security Officer (VSO), as defined in Section A/2.1.6 (and section A/12.1) of the ISPS Code, and in particular the duties and responsibilities with respect to the security of
a ship, for implementing and maintaining a Vessel Security Plan and for liaising with the Company Security Officer (CSO) and with Port Facility Security Officers (PFSOs). Those who successfully complete this course should be able to undertake the duties and responsibilities as Vessel Security Officer. (1:1-0)

**NAUT 1173 Crowd and Crisis Management**

This course will provide trainees with techniques and protocols for managing movement of passengers under emergency conditions necessitating preparation to abandon ship. Training will be generic and should be supplemented with shipboard training to ensure “ship unique” policies/procedures are trained. This course meets the criteria for satisfaction of training requirements enumerated in Standards of Training Certification and Watchkeeping (1995) Sections A-V/2 and A-V/3 for competencies in Crisis Management and Human Behavior. (1:1-0)

**NAUT 1177 Navigational Watch**

Successful completion of this course will satisfy the training requirements for certification as Rating Forming Part of a Navigational Watch. This certification will be valid for one year and may not be renewed. Required for all mariners assigned to lookout and watchkeeping support duties on ocean going vessels. It is supplemented by a period of required sea service of not less than two months, where trainees conduct related practical training and assessments. Regulations II/4 of the International Convention on Standards of Training, certification and watchkeeping for Seafarers, 1978, as amended (STCW) contains the requirements for a deck rating to be issued an STCW certificate as a Rating Forming Part of a Navigational Watch (RFPNW). An ordinary seaman assigned to either the deck department or the maintenance department who either stands navigational watches, or may be assigned to stand navigational watches, must also be qualified as a RFPNW. (1:1-0)

**NAUT 1270 Deck Familiarization**

This course is a study of seamanship designed to prepare the student for employment and for all mariners assigned to lookout and watchkeeping support studies from inland to ocean going vessels. This course is designed to teach new skills to the entry-level mariner or to enhance skills of those mariners who have minimal sea-going experience which serves to increase awareness and promote safety in your surroundings. (2:2-1)

**NAUT 1273 Engineering Familiarization**

This course is intended for both deck and engineering ratings that have little or no experience in the engine room who served on board a vessel as part of the regular complement and covers the mandatory minimum training requirements for engineering. The training includes basic safety and pollution prevention precautions and procedures, layouts of different types of engine rooms, types of hazards and handling equipment, general operational sequence and engineroom terminology. (2:2-1)

**NAUT 1275 Able Bodied Seaman**

This course provides the student with the knowledge, understanding and proficiency required to work aboard vessels as an unlicensed watch stander. Professional training includes marlinspike seamanship, inland and international Rules of the Road, proficiency in survival craft operations, deck safety, and basic navigation. (2:2-1)

**NAUT 1277 Basic Safety Training**

SCTW Basic Safety Training is made up of four modules (courses) - Basic Firefighting, Personal Safety & Social Responsibility, Personal Survival, and First Aid & CPR:

- **Basic Firefighting** - This course provides the student with the knowledge and experience to handle a vessel fire emergency. Topics covered include the behavior of fire, prevention and suppression techniques, and the proper use of firefighting equipment, including the use of respirators.
- **Personal Safety & Social Responsibility** - This course emphasizes the importance of communication and safety in the vessel operating environment. Topics covered include the identification and proper use of safety equipment, identification of, and compliance with, emergency procedures, prevention of pollution in the marine environment, safe working practices, and communication skills associated with the understanding of, and compliance with lawful orders and the management of crew relations.
- **Personal Survival Techniques** - This course provides the student with the knowledge required to survive in an emergency, abandon ship, life-threatening environment. Topics covered include the proper use and maintenance of emergency/survival equipment found on board a vessel and survival craft, proper donning and use in the water of a life jacket and survival suit, proper means of entry into the water or survival craft, maintaining buoyancy in the water without a life jacket, and techniques for preventing hypothermia. Properly don a life jacket and survival suit.
- **First Aid and CPR** - This course provides the student with the first aid and CPR skills required for all who work on merchant vessels. Topics include the principles and techniques of safety and basic first aid (avoidance of accidents, use of materials in first aid kit including bandages, controlling bleeding, treating for shock, rescue and transport of injured), and the use of CPR and AED resuscitation techniques based on the accepted standards of the American Red Cross. (2:2-1)

**NAUT 1279 Tank Ship Familiarization**

This 4-day course is an in-depth study of the transport of bulk liquid cargoes by tankship. The course topics include: vessel design/construction, oil/chemical cargo characteristics, cargo system design, cargo pumps, loading/discharging operations, venting/vapor control systems, ballasting/deballasting operations, tank cleaning, gas freeing/enclosed space entry, inert gas systems, crude oil washing operations, oil pollution regulations and control, and tanker safety. It includes basic safety and pollution prevention precautions and procedures, layouts of different types of oil tankers, types of cargo, their hazards and their handling equipment, general operational sequence and oil tanker terminology. The course takes full account of the annex to resolution 10 adopted by the International Conference on Training and Certification of Seafarers, 1978. Any applicant successfully completing 32-hour Tank Ship Familiarization (Dangerous Liquids) course will satisfy the training requirements of 46 CFR 13.409 for an original endorsement as Tankerman-Assistant DL; and satisfy the training requirements of 46 CFR 10.227 (d)(8)(c) for renewal of a merchant marine credential endorsed as Tankerman P/ID Dangerous Liquids (2:2-1)
NAUT 1471 Introduction to Ships and Shipping
This is an introduction to the maritime industry and ships used in the transportation of goods and services. Shipboard nomenclature, types and missions of merchant ships, shipbuilding, shipbuilding materials and methods, modes of cargo handling and their impact on ship design. Prerequisite: Reading level 4 (4:3-2)

NAUT 2170 Upgrade Master 100 GRT to Master 200 GRT
Successful completion of this 24-hour Upgrade Master 100 Tons to Master 200 Tons course and presentation of the Certificate of Training at a Regional Exam Center WITHIN ONE YEAR of the completion of training, will satisfy the exam requirements of 46 CFR 10.207 for upgrade of a license from Master 100 Tons Near Coastal to Master 200 Tons Near Coastal.

Upon completion of 24-hours of instruction and examinations, the student shall have a good understanding of the subjects for upgrade from not more than 100 to not more than 200-Ton Great Lakes, Inland and Near Coastal Master licenses. The level of understanding will meet the standard for passing the upgrade from not more than 100-Ton to not more than 200-Ton Coast Guard examination given in the Regional Examination Centers.

Any applicant who has successfully completed 24-hour Upgrade Master 100 Tons to Master 200 Tons course presents Certificate of Training at a Regional Exam Center WITHIN ONE YEAR of the completion of training, will satisfy the exam requirements of 46 CFR 10.207 for upgrade of a license from Master 100 Tons Near Coastal to Master 200 Tons Near Coastal. (1:1-1)

NAUT 2171 Upgrade to Apprentice Mate
This course provides instruction in subjects pertaining to a mariner in training to become master or mate (pilot) of towing vessels or master of towing vessels (harbor assist). (1:1-0)

NAUT 2172 Emergency Procedures
This 3-day course covers procedures for dealing with emergency situations and the training that is necessary to maintain an effective response. Subjects include: contingency planning, the development and use of checklists, and emergency steering arrangements. This course will satisfy the candidate with reliable knowledge on appropriate actions in various emergencies, including the use of emergency plans. Successful completion of this 20-hour Emergency Procedures (Operational Level) course will satisfy the Emergency Procedures training requirements for certification as Officer in Charge of a Navigational Watch on vessels of 500 or more gross tonnage (ITC). (1:1-1)

NAUT 2174 Proficiency in Survival Craft
This course provides the knowledge, understanding and proficiency required to take charge of a survival craft during and after launching. Topics include all the knowledge and duties associated with management of the preparation, embarkation, launching, and taking command, of a lifeboat under oars or power, or an inflatable life raft, as well as the correct use of all survival equipment (1:1-1)

NAUT 2270 Basic Shiphandling and Steering Control Systems
This course covers turning circle and stopping distance, effects of wind and current, man overboard maneuvers, shallow water effects, anchoring and steering control systems. It also covers fundamentals of shiphandling for vessels based on double and single-screw theory. Applied instruction in shiphandling techniques, includes: backing and filling; “Y-backing”; emergency stopping; flanking; and docking and undocking; and procedures and basic anchoring. It utilizes full mission visual simulation to reinforce theoretical lessons. This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-11/2 of STCW 1995 for the function Navigation at the Officer in Charge of a Navigational Watch on vessels of 500 or more gross tonnage (ITC). Level. This course provides the background knowledge in Planning a voyage and Conduct Navigation to support the tasks, duties and responsibilities in: Basic Shiphandling & Steering Control Systems training.

Any applicant who has successfully completed your 40-hour Basic Shiphandling & Steering Control Systems (Operational Level) course will satisfy the Basic Shiphandling & Steering Control Systems training requirements for certification as Officer in Charge of a Navigational Watch on vessels of 500 or more gross tonnage (ITC). The practical assessments in this will be accepted as the equivalent of the following assessments from the National Assessment Guidelines for Table A-11/1 of the STCW Code: OICNW-1-6A; OICNW-1-6B; OICNW-5-1A; OICNW-5-1B; and OICNW-5-1C. (2:2-1)

NAUT 2272 Radar Observer Unlimited
This course covers the proper use of radar for risk assessment, collision avoidance, and navigation. Trainees use commercial radar equipment with landmasses, environmental effects and vessel returns generated by Transas simulation. (2:2-1)

NAUT 2276 Tankerman Person In Charge Barge
This course provides the student with the knowledge required for the safe loading, discharge and carriage of dangerous liquid cargos in bulk. Topics include DL regulations, pollution prevention, spill response, cargo loading, discharge planning and management, the Declaration of inspection, vapor and control systems, the use of personal protective equipment during operations, and record keeping. (2:2-1)

NAUT 2364 Practicum
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. (3:0-30)

NAUT 2365 Practicum
This is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. (3:0-30)
NAUT 2470 Master 100 GRT
The student who successfully completes this course will have demonstrated that they possess the knowledge required for a license as Master, 100 GRT, which includes the applicable regulations and operational procedures necessary to operate a vessel of up to 100 Gross Tons in the Near Coastal/Inland/Great Lakes operating environment. Professional training includes navigation, tidal calculations, international and inland rules of the road, coastal pilotage, meteorology, anchoring and mooring, docking, and undocking operations, voyage and passage planning, stability and vessel construction, and marlinspike seamanship. (4:3-2)

NAUT 2471 Terrestrial and Coastal Navigation
This course is designed to teach the student the technical and practical concepts of Terrestrial Navigation. Areas covered include terrestrial coordinates, nautical charts, navigation publications, plotting and position lines, navigation aids, compass corrections including Azimuths and Amplitudes, charts and chart work, logbooks and voyage planning, and the computation of tides, and tidal currents. This course aims to meet the mandatory minimum requirements for knowledge, understanding and proficiency in Table A-II/2 of STCW 1995 for the function Navigation at the Officer in Charge of a Navigational Watch on vessels of 500 or more gross tonnage (ITC) level. This course provides the background knowledge in planning a voyage and Conduct Navigation to support the tasks, duties and responsibilities in: Terrestrial & Coastal Navigation. Successful completion of this course will satisfy the Terrestrial Navigation and Coastal Navigation training requirements for certification as Officer in Charge of a Navigational Watch on vessels of 500 or more gross tonnage (ITC). The practical assessments conducted in this course will be accepted as the equivalent of the following assessments from the National Assessment Guidelines for Table A-II/1 of the STCW Code: OICNW-1-2D; OICNW-1-2E, OICNW-1-3A; OICNW-1-3B; OICNW-1-3C; OICNW-1-5B; OICNW-1-5C; OICNW-1-5D; OICNW-1-5E; and OICNW-2-3A. (4:3-2)

NDTE 1301 Film Interpretation of Weldments
This is the study of radiographic film interpretation, including exploration of radiographic basics, interpretation of indications, and causes of indications. Film indications are evaluated according to the structural, piping, and pressure vessel codes. (3:2-2)

NDTE 1405 Introduction to Ultrasonic: Level 1 & 2
This course covers the basic theory and applications of the ultrasonic techniques of materials testing covering the theoretical material from the certification test for Ultrasonic Level I American Society of Non-Destructive Testing. (4:3-3)

NDTE 1410 Liquid Penetrant/Magnetic Particle Testing: Level 1 & 2
This course is a theoretical study and practical application of the non-destructive testing techniques of penetrant and magnetic particle testing required by quality assurance and test personnel. (4:3-3)

NDTE 1440 Eddy Current Testing
This course covers the general principles of Eddy Current Testing including theory, knowledge, and skills for basic examination; effects of material properties, probe types, calibration standards, and equipment selection. (4:3-3)

NDTE 1454 Intermediate Ultrasonics: Flaw Detection & Sizing
This course covers applications of the ultrasonic techniques of materials testing for flaw sizing and characterization. Prerequisite: NDTE 1405 (4:3-3)

NDTE 2339 Pressure Piping Inspection
This course covers the general principles of pressure vessel inspection. It covers American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) documents that pertain to pressure piping inspection. It prepares students to take the API 570 certification examination. (3:2-2)

NDTE 2401 Advanced Ultrasonics: Phased Array & A.U.T.
Emphasis is placed on examination of components and characterization of flaws using advanced techniques. Prerequisite: NDTE 1454 (4:3-3)

NDTE 2411 Preparation for Certified Welding Inspector Exam
This course covers welding fundamentals, welding inspection and code interpretation and the principle portion in preparation of the certified welding inspector examination. (4:3-3)

NDTE 2470 Pressure Vessel Inspection
This course will provide the general principles of pressure vessel inspection. It will also cover American Society of Mechanical Engineers (ASME) and American Petroleum Institute (API) documents that pertain to pressure vessel inspection. Emphasis will be placed on preparing students to take the API 510 certification examination. (4:3-3)

OPTS 1166 Ophthalmic Practicum II
This course covers practical general training and experiences in the workplace. The College with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. Prerequisite: OPTS 1311, OPTS 2441, OPTS 1266 (1:0-8)

OPTS 1167 Practicum - Opticianry / Ophthalmic Dispensing Optician
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: OPTS 1501 and 1309. Co-requisite: OPTS 2431 (1:0-8)
OPTS 1191 Special Topics in Opticianry/Dispensing Optician
This course covers recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be taken twice to improve student proficiency. (1:1-1)

OPTS 1266 Practicum - Opticianry/ Ophthalmic Dispensing Optician
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: OPTS 1311, 2441 (2:0-16)

OPTS 1267 Practicum Opticianry / Ophthalmic Dispensing Optician
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: OPTS 1501, 1309, 2431, and 1167 (2:0-16)

OPTS 1309 Ophthalmic Laboratory I
This course emphasizes the finishing portion (bench) of the fabrication of spectacles. Topics include mark-up, blocking, edging, beveling, impact resistance, tinting, insertion, and inspection of single vision and multi-focal lenses. Co-requisite: OPTS 1501 (3:2-3)

OPTS 1311 Visual System
This is an overview of the visual system including the anatomy and physiology of the eye, related structures, and diseases. (3:3-0)

OPTS 1315 Basic Contact Lenses
This is an introduction to contact lens theory and practice. Topics include the history, development, and manufacture of contact lenses; lens materials, designs, fitting, and care techniques; and skill necessary for the accurate measurement of lens parameters. (3:2-3)

OPTS 1392 Special Topics in Opticianry/Dispensing Optician
This course covers recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be taken twice to improve student proficiency. (3:3-1)

OPTS 1471 Anatomy and Physiology for Eye Care Technology
This is an introduction to the normal structures and functions of the human body including the understanding and the relationship of the body structures in maintaining homeostasis as it is related to ophthalmic medical personnel. (4:4-0)

OPTS 1501 Ophthalmic Dispensing
This is an introduction to the basic principles of frame selection, styling, refractive errors, and lens design and to the use of tools and instruments used to measure and make adjustments necessary to properly dispense spectacles. (5:3-6)

OPTS 2266 Ophthalmic Practicum II
This course covers practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. Prerequisite: OPTS 1166 (2:0-16)

OPTS 2350 Ophthalmic Surgical Techniques
A continuation of Ophthalmic Techniques, this course introduces the student to aseptic and non-aseptic sterilization techniques used in the surgical field and provides knowledge and practice in scrubbing techniques used when assisting during ophthalmic surgical procedures. (3:2-3)

OPTS 2366 Practicum - Opticianry/ Ophthalmic Dispensing Optician
This course is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: OPTS 1311, 2441, 1166, 2266, 2445, and 2266 (3:0-24)

OPTS 2431 Advanced Ophthalmic Dispensing
This is an advanced study of the procedures necessary to dispense eyewear. Topics include lens aberrations, magnification, tilt, reflection, absorption and transmission, advanced lens materials, high-powered prescription considerations, and partial vision. Prerequisite: OPTS 1501 (4:2-6)

OPTS 2441 Ophthalmic Techniques
This course covers presentation of information and practical training in the techniques necessary to properly assist the refractionist or eye physician. Topics include visual acuity assessments and performance of various diagnostic tests. (4:2-6)

OPTS 2445 Advanced Ophthalmic Techniques
This is a continuation of Ophthalmic Techniques with an introduction to principles and techniques of various diagnostic evaluations. Topics include refractometry and retinoscopy, ophthalmic photography, applanation tonometry, and advanced clinical assessments. An overview of standardized tools prevalent in the field will be covered. Prerequisite: OPTS 2441 (4:2-6)

OSHT 1307 Construction Site Safety and Health
This is an introduction to safety requirements for construction sites including occupational health and environmental controls. Prerequisites: Reading level 6, Writing level 6, and Math level 6 (3:3-0)

OSHT 1309 Physical Hazards Control
This is a study of the physical hazards and the methods of workplace design and redesign to control these hazards. Emphasis on the regulation codes and standards associated with the control of physical hazards. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)
**OSHT 1313 Accident Prevention, Inspection and Investigation**
This course provides a basis of understanding the nature of occupational hazard recognition, accident prevention, loss reduction, inspection techniques, and accident investigation analysis. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

**OSHT 1320 Energy Industrial Safety**
This course is an overview for industrial workers of state/federal regulations and guidelines which require industrial safety training. Topics include the 29 CFR 1910, 1926, and National Fire Protection Association (NFPA) 70E standards such as confined space entry, emergency action, lock out/tag out, arc flash, and other work related subjects. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

**OSHT 1321 Fire Protection Systems**
This is a study of fire protection systems and their applications with emphasis on the fire prevention codes and standards. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

**OSHT 2305 Ergonomics and Human Factors in Safety**
This is a study of the relationship of human behavior and ergonomics as applied to workplace safety. Prerequisite: MATH 1314 or MATH 1333, Reading level 6, Writing level 6, Math level 6 (3:3-0)

**OSHT 2309 Safety Program Management**
This course examines the major safety management issues that effect the workplace including safety awareness, loss control, regulatory issues, and human behavior modifications. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

**OSHT 2320 Safety Training Presentation Techniques**
This course covers principles of developing and presenting effective industrial/business training. Emphasis on instructor qualifications and responsibilities, principles teaching including use of teaching aids and presentation skills. Prerequisites: Reading level 6, Writing level 6, and Math level 6 (3:3-0)

**OSHT 2380 Cooperative Education-Occupational Safety and Health Technology**
Career related activities encountered in the student’s area of specialization are offered through a cooperative agreement between the College, employer, and student. Under supervision of the College and employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the work experience. Prerequisite: department chair approval (3:1-14)

**PFPB 1308 Basic Pipe Fitting Skills**
This course covers mathematical operations necessary to calculate laying lengths of pipe fittings for fabrication. Includes identification and use of hand tools and power tools and identification of pipe, pipe fittings, flanges, and fasteners used in the trade. (3:2-2)

**PFPB 1343 Pipefitting Fabrication & Blueprint Reading**
This course is a continuation of basic pipefitting skills including fabrication, rigging, pipe hangers and supports, blueprint reading, standards and specifications, and trade math. (3:2-2)

**PFPB 2332 Advanced Pipefitting Standards, Specifications, and Installation**
The course covers skill development in motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring cap supports, testing piping systems and equipment, basic plumbing, planning work activities, and Non-Destructive Testing (NDT). (3:2-2)

**PFPB 2333 Pipefitting: Advanced Fabrication and Installation**
This course covers advanced pipe fabrication and pipe alignment for rotating equipment. Includes identifying, describing, applying, and maintaining steam traps, in-line specialties, special piping, hot taps, and valves. (3:2-2)

**PHED 1101 Beginning Tennis**
This course introduces students to beginning skills and strategies in tennis. Lecture topics include history, rules, strategy (both singles and doubles), etiquette, proper care and selection of equipment and proper attire. (1:0-3)

**PHED 1102 Advanced Tennis**
This course includes instruction of advanced techniques, development of a variety of strokes, singles and doubles strategy in game situations and USTA tournament rules and procedures. Prerequisite: PHED 1101 or department chair approval (1:0-3)

**PHED 1104 Volleyball**
The student will receive instruction in the skills of passing, setting, spiking, service and blocking. Basic offensive and defensive strategies, rules, tournament play, and officiating will be covered. (1:0-3)

**PHED 1105 Beginning and Intermediate Swimming**
This course offers explanation, demonstration, and practice in the five basic strokes, diving, survival skills, and basic elements of water safety. (1:0-3)

**PHED 1106 Canoeing**
Lectures, demonstrations and practice in the basic skills and techniques of canoeing are included. Additional fee required. (1:0-3)
PHED 1107 Life Guarding and Life Guard Instruction
This course provides instruction in life guarding techniques and training for life guard teachers. Successful completion leads to American Red Cross certification. (1.0-3)

PHED 1109 Racquetball
This course introduces the student to the rules, terms, safety, basic skills and strategies necessary to play racquetball. (1.0-3)

PHED 1110 Advanced Racquetball
This course includes instruction in advanced techniques, stroke development, offensive and defensive strategies in game situations, refereeing, serving techniques and strategies, and tournament play. Prerequisite: PHED 1109 or department chair approval (1.0-3)

PHED 1111 Bowling
This course introduces the student to the basic skills and techniques of bowling. Class hours will include instruction in etiquette, selection of equipment, basic techniques, scoring, computing handicaps, league play, and a variety of tournaments. This course is conducted off-campus and requires an additional fee. (1.0-3)

PHED 1112 Badminton
This course covers lectures, demonstrations and practice in the basic skills and techniques of badminton. (1.0-3)

PHED 1113 Golf
Basic skills in playing golf are stressed, including rules and etiquette of the game. (1.0-3)

PHED 1114 Jogging
A variety of methods and materials are presented in the area of cardiovascular and overall physical fitness. (1.0-3)

PHED 1116 Water Aerobics
This is a total body fitness program including cardiovascular and muscular endurance, strength and flexibility in the water. Emphasis is placed on improving muscle tone and maintaining a healthy body weight through water fun and fitness activities. (1.0-3)

PHED 1117 Aerobic Activities
This is a cardiovascular conditioning program designed to improve muscle tone and to help maintain a healthy body weight through fun and fitness activities. (1.0-3)

PHED 1118 Advanced Aerobics
This course is an advanced cardiovascular conditioning program. It is designed to increase energy, mental clarity and health as part of one’s lifestyle. This class will incorporate high energy and low impact movements. Some classes include bench-step aerobics. Prerequisite: PHED 1117 or department approval (1.0-3)

PHED 1119 Exercise for Health and Fitness
This course is designed to provide students with an essential knowledge of exercise and fitness on health using lecture, reading, labs on health related fitness components and fitness activities. This course will provide an understanding of cardiovascular disease, risk factors and the role of exercise in prevention. Labs will include fitness testing, self assessments and maintenance programs, nutritional analysis, and individualized programs. A variety of activities will be used, including low impact aerobics, power walking, bench stepping, toning and flexibility exercises, and weights. (1.0-3)

PHED 1120 Basketball
This course covers basic skills and techniques of basketball. (1.0-3)

PHED 1121 Slow Pitch Softball
This course covers development of basic techniques and skills of slow-pitch softball. (1.0-3)

PHED 1122 Soccer
This course covers lectures, demonstrations and practice in basic skills and techniques of soccer. (1.0-3)

PHED 1123 Weight Training
This course covers lectures, demonstrations and practice in the basic skills and techniques of weight training. (1.0-3)

PHED 1124 Advanced Weight Training
This course builds upon basic skills and knowledge of weight training. Topics covered include advanced lifting technique, advanced training theory, biomechanics, and in-depth understanding of the components of fitness. Prerequisite: PHED 1123 or instructor approval (1.0-3)

PHED 1126 Team Sports
This course provides the student with opportunities to participate in a variety of team sports. Volleyball, basketball, flag football, soccer, softball, and floor hockey are included. (1.0-3)

PHED 1130 Modern Dance
This course covers the fundamental techniques of movement and practice in beginning composition. (1.0-3)

PHED 1131 Advanced Modern Dance
This course covers advanced skills and techniques in movement with emphasis on choreography. (1.0-3)

PHED 1133 Beginning Jazz
This course includes basics and background in varied jazz dance forms, from blues to funky, stressing presentation and exploration to creative potential. (1.0-3)

PHED 1134 Yoga I
This is an introduction to basic yoga postures, breathing, and relaxation techniques with emphasis on physical practice. (1.0-3)
PHED 1135 Social Dance
This course is designed to offer students instruction in the fundamentals of social dance patterns and the more basic ballroom dance steps. (1:0-3)

PHED 1136 Beginning Tap Dance
This course covers fundamentals of beginning tap movement and basic steps with emphasis on combination and techniques. (1:0-3)

PHED 1137 Beginning Ballet
This is an introduction to the theory and terminology of classical ballet with emphasis on techniques including barre and centre work. (1:0-3)

PHED 1138 Intermediate and Advanced Ballet
This course covers theory and terminology of pointe and pas de deux with greater emphasis on centre and allegro work. (1:0-3)

PHED 1139 Yoga II
This course is an extension of Yoga I, designed to provide students with expanded knowledge of life management skills by placing emphasis on yoga’s strength, flexibility and stress reduction techniques. Lectures and practice will also focus on concentration techniques, nutrition and self-assessment. Prerequisite: Yoga I or instructor approval. (1:0-3)

PHED 1140 Martial Arts
Practice and training in the physical and psychological aspects of self-defense and sport is provided through vigorous flexibility, muscular endurance, and technical instruction. Technical instruction will include martial arts skills, combination tactics and sparring training using partner drills, solo work, and pad drills. (1:0-3)

PHED 1141 Advanced Jazz
This course is designed for the advanced jazz student who wants to develop technical expertise beyond the beginning level of jazz. Prerequisite: PHED 1133 (1:0-3)

PHED 1142 Fitness Swimming
This course is designed to promote participation in the lifetime sport of swimming. Lectures and practice in the basic swimming strokes will be done. Daily workouts promoting cardiovascular endurance will be emphasized. Students should be good swimmers to take this class. (1:0-3)

PHED 1143 Fitness Walking
This course introduces students to walking as a lifetime fitness activity. Emphasis is placed on correct form and pacing to maintain working heart rate. Other topics covered are proper shoe selection, training principles for improved cardiovascular fitness, safety, and injury prevention. (1:0-3)

PHED 1144 Camping
This course includes lectures, demonstrations, practices and field trips related to camping. Other topics may be included such as hiking, backpacking and similar topics. (1:0-3)

PHED 1145 Kickboxing for Fitness
Kickboxing is a fitness program designed to improve muscle tone and cardiovascular endurance through constant motion and repetition using martial arts techniques. A variety of techniques and some martial arts applications are taught. (1:0-3)

PHED 1151 Scuba Diving
This is a beginning course in scuba diving. Student must furnish their own equipment and must be responsible for qualifying dives. (1:0-3)

PHED 1173 Precision Dance
This course covers skills and techniques of precision group performance designed for the experienced performer. The course may be taken a maximum of four times for credit. Prerequisite: instructor approval (1:0-3)

PHED 1178 Varsity Golf
This is a course designed for advanced golf players who are competing on a collegiate level. This course may be taken a maximum of four times for credit. Prerequisite: instructor approval (1:0-3)

PHED 1179 Varsity Tennis
This is a course designed for advanced tennis players who are competing on a collegiate level. The course may be taken a maximum of four times for credit. Prerequisite: instructor approval (1:0-3)

PHED 1301 Foundations of Physical Education
This is a fundamental course in physical education which provides prospective teachers with a general concept of the philosophy and interpretation of physical education and related areas of health education, recreation, and dance. Designed for students majoring in physical education, this course will not satisfy the requirements for one hour of physical education activity. Prerequisite: Reading level 6 (3:3-0)

PHED 1304 Personal/Community Health I
This course covers investigation of the principles and practices in relation to personal and community health. Designed for students majoring in health education, allied health science, and elementary education, this course will not satisfy the requirements for one hour of physical education activity. Prerequisite: Reading level 6 (3:3-0)

PHED 1306 First Aid
This course covers instruction in and practice of first aid techniques. Topics covered are: general procedures at an accident scene, identifying and treating wounds, poisoning, drug abuse, burns, heat related illnesses, frostbite, hypothermia, sudden illness, bone and joint injuries, shock, bandaging techniques, transport techniques, and cardiopulmonary resuscitation. This course will not satisfy the requirements for one hour of physical education activity. (3:3-0)
PHED 1308 Officiating Major Sports
This course covers instruction and application in the fundamentals of sports officiating as they apply to football, volleyball, basketball, softball, track and field. Students will be required to officiate in the intramural program. This course will not satisfy the requirements for one hour of physical education activity. (3:3-0)

PHED 1332 Recreational and Elementary Game Skills
Students participate in basic motor skills, fitness and conditioning activities, tumbling, games and sports. This course will not satisfy one hour of physical education activity. (3:3-0)

PHED 1346 Drug Use & Abuse
This course is a study of the use and abuse of drugs in today’s society. It emphasizes the physiological, sociological, and psychological factors. (3:3-0)

PHED 2100 Varsity Conditioning I
This course provides students with opportunities to participate in varsity team sport conditioning. (1:0-3)

PHED 2101 Varsity Conditioning II
This course provides students with opportunities to participate in varsity team sport conditioning. (1:0-3)

PHED 2102 Varsity Conditioning III
This course provides students with opportunities to participate in varsity team sport conditioning. (1:0-3)

PHED 2103 Varsity Conditioning IV
This course provides students with opportunities to participate in varsity team sport conditioning. (1:0-3)

PHED 2106 Varsity Baseball I
This course is designed for skilled baseball players who are competing on a collegiate level. (1:0-3)

PHED 2107 Varsity Baseball II
This course is designed for skilled baseball players who are competing on a collegiate level. (1:0-3)

PHED 2108 Varsity Baseball III
This course is designed for skilled baseball players who are competing on a collegiate level. (1:0-3)

PHED 2109 Varsity Baseball IV
This course is designed for skilled baseball players who are competing on a collegiate level. (1:0-3)

PHED 2112 Varsity Basketball I
This course is designed for skilled basketball players who are competing on a collegiate level. (1:0-3)

PHED 2113 Varsity Basketball II
This course is designed for skilled basketball players who are competing on a collegiate level. (1:0-3)

PHED 2114 Varsity Basketball III
This course is designed for skilled basketball players who are competing on a collegiate level. (1:0-3)

PHED 2115 Varsity Basketball IV
This course is designed for skilled basketball players who are competing on a collegiate level. (1:0-3)

PHED 2118 Varsity Soccer I
This course is designed for skilled soccer players who are competing on a collegiate level. (1:0-3)

PHED 2119 Varsity Soccer II
This course is designed for skilled soccer players who are competing on a collegiate level. (1:0-3)

PHED 2120 Varsity Soccer III
This course is designed for skilled soccer players who are competing on a collegiate level. (1:0-3)

PHED 2121 Varsity Soccer IV
This course is designed for skilled soccer players who are competing on a collegiate level. (1:0-3)

PHED 2124 Varsity Softball I
This course is designed for skilled softball players who are competing on a collegiate level. (1:0-3)

PHED 2125 Varsity Softball II
This course is designed for skilled softball players who are competing on a collegiate level. (1:0-3)

PHED 2126 Varsity Softball III
This course is designed for skilled softball players who are competing on a collegiate level. (1:0-3)

PHED 2127 Varsity Softball IV
This course is designed for skilled softball players who are competing on a collegiate level. (1:0-3)

PHED 2130 Varsity Volleyball I
This course is designed for skilled volleyball players who are competing on a collegiate level. (1:0-3)

PHED 2131 Varsity Volleyball II
This course is designed for skilled volleyball players who are competing on a collegiate level. (1:0-3)
PHED 2132 Varsity Volleyball III
This course is designed for skilled volleyball players who are competing on a collegiate level. (1:0-3)

PHED 2133 Varsity Volleyball IV
This course is designed for skilled volleyball players who are competing on a collegiate level. (1:0-3)

PHED 2140 Advanced Martial Arts
This course features advanced training in the physical and psychological aspects of street defense situations through vigorous flexibility, muscular endurance, and technical instruction and practice. Technical instruction will include martial art skills, combinations, and advanced training techniques. In addition, psychological strategies such as cognitive behavior modification, vision-motor behavior rehearsal and stress inoculation training will be taught. Prerequisite: PHED 1140 or instructor approval (1:0-3)

PHED 2155 Emergency Water Safety and Emergency Water Safety Instructor
This course covers instruction in emergency water safety and teaching techniques for all levels of swimming. This course leads to American Red Cross certification. (1:0-3)

PHED 2156 Taping and Bandaging
This course provides the fundamental therapeutic and preventative taping and bandaging techniques used in the prevention and care of athletic-related injuries to allow for recovery and for athletic participation. Co-requisite: PHED 2356 (1:0-1)

PHED 2356 Care and Prevention of Athletic Injuries
This course covers prevention and care of athletic injuries with emphasis on qualities of a good athletic trainer, avoiding accidents and injuries, recognizing signs and symptoms of specific sports injuries and conditions, immediate and long-term care of injuries, and administration procedures in athletic training. (3:3-0)

PHIL 1304 Introduction to World Religions
Introduction to World Religions is a survey course in philosophy designed to familiarize students with the major theories of world religions. Students will establish broad and multiple perspectives of religious theory and evaluate theories of religion. This course is a survey and critical examination of major theories concerning world religions. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

PHIL 2303 Logic I
This is a study of nature and methods of correct reasoning, deductive proof, fallacies, and arguments. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

PHIL 2306 Introduction to Ethics
This course offers a general overview of classical and contemporary theories concerning the good life, human conduct in society, moral and ethical standards and the nature, criteria, sources, logic, and validity of moral value judgments. Prerequisites: Reading level 7, Writing level 7 (3:3-0)
Physics

PHYS 1404 The Solar System
This survey course in astronomy examines the history of astronomy; the sun and its solar system, including their origin; star and planet formation. Lab work will include nighttime observations. Prerequisite: MATH 1314, Reading level 7, Writing level 7, Math level 9 (4:3-3)

PHYS 2425 University Physics I
This course covers the fundamental principles of physics, using calculus, for science, computer science, and engineering majors; the principles and applications of classical mechanics, including harmonic motion, physical systems and thermodynamics; and emphasis on problem-solving. It is designed to meet the needs of the pre-engineering student or physics major. Prerequisites: MATH 2413 or higher and Reading level 7 (4:3-3)

PHYS 2426 University Physics II
Is the continuation of PHYS 2425, the topics covered include the principles of physics for science, computer science, and engineering majors, using calculus, involving the principles of electricity and magnetism, including circuits, electromagnetism, waves, sound, light, and optics. Prerequisites: PHYS 2425 and MATH 2414 (4:3-3)

PLAB 1166 Practicum Phlebotomy
This is a practical, general workplace training supported by an individual learning plan developed by the employer, the College and the student. Prerequisite: PLAB 1223. (1:0-8)

PLAB 1223 Phlebotomy
This course covers skill development in the performance of a variety of blood collection methods using proper techniques and standard precautions. It includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. It covers infection prevention, patient identification, specimen labeling, quality assurance, specimen handling, processing, accessioning, professionalism, ethics, and medical terminology. (2:2-1)

PHYS 1401 College Physics I
This course covers the fundamental principles of physics, using algebra and trigonometry; the principles and applications of classical mechanics and thermodynamics, including harmonic motion, mechanical waves and sound, physical systems, Newton's Laws of Motion, and gravitation and other fundamental forces; with emphasis on problem solving. Prerequisites: (MATH 1314 and MATH 1316) or MATH 2412 and Reading level 7, Math level 7 (4:3-3)

PHYS 1402 College Physics II
This course covers principles of physics, using algebra and trigonometry; the principles and applications of electricity and magnetism, including circuits, electrostatics, electromagnetism, waves, sound, light, optics, and modern physics topics; with emphasis on problem solving. Prerequisite: PHYS 1401 (4:3-3)

PHYS 1403 Stars and Galaxies
This survey course in astronomy examines the history of astronomy, the stars, galaxies, galaxy clusters, cosmology, and the universe outside our solar system. Lab work will include nighttime observations. Prerequisite: MATH 1314, Reading level 7, Writing level 7, Math level 9 (4:3-3)
POFI 1341 Computer Applications II
This course is a continued study of current computer terminology and technology that provides advanced skill development in computer hardware, software applications, and procedures. Prerequisite: BCIS 1305 (3:3-1)

POFI 1349 Spreadsheets
Intermediate-level instruction includes in-depth coverage in the use of spreadsheet software for business applications. Topics include worksheet creation, modification, and graphics. (3:3-1)

POFM 1317 Medical Administrative Support
This course covers instruction in medical office procedures including appointment scheduling, medical records creation and maintenance, telephone communications, coding, billing, collecting, and third party reimbursement. (3:3-1)

POFM 1327 Medical Insurance
This survey of medical insurance includes the life cycle of various claim forms, terminology, litigation, patient relations, and ethical issues. (3:3-0)

POFT 1127 Introduction to Keyboarding
This course provides skill development in keyboarding techniques. Emphasis is on the development of acceptable speed and accuracy. Students learn the skill of keyboarding by touch, using superior keyboarding software. (1:1.5-.5)

POFT 1319 Records and Information Management I
This introduction to basic records and information management includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules. (3:3-0)

POFT 1325 Business Math Using Technology
This course offers skill development in business math problem-solving using electronic technology. (3:3-0)

POFT 1328 Business Presentations
This course offers skill development in planning and conducting business presentations including communication and media skills. Prerequisite: BCIS 1305 (3:3-1)

POFT 1329 Keyboarding and Document
This course offers skill development of touch typing and proper keyboarding techniques. Emphasis is on development of acceptable speed and accuracy levels, and formatting basic documents. (3:3-1)

POFT 2301 Intermediate Keyboarding
This course offers a continuation of keyboarding skills emphasizing acceptable speed and accuracy levels and formatting documents. Emphasis is on proofreading, editing, following instructions, and keying documents from various types of copy. Prerequisite: BCIS 1305 (3:3-1)

POFT 2364 Practicum
This course offers practical, general workplace training supported by an individualized learning plan developed by the employer, the College, and the student. (3:0-21)

PSTR 1301 Fundamentals of Baking
This is a course in fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts, and doughnuts, and instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the use of proper flours. Prerequisite: Reading level 4. Co-requisite: CHEF 1305 (3:2-4)

PSTR 1306 Cake Decorating I
This is an introduction to skills, concepts and techniques of cake decorating. Co-requisites: PSTR 1301 and CHEF 1305 (3:2-4)

PSTR 1342 Quantity Bakeshop Production
This course is a study of advanced baking techniques to include volume production of a variety of breads and desserts. Co-requisites: PSTR 1301 and CHEF 1305 (3:1-7)

PSTR 1391 Special Topics in Baker/Pastry Chef
This course covers topics that address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be taken twice to improve student proficiency. Co-requisites: CHEF 1305, PSTR 1301 (3:2-4)

PSTR 1401 Fundamentals of Baking
This is a course in fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts and doughnuts, and instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, the evaluation of baked products, and the use of proper flours. (4:3-3)

PSTR 2301 Chocolates and Confections
This course covers production and decoration of traditional truffles, marzipan, molded and hand-dipped chocolates, caramels, nougats, and pate de fruit. The student will prepare tempered and molded chocolates; and prepare a variety of filled and dipped chocolates. Co-requisite: CHEF 1305 (3:1-7)

PSTR 2307 Cake Decorating II
This is a course in decoration of specialized and seasonal products. Produce and decorate a variety of commercially acceptable cakes and other bakery products using a variety of techniques. Co-requisite: CHEF 1305 (3:2-4)

PSTR 2331 Advanced Pastry Shop
This is a study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques. Prerequisite or co-requisite: PSTR 1301, Co-requisite: CHEF 1305 (3:1-7)
PSTR 2365 Practicum - Baking and Pastry
This is a practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisite: 12 completed credit hours to include CHEF 1305 and 9 credit hours in PSTR prior to taking CHEF 2365 Practicum. (3:0-21)

PSTR 2431 Advanced Pastry Shop
This is a study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations, with an emphasis on advanced techniques. (4:3-3)

PSTR 2470 Healthy Baking and Pastries
This course covers topics that address recently identified current events, skills, knowledge's and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course covers the principles and production of healthy alternatives to traditional baked and pastry goods. Prerequisite: PSTR 1301 (4:3-3)

PSYC 1300 Learning Framework
The purpose of PSYC 1300/EDUC 1300 is to enable you to develop effective academic behaviors for college success. The course includes a balance between the research and theory in the psychology of learning, cognition, and motivation and how to apply what you learn to becoming successful in a college setting. You will understand the factors that affect learning and how to apply what you learn to the development of successful learning strategies. You will use assessment instruments, such as learning inventories, to help you identify your own strengths and weaknesses as a strategic learner. You are ultimately expected to integrate and apply the learning skills discussed across your own academic courses and program and become an effective and efficient learner. As you develop these skills, you should be able to continually draw from the theoretical models and apply this to your courses and to your life. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

PSYC 2301 General Psychology
This course is a survey of the major psychological topics, theories and approaches to the scientific study of behavior and mental processes. Prerequisite: Reading level 7, Writing level 7 (3:3-0)

PSYC 2306 Human Sexuality
This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives - biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically-based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. Prerequisites: SOCI 1301 or PSYC 2301, Reading level 7, Writing level 7 (3:3-0)

PSYC 2308 Child Psychology
This course will address psychological development from conception through middle childhood with references to physical, cognitive, social and personality changes. Students will examine the interplay of biological factors, human interaction, social structures and cultural forces in development. Prerequisites: PSYC 2301, Reading level 7, Writing level 7 (3:3-0)

PSYC 2314 Lifespan Growth and Development
This course is a study of social, emotional, cognitive and physical factors and influences of a developing human from conception to death. Prerequisites: PSYC 2301, Reading level 7, Writing level 7 (3:3-0)

PSYC 2315 Psychology of Adjustment
This course is the study of the processes involved in adjustment of individuals to their personal and social environments. This course is designed to study the basic principles and various theories of effective behavior which underlie personal adjustment. This course probes the human dilemma, the personal and social context of behavior, the search for values and methods for personal growth. Prerequisites: PSYC 2301, Reading level 7, Writing level 7 (3:3-0)

PSYC 2317 Elementary Statistics
This course is a study of the basic statistical concepts and techniques of descriptive and inferential statistics as used in psychological and educational research. Included are frequency distributions and graphs, measures of central tendency and variability, interpretation of individual scores, correlations and prediction, the logic of inferential statistics, t-test, analysis of variance, and some nonparametric statistics including chi square. Prerequisites: PSYC 2301, Reading level 7, and Writing level 7 (3:3-0)

PSYC 2319 Introduction to Social Psychology
This course studies behavior of the individual in the group. The course includes group interaction, leadership, motivation, problems in attitudes, prejudice, prosocial behavior, aggression, love, environmental influences on behavior and gender identity and sexual behavior. Prerequisites: PSYC 2301, Reading level 7, and Writing level 7 (3:3-0)

PSYT 1471 Basic Nursing Skills
This course is a mastery of entry level nursing skills and competencies for a variety of health care settings. It utilizes the nursing process as the foundation for all nursing interventions specific to mental health/psychiatric facilities. Prerequisites: Reading level 6 and Writing level 6 (4:2-4)

PSYT 2301 Psychology of Group Dynamics
This is an exploration of group counseling skills, techniques, stages of group development, and confidentiality and ethics. Prerequisite: PSYC 2301 (3:3-0)

PSYT 2321 Crisis Intervention
This is an examination of crisis management and intervention theories in assisting clients in crisis situations. Prerequisite: PSYC 2301 (3:3-0)

PSYT 2331 Abnormal Psychology
This is an examination and assessment of the symptoms, etiology, and treatment procedures of mental, emotional and behavioral disorders. Prerequisite: PSYC 2301 (3:3-0)
PSYT 2339 Counseling Theories
This is an examination of major theories of various treatment modalities. Topics include reality therapy, psychodynamics, grief therapy, person-centered therapy, rational emotive therapy, and cognitive behavioral approaches. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

PTAC 1302 Introduction to Process Technology
This is an introduction overview to the various processing industries. Prerequisites: Reading level 7, Writing level 7, Math level 7 (3:3-0)

PTAC 1308 Safety, Health, and Environment I
This course is an overview of safety, health and environmental issues in the performance of all job tasks. Prerequisites: Reading level 7, Writing level 7, Math level 7 (3:3-0)

PTAC 1332 Process Instrumentation I
This is a study of instruments and control systems used in the process industry including terminology, process variables, symbology, control loops, and basic troubleshooting. As a part of the course, each student will identify and explain the function of the various instruments used in the process industry, diagram the process control elements in a control loop, and define and apply terms and symbols used in instrumentation. Prerequisites: MATH 1333 or MATH 1314 or higher, Reading level 7, Writing level 7, Math level 7 (3:3-1)

PTAC 1410 Process Technology I - Equipment
This course is an introduction to process technology or related work experience. Prerequisites: Reading level 7, Writing level 7, Math level 7 (4:3-3)

PTAC 2314 Principles of Quality
In this study of the background and application of quality concepts, topics include team skills, quality tools, statistics, economics and continuous improvement. As part of the course, students use statistical process control to collect, organize, and analyze data; describe the principles of quality control; demonstrate team skills; and apply quality tools to process systems. Prerequisites: Reading level 7, Writing level 7, Math level 7 (3:3-0)

PTAC 2420 Process Technology II - Systems
This is a study of the various process systems, including related scientific principles. As a part of this course, students describe the purpose and function of common process systems; and operate each process system. Prerequisites: PTAC 1410, Reading level 7, Writing level 7, Math level 7 (4:3-3)

PTAC 2438 Process Technology III - Operations
This course emphasizes activities associated with the hands-on operation of process equipment. Prerequisites: PTAC 1332 and PTAC 2420, Reading level 7, Writing level 7, Math level 7 (4:3-3)

PTAC 2446 Process Troubleshooting
This course offers instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Prerequisites: PTAC 1332 and PTAC 2420, Reading level 7, Writing level 7, Math level 7 (4:3-3)

PTHA 1191 Special Topics in PTA
This course includes topics that address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisites: PTHA 2409, 1431 and 2301 (1:1-0)

PTHA 1201 The Profession of Physical Therapy
This is an introduction to the profession of physical therapy and the role of the physical therapist assistant. (2:2-0)

PTHA 1321 Pathophysiology for the PTA
This is a study of pathophysiology of diseases/conditions encountered in physical therapy. Prerequisites: PTHA 2409, 1431 and 2301 (3:3-0)

PTHA 1360 Clinical I-PTA
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PTHA 1321 and 1191 (3:0-12)

PTHA 1405 Basic Patient Care Skills
This course covers the application of basic patient handling, functional skills, communication, and selected data collection techniques. Prerequisite: Departmental Approval (4:3-3)

PTHA 1413 Functional Anatomy
This course covers the relationship of the musculoskeletal and neuromuscular systems to normal and abnormal movement. Prerequisite: Departmental Approval (4:3-3)

PTHA 1431 Physical Agents
This is a study of the biophysical principles, physiological effects, efficacy, and application of physical agents. Prerequisites: PTHA 1201, 1405 and 1413 (4:3-3)

PTHA 2239 Professional Issues
This is a discussion of professional issues and behaviors related to clinical practice and preparation for transition into the workforce. Prerequisites: PTHA 1321 and 1191 (2:2-0)

PTHA 2301 Essentials of Data Collection
This is a study of data collection techniques used to assist in patient/client management. Prerequisites: PTHA 1201, 1405 and 1413 (3:2-2)

PTHA 2409 Therapeutic Exercise
This course covers the concepts, principles, and application of techniques related to therapeutic exercise and functional training. Prerequisites: PTHA 1201, 1405 and 1413 (4:3-3)

PTHA 2435 Rehabilitation Techniques
This is a study of comprehensive rehabilitation of selected diseases and disorders. Prerequisites: PTHA 1321 and 1191 (4:3-3)
PTHA 2460 Clinical II-PTA
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PTHA 1360, 2531, 2435 and 2239 (4:0-16)

PTHA 2461 Clinical III-PTA
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: PTHA 1360, 2531, 2435 and 2239 (4:0-16)

PTHA 2531 Management of Neurological Disorders
This is a study of comprehensive rehabilitation techniques of selected neurological disorders. Prerequisites: PTHA 1321 and 1191 (5:3-4)

PTRT 1301 Introduction to Petroleum Industry
This is an introduction to the various aspects of petroleum industry including equipment, systems, instrumentation, operations, and the various scientific principles. It addresses a variety of petroleum technologies: exploration, drilling, production, transportation, marketing, and chemical processing industries. Students identify the concepts of exploration, production, refining, marketing, and transportation; and describe the terms and phrases associated with petroleum industry. Prerequisites: Reading level 7, Writing level 7, Math level 7 (3:3-0)

QCTC 1341 Statistical Process Control
This course focuses on components of statistics including techniques of collection, presentation, analysis, and interpretation of numerical data as applied to statistical control. It stresses application of correlation methods, analysis of variance, dispersion, sampling quality control, reliability, mathematical models, and programming. Prerequisite: Math level 7 (3:2-2)

QCTC 1343 Quality Assurance
This course provides information on quality assurance principles and applications and introduces the student to the quality assurance profession. (3:2-2)

QCTC 1446 Testing and Inspection Systems
This is a study of testing and inspection systems including pertinent specifications, inspection tools, gauges, instruments and mechanisms in illustrating the need for maintaining quality to establish standards. It covers the applications and methods of solving quality control and inspection problems using the appropriate testing and inspection methods such as AET, ET, LT, MT, PT, RT, UT and VT. (4:3-3)

QCTC 1448 Metrology and Blueprint Reading
This is the study of the terminology, methodology, and practice of measurement systems and equipment in the calibration and use of basic measuring tools. (4:3-3)

QCTC 2331 Standards
This is a study of philosophy and theory of appropriate standards, organizations, and systems integration relating to the standards criteria in society. (3:2-2)

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RADR 1166 Practicum I
This course is the study of the practical, general workplace training supported by an individualized learning plan/syllabus developed by the employer, college, and student. Prerequisite: Acceptance into the Medical Radiography Program. (1:0-9)

RADR 1201 Introduction to Radiography
This course is an overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the profession and the health care system. Prerequisite: Reading level 7. Prerequisite or co-requisite: ENGL 1301 (2:2-0)

RADR 1202 Radiographic Image Evaluation I
This course is the study of the scientific process of radiographic image evaluation. Prerequisite: Acceptance into the Medical Radiography Program. (2:2-1)

RADR 1203 Patient Care
This course is an introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology. Acceptance into the Medical Radiography Program. (2:2-0)

RADR 1213 Principles of Radiographic Imaging I
This course is the study of radiographic image quality and the effects of exposure variables. Prerequisites: RADR 2209, 1311, 1202, 1203, 1166 (2:2-1)

RADR 1250 Radiographic Image Evaluation II
This course is the study of the assessment of radiographic images. Prerequisites: RADR 1311, 1166, 1202, 1203, 2209 (2:2-1)

RADR 1266 Practicum II
This course is the study of the practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. Prerequisites: RADR 1166, 1203, 2209, 1311, 1202 (2:0-16)

RADR 1267 Practicum III
This course is the study of the practical, general workplace training supported by an individualized learning plan/syllabus developed by the employer, college, and student. Prerequisites: RADR 1266, 1213, 2301, 1250 (2:0-16)
RadR 1311 Basic Radiographic Procedures
This course is an introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of basic anatomy. Prerequisite: Acceptance into the Medical Radiography Program (3:2-3)

RadR 2209 Radiographic Imaging Equipment
This course is the study of the equipment and physics of x-ray production. Includes basic x-ray circuits. Also examines the relationship of conventional and digital equipment components to the imaging process. Prerequisite: Acceptance into the Medical Radiography Program (2:2-1)

RadR 2217 Radiographic Pathology
This course is the study of the disease processes and their appearance on radiographic images. Prerequisites: RadR 2233, 2313, 2266 (2:2-0)

RadR 2233 Advanced Medical Imaging
This course is the study of the specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis. Prerequisites: RadR 2236, 2305, 2311, 1267 (2:2-0)

RadR 2236 Special Patient Applications
This course is the study of the advanced concepts of pediatrics, geriatrics, trauma, history documentation, and Electrocardiogram (ECG). Includes phlebotomy and venipuncture. Prerequisites: RadR 1266, 1213, 2301, 1250 (2:2-1)

RadR 2266 Practicum IV
This course is the study of the practical, general workplace training supported by an individualized learning plan/syllabus developed by the employer, college, and student. Prerequisites: RadR 1267, 2331, 2305, 2236 (2:0-20)

RadR 2267 Practicum V
This course is the study of the practical, general workplace training supported by an individualized learning plan/syllabus developed by the employer, college, and student. Prerequisites: RadR 2266, 2313, 2233 (2:0-20)

RadR 2301 Intermediate Radiographic Procedures
This course is a continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomic structure and equipment, and evaluation of images for proper demonstration of anatomy. Prerequisites: RadR 1311, 1166, 1202, 1203, 2209 (3:2-3)

RadR 2305 Principles of Radiographic Imaging II
This is a continuation of Radiographic image quality and the effects of exposure variables, and the synthesis of all variables in image production. Prerequisites: RadR 1250, 2301, 1213, 1266(3:3-1)

RadR 2313 Radiation Biology and Protection
This course is the study of the effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure. Prerequisites: RadR 1267, 2331, 2305, 2236 (3:3-0)

RadR 2335 Radiologic Technology Seminar
This is a capstone course focusing on the synthesis of professional knowledge, skills, and attitudes in preparation for professional employment and lifelong learning. Prerequisites: RadR 2233, 2313, 2266 (3:3-1)

RadR 2340 Sectional Anatomy for Medical Imaging
This course presents an in-depth coverage of anatomic relationships that are present under various sectional orientations. Prerequisite: ARRT registered or registry eligible within 6 months or departmental approval. (3:3-0)

RBTC 1355 Sensors and Automation
This course is a study of the basic principles of industrial sensors for automated systems with an emphasis on the operation and application of position, rate, proximity, opto-electronics, ranging, and pressure switches. Prerequisite: Reading level 4 (3:2-2)

Read 0110 Developmental Reading
This course is a study of the fundamental reading skills to develop comprehension, vocabulary, and rate. (1:0.5-0.5)

Read 0308 Basic Reading Skills
This course is designed to improve basic reading skills. Following assessment, the student will be taught word recognition, basic vocabulary skills, and literal comprehension, such as main idea and details. This course is not applicable to any degree. Prerequisite: Reading level 2 (3:3-2)

Read 0309 Reading Comprehension
This intermediate reading course is designed to continue the sequential process of reading with emphasis on reading comprehension and vocabulary development. Selected readings will be used for intensive work in literal and inferential meanings. This course is not applicable to any degree. Prerequisite: a grade of C or above in Read 0308 or reading score within defined range. (3:3-1)

Read 0310 College Reading Techniques
This course is designed for the development of reading skills beyond the basic skills on an individual basis. Emphasis is placed on further development of comprehension, vocabulary, and interpretation of nonfiction articles and reading speed. This course is not applicable to any degree. Prerequisite: a grade of C or above in Read 0309 or reading score within defined range. (3:3-0)
RELE 1201 Principles of Real Estate I
This is a beginning overview of licensing as a real estate broker or salesperson. It includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. It covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. It fulfills at least 30 to 60 hours of required instruction for salesperson license. (3:3-0)

RELE 1211 Law of Contracts
This course focuses on elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements. (2:2-0)

RELE 1238 Principles of Real Estate II
This is a continuing overview of licensing as a broker or salesperson. It includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances or liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. It covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. It fulfills at least 30 to 60 hours of required instruction for salesperson license. (2:2-0)

RELE 1300 Contract Forms and Addenda
This course is the study of promulgated contract forms, which shall include but is not limited to unauthorized practice of law, broker-lawyer committee, current promulgated forms, commission rules governing use forms and case studies involving use of forms. (3:3-0)

RELE 1303 Real Estate Appraisal
This is the study of the central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting. It is recommended that the student should take or have taken RELE 1201. (3:3-0)

RELE 1307 Real Estate Investments
This is a study of the characteristics of real estate investments. This includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax. It is recommended that the student should take or have taken RELE 1201. (3:3-0)

RELE 1309 Real Estate Law
This is a study in legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of title. It is recommended that the student should take or have taken RELE 1201. (3:3-0)

RELE 1319 Real Estate Finance
This is the study of monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity laws affecting mortgage lending, Community Reinvestment Act, and the state housing agency. (3:3-0)

RELE 1321 Real Estate Marketing
This is a study of real estate professionalism and ethics, characteristics of successful salespersons, time management, psychology of marketing, listing procedures, advertising, negotiation and closing financing; and the Deceptive Trade Practices-Consumer Protection Act. It is recommended that you take or have taken RELE 1201. (3:3-0)

RELE 1325 Real Estate Mathematics
This course covers basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closing statement. (3:3-0)

RELE 2301 Law of Agency
This is a study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent’s authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying representation procedures, and the disclosure of an agency. (3:3-0)

RELE 2331 Real Estate Brokerage
This course is a study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria. It is recommended that the student should take or have taken RELE 1201. (3:3-0)

RELE 2366 Practicum-Real Estate
This is a basic or intermediate type of non-health professions work-based instruction that provides basic career exploration or helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience. Indirect supervision is provided by the work supervisor. A practicum may be paid or unpaid learning experience. The College with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. Prerequisite: must have a job (paid or unpaid) working in a real estate related position at least 20 hours per week (3:0-21)
**RELE 2367 Practicum-Real Estate**
This is a basic or intermediate type of non-health professions work-based instruction that provides basic career exploration or helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience. Indirect supervision is provided by the work supervisor. A practicum may be a paid or unpaid learning experience. The College with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student’s general and technical course of study. Prerequisite: must have a job (paid or unpaid) working in a real estate related position at least 20 hours per week (3:0-21)

**RNSG 1108 Dosage Calculations for Nursing**
This course offers expanded training in the general principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes reading, interpreting, and solving dosage calculation problems utilizing various systems of measurement. It is a prerequisite for program admission. (1:1-0)

**RNSG 1144 Nursing Skills II**
This is a study of the concepts and principles necessary to perform intermediate or advanced nursing skills for the adult patient; and demonstrate competence in the performance of nursing procedures. Content includes judgment, skills, and professional values within a legal/ethical framework. (1:0-4)

**RNSG 1160 Clinical Nursing Introduction**
This course is a health-related work-based experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This introductory level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (1:0-6)

**RNSG 1166 Practicum, Nursing Transition**
This is an intermediate or advanced type of health professions work-based course that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. The emphasis is on practical work experience for which the student has already acquired the necessary theoretical knowledge and basic skills. Direct supervision is provided by the clinical professional, generally a clinical preceptor. A health practicum may be paid or unpaid learning experience. Prerequisite for Paramedic to RN includes RNSG 1413, and prerequisite or co-requisite: RNSG 2207 (1:0-7)

**RNSG 1191 Special Topics in Nursing**
This course covers recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Prerequisite: admission to the ADN program and approval of the department chair. Note: 1-2 credit hours available on individual basis. (1 or 2: 0-1 or 2)

**RNSG 1195 Practicum Childbearing Families**
This is a study of concepts related to the provision of perinatal nursing care for childbearing families. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. Topics may include selected complications. (2:2-0)

**RNSG 1215 Health Assessment**
This course covers development of skills and techniques required for a comprehensive nursing health assessment within a legal/ethical framework. Prerequisite: Department chair approval (2:1-2)

**RNSG 1215 Clinical: Concepts of Professional Nursing Practice 1 for Articulating Students**
This is a health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: Admission to the ADN Mobility program. Co-requisites: RNSG 1209 and 1417 (2:0-12)

**RNSG 1251 Care of the Childbearing Family**
This is a study of concepts related to the provision of perinatal nursing care for childbearing families. Content includes knowledge, judgment, skills, and professional values within a legal/ethical framework. Topics may include selected complications. (2:2-0)

**RNSG 1260 Clinical: Concepts of Professional Nursing Practice 1 for Articulating Students**
This is a health related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This introductory level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

**RNSG 1261 Clinical Nursing Common Concepts**
This course is a health-related work-based experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This introductory level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

**RNSG 1262 Clinical Nursing Complex Concepts**
This course is a health-related work-based experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This intermediate level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

**RNSG 1263 Clinical Nursing Childbearing Families**
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This intermediate level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

**RNSG 1301 Pharmacology**
This is an introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of drug classifications. Content includes the roles and responsibilities of the nurse in safe administration of medications within a legal/ethical framework. Prerequisites: Department Chair Approval. (3:3-0)
RNSG 1341 Common Concepts of Adult Health
This course covers the basic integration of the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team and member of the profession. It includes the study of common concepts of caring for adult patients and families with medical-surgical health care needs related to body systems. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. (3:3-0)

RNSG 1343 Complex Concepts of Adult Health
This course provides integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team and member of the profession in the care of adult patients and families with complex medical-surgical health care needs associated with body systems. Emphasis on complex knowledge, judgment, skills and professional values within a legal/ethical framework. (3:3-0)

RNSG 1413 Foundation for Nursing Practice
This is an introduction to the role of the professional nurse as a provider of patient-centered care, patient safety advocate, member of health care team and member of the profession. Content includes fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision making and critical thinking. The mechanisms of disease and the needs and problems that can arise are discussed and how the nursing process helps manage the patient through these issues. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework. Prerequisite: Department chair approval. (4:3-3)

RNSG 1417 Concepts of Professional Nursing Practice I for Articulating Students
This course provides the articulating student the opportunity to examine the role of the professional nurse; application of a systematic problem solving process and critical thinking skills which includes a focus on the adult population; and competency in knowledge, judgment, skill, and professional values within a legal/ethical framework. This course lends itself to either a blocked or integrated approach. Prerequisite: Admission to ADN Mobility program. Co-requisite: RNSG 1260 and 1209 (4:4-0)

RNSG 2121 Professional Nursing Leadership and Management
This course features exploration of leadership and management principles applicable to the roles of the professional nurse. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework. (1:1-0)

RNSG 2163 Clinical: Concepts of Nursing Practice Iib for Articulating Students
This is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisite: RNSG 2213 and 2162. Co-requisite: RNSG 2271 (1:0-6)

RNSG 2201 Care of Children and Families
This course is a study of concepts related to the provision of nursing care for children and their families, emphasizing judgment and professional values within a legal/ethical framework. Prerequisites: PSYC 2314 (2:2-0)

RNSG 2207 Adaptation to the Role of Nursing
This is an introduction to selected concepts related to the role of the professional nurse as provider of care, coordinator of care and member of profession. Includes review of trends and issues impacting nursing and health care today and in the future. Content includes knowledge, judgment, skills and professional values within a legal/ethical framework. Introduction to selected medical-surgical topics is included. Prerequisite: Department chair approval. (2:2-1)

RNSG 2213 Mental Health Nursing
This course covers principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of patients and their families. This course enables the student to expand their understanding of human-environmental interactions and evolving mental health patterns within diverse cultures to promote optimal health. The student is provided with an opportunity to understand the organization of mental health patterns as they appear in normative growth and developmental perspectives as well as the alterations in the patterns with the resulting nursing implications. The progression will be from common to more complex mental health patterns as they relate to nursing practice. (2:2-0)

RNSG 2231 Advanced Concepts of Adult Nursing
This course covers the application of advanced concepts and skills for the development of professional nurse's roles with adult patients and families involving multiple body systems. Emphasis on advanced knowledge, judgment, skills, and professional values within a legal/ethical framework. (2:2-1)

RNSG 2260 Clinical Nursing Advanced Concepts
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This intermediate health professional work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the work flow in the care of adult clients/families with complex health needs involving multiple body systems in intermediate and critical care settings. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

RNSG 2261 Clinical Mental Health Nursing
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This intermediate level course helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the work flow in mental health nursing. It provides applications of concepts of mental health, psychopathology, and treatment modalities related to nursing care of clients and their families. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)
RNSG 2262 Clinical Nursing Children and Families
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. This intermediate health professional work-based instruction helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow in the provision of nursing care for the child and family. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by a clinical professional, generally in a clinical setting. Practical experience is simultaneously related to theory. Clinical education is an unpaid learning experience. (2:0-6)

RNSG 2263 Clinical Leadership/ Management
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Practical experience is simultaneously related to theory. Direct supervision is provided by the clinical professional. (2:0-6)

RNSG 2271 Concepts of Nursing Practice IIIb for Articulating Students
This course provides the articulating student the opportunity to synthesize the roles of the professional nurse; application of systematic problem solving and critical thinking skills; focus on the care of patients throughout the lifespan with continued emphasis on leadership and management skills in the provision of care to small groups of adult clients and their families in multiple settings; and competency in knowledge, skills, and professional values within a legal/ethical framework. The focus of this course will be the care of the critically ill patient and nursing management. Prerequisite: RNSG 2213 and 2162. Co-requisite: RNSG 2163 (2:2-0)

RSPT 1267 Respiratory Care Practicum I
This course offers practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. This course provides the student with the opportunity to refine skills in assessment and procedures via rotations through the provision of nursing care for the adult intensive care units. Prerequisite: RSPT 2266; Co-requisite: RSPT 2353 (1:0-10)

RSPT 1325 Respiratory Care Sciences
This course is a study of physics, mathematics, and chemistry as related to respiratory care. Prerequisite: MATH 1333 or MATH 1314 or a higher level math. (3:3-0)

RSPT 1340 Advanced Cardiopulmonary Anatomy and Physiology
This course provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system. Prerequisite: BIOL 2401 or 2402 (3:3-1)

RSPT 1429 Respiratory Care Fundamentals I
This course is an introduction to respiratory care fundamentals. (4:3-3)

RSPT 1431 Respiratory Care Fundamentals II
This course provides continued development of knowledge and skills for respiratory care. Prerequisites: HPRS 1106, RSPT 1325, 1340, and 1429; Co-requisite: RSPT 1267. (4:3-3)

RSPT 2130 Respiratory Care Examination Preparation
This course is a comprehensive review to optimize respiratory care credentialing exam success. Prerequisites: RSPT 2266 and 2353 (1:1-1)

RSPT 2167 Respiratory Care Practicum II
This course offers practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. This course is designed to provide increased exposure to management of the critically ill patient. Prerequisite: RSPT 1267; Co-requisite: RSPT 2314 (1:0-10)

RSPT 2258 Respiratory Care Patient Assessment
This course covers integration of patient examination techniques, including patient history and physical exam, lab studies, x-ray, pulmonary function, arterial blood gases, and invasive and noninvasive hemodynamics. Co-requisite: RSPT 2267 (2:2-1)

RSPT 2266 Respiratory Care Practicum III
This course offers practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. This course provides the student with an opportunity to care for the critically ill pediatric and neonatal patient. Prerequisite: RSPT 2167; Co-requisite: RSPT 2353 (2:0-16)

RSPT 2267 Respiratory Care Practicum IV
This course provides practical, general workplace training supported by an individualized learning plan developed by the employer, College, and student. The course provides the student with the opportunity to observe and study diagnostic testing of the pulmonary system. Through specialty rotations in the emergency room, emergency triage and care of the traumatically injured patient are demonstrated to the student. The student is presented the opportunity to refine skills in assessment and procedures via rotations through the adult intensive care units. Prerequisite: RSPT 2266; Co-requisite: RSPT 2258 (2:0-16)

RSPT 2314 Mechanical Ventilation
This course is a study of mechanical ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Prerequisites: RSPT 1431, 2310; Co-requisite: RSPT 2167 (3:3-1)

RSPT 2317 Respiratory Care Pharmacology
This course is a study of drugs that affect cardiopulmonary systems, with an emphasis on classification, route of administration, dosages/calculations, and physiologic interactions. (3:3-0)
**Course Descriptions**

**RSPT 2355 Critical Care Monitoring**
This course covers advanced monitoring techniques used to access a patient in the critical care setting. Prerequisite: RSPT 2310 (3:3-1)

**RSTO 1217 Nutrition for the Food Service Professional**
This is an introduction to nutrition including nutrients, digestion and metabolism, menu planning, recipe modification, dietary guidelines and restrictions, diet and disease, and healthy cooking techniques. Topics include fundamental principles of the basic food nutrients, their digestive and absorptive characteristics, and the relationship of food to the development and maintenance of health, study of people's eating habits, and the nutritional needs of all age groups. Application of the concepts of good nutrition to the planning of satisfying and interesting meals for commercial and institutional food service operations is also included. Prerequisite: Reading (2:2-0)

**RSTO 1301 Beverage Management**
This is a study of the beverage service of the hospitality industry including spirits, wines, beers, and non-alcoholic beverages. Topics include purchasing, resource control, legislation, marketing, physical plant requirements, staffing, serving, and the selection of wines to enhance foods. (3:3-0)

**RSTO 1313 Hospitality Supervision**
This course includes fundamentals of recruiting, selection, and training of food service and hospitality personnel. Topics include job descriptions, schedules, work improvement, motivation, and applicable personnel laws and regulations, with an emphasis on leadership development. (3:3-0)

**RSTO 1325 Purchasing for Hospitality Operations**
This is a study of purchasing and inventory management of foods and other supplies to include development of purchase specifications, determination of order quantities, formal and informal price comparison, proper receiving procedures, storage management, and issue procedures, with an emphasis on product cost analysis, yields, pricing formulas, controls, and record keeping at each stage of the purchasing cycle. (3:3-0)

**RSTO 2301 Principles of Food and Beverage Control**
This is a study of financial principles and controls of food service operation including review of operation policies and procedures. Topics include financial budgeting and cost analysis emphasizing food and beverage labor costs, operational analysis, and international and regulatory reporting procedures. (3:3-0)

**RSTO 2353 Neonatal/Pediatric Cardiopulmonary Care**
This course is a study of acute care, monitoring and management as applied to the neonatal and pediatric patient. Co-requisite: RSPT 2266 (3:3-1)

**RSTO 2365 Practicum (or Field Experience) - Restaurant, Culinary, and Catering Management/Manager**
This course offers practical general workplace training supported by an individualized learning plan developed by the employer, the College, and student. The plan relates workplace training and experiences to the student's general and technical course of study. The guided external experiences may be for paid or unpaid. The course may be repeated if topics and learning outcomes vary. (3:0-21)

**RSTO 2405 Management of Food Production and Service**
This is a study of quantity cookery and management problems pertaining to commercial and institutional food service, merchandising and variety in menu planning, and customer food preferences. It includes laboratory experiences in quantity food preparation and service. (4:3-3)

**RSTO 2431 Food Service Management**
This course covers mastery of actual management experiences in supervision, training, planning, and control of a variety of food service operation formats to include cafeteria, table service, meetings, banquets, and catered events. Students may not receive credit for both RSTO 2431 and RSTO 2405. Co-requisite: CHEF 1305 (4:2-8)

**Scit 1414 Applied General Chemistry I**
This course offers applications of general chemistry emphasizing industry-related laboratory skills and competencies including laboratory safety and report writing. It addresses supporting chemical theories including atomic and molecular structure, nomenclature, chemical reactivity, gas laws, acids and bases, and solutions, and an overview of organic chemistry. Prerequisites: MATH 1333 or MATH 1314 or higher, Reading level 7, Writing level 7, Math level 7 (4:3-3)

**Scit 1418 Applied Physics**
This is an introduction to physics for industrial applications including vectors, motion, mechanics, simple machines, matter, heat, and thermodynamics. Prerequisites: Reading level 7, Writing level 7, Math level 7 (4:3-3)

**Scit 1495 Special Topics in Analytical Chemistry**
This course covers current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. It introduces basic chemistry principles, such as the periodic classification of elements, structure of matter, chemical bonding, formulas and chemical reactions. It presents properties of acids and bases and their application in the clinical setting. It also includes a brief introduction to organic chemistry, structures of carbohydrates, lipids and proteins. It relates topics to their significance in the performance of laboratory testing as well as human health and body function. Prerequisite: MLAB 1201 (4:4-0)
SCWK 2301 Assessment and Case Management
This is a study of the exploration of procedures to identify and evaluate an individual's and/or family's strengths, weaknesses, problems, and needs in order to develop an effective plan of action. Topics include oral and written communications essential for screening, assessment, and case management to determine the need for prevention, intervention, and/or referral. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

SOCI 1301 Introduction to Sociology
This course covers the scientific study of human society, including ways in which groups, social institutions, and individuals affect each other. Causes of social stability and social change are explored through the application of various theoretical perspectives, key concepts, and related research methods of sociology. Analysis of social issues in their institutional context may include topics such as social stratification, gender, race/ethnicity, and deviance. Prerequisite: Reading level 6 (3:3-0)

SOCI 1306 Social Problems
This course is about the application of sociological principles and theoretical perspectives to major social problems in contemporary society such as inequality, crime and violence, substance abuse, environmental issues, deviance, or family problems. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

SOCI 2301 Marriage and the Family
This course is a study of sociological and theoretical analysis of the structures and functions of the family, the varied cultural patterns of the American family, and the relationships that exist among the individuals within the family, as well as the relationships that exist between the family and other institutions in society. Prerequisites: Reading level 7 and Writing level 7 (3:3-0)

SOCI 2306 Human Sexuality
This course will provide an overview of the broad field of human sexuality. Topics will be covered from various perspectives - biological, sociological, anthropological, etc., but will focus primarily on the psychological perspective. The goal is for each student to learn factual, scientifically-based information that will provoke thought and contribute to his/her own decision-making on sexual issues outside of the classroom. Prerequisites: SOCI 1301 or PSYC 2301, Reading level 7, and Writing level 7 (3:3-0)

SOCI 2319 Minority Studies I
This course studies minority-majority group relations, addressing their historical, cultural, social, economic, and institutional development in the United States. Both sociological and social psychological levels of analysis will be employed to discuss issues including experiences of minority groups within the context of their cultural heritage and tradition, as well as that of the dominant culture. Core concepts to be examined include (but are not limited to) social inequality, dominance/subordination, prejudice, and discrimination. Particular minority groups discussed may include those based on poverty, race/ethnicity, gender, sexual orientation, age, disability, or religion. Prerequisites: Reading level 7, Writing level 7 (3:3-0)

SOCI 2336 Criminology
This is an examination of current trends in the nature and causes of crime, indexes of crime, perspectives and methods in criminology, psychopathy and crime, culture areas and crime, processes in criminal behavior, and sociological aspects of criminal law and procedure. Prerequisites: SOCI 1301, Reading level 7 and Writing level 7 (3:3-0)

SOCW 2361 Introduction to Social Work
This is a study of the development of the philosophy and practice of social work in the United States, survey of the fields and techniques of social work, practice, ethics, and values, roles and responsibilities and various field of social work practice. This course also includes a 40-hour integrated agency-related volunteer experience. Prerequisites: Reading level 6, Writing level 6 (3:3-0)

SGNL 1401 Beginning American Sign Language I
This course offers an introduction to American Sign Language (ASL) covering finger spelling, vocabulary, and basic sentence structure in preparing individuals to interpret oral speech for the hearing impaired. The course also offers instruction in understanding the deaf culture. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. (4:3-2)

SGNL 1402 Beginning American Sign Language II
This course continues instruction in American Sign Language (ASL) covering finger spelling, vocabulary, and basic sentence structure in preparing individuals to interpret oral speech for the hearing impaired. The course also offers instruction in understanding the deaf culture. Students will spend three hours a week learning language patterns and forms and two hours a week in lab activities. (4:3-2)

SPAN 1411 Beginning Spanish I
This course is basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students will acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the beginner level. Prerequisite: Reading level 6 (4:3-2)

SPAN 1412 Beginning Spanish II
This course is a continued development of basic Spanish language skills in listening, speaking, reading, and writing within a cultural framework. Students acquire the vocabulary and grammatical structures necessary to communicate and comprehend at the high beginner to low intermediate level. Prerequisite: SPAN 1411 (4:3-2)

SPAN 1415 Essentials of Spanish for Health Vocations
This course requires intensive practice in basic grammar, pronunciation, reading and simple conversation; emphasis is placed on medical terminology. This course cannot be substituted for SPAN 1411 (4:3-2)
### SPAN 2311 Intermediate Spanish I
This course is designed to give the student who has completed Spanish 1411 and 1412 increased fluency and confidence in the use of the Spanish language. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisites: SPAN 1411-1412 (3:3-0)

### SPAN 2312 Intermediate Spanish II
This course is a continuation of Spanish 2311. Although no lab is scheduled, students will have access to tapes and other lab materials and will be encouraged to use these supplemental learning tools. Prerequisite: SPAN 2311 (3:3-0)

### SPAN 2316 Spanish on the Job I
The primary purpose of this course is to give the student an opportunity to develop an accurate oral use of the language (in simulated on-the-job situations), based on a sound understanding of structure. Reading will be incidental to the oral objective. Prerequisite: eight hours of Spanish or approval (3:3-0)

### SPAN 2317 Spanish on the Job II
This course has the same objectives as SPAN 2316 but utilizes different simulated on-the-job situations. Prerequisite: eight hours of Spanish or approval (3:3-0)

### SPCH 1145 Forensic Activities
This course includes intensive preparation for intercollegiate competition in debate and/or speech events. The course may be taken a maximum of four times for credit. Prerequisite: Reading level 7 (1:0-3)

### SPCH 1311 Introduction to Speech Communication
This course introduces basic human communication principles and theories embedded in a variety of contexts including interpersonal, small group, and public speaking. Prerequisite: Reading level 6 (3:3-0)

### SPCH 1315 Public Speaking
This course is an application of communication theory and practice to the public speaking context, with emphasis on audience analysis, speaker delivery, ethics of communication, cultural diversity, and speech organizational techniques to develop students' speaking abilities, as well as ability to effectively evaluate oral presentations. Prerequisite: Reading level 6 (3:3-0)

### SPCH 1318 Interpersonal Communications
This course is the application of communication theory to interpersonal relationship development, maintenance, and termination in relationship contexts including friendships, romantic partners, families, and relationships with co-workers and supervisors. Prerequisite: Reading level 6 (3:3-0)

### SPCH 1321 Business and Professional Speech
This course is the study and application of communication within the business and professional context. Special emphasis will be given to communication competencies in presentations, dyads, teams, and technologically mediated formats. Prerequisite: Reading level 6 (3:3-0)

### SPCH 1342 Voice and Diction
This course covers instruction in the development of effective habits in the use of the speaking voice. It covers the study of English phonetics, phrasing, intonation and voice production. Training is given to enable the student to listen intelligently to the sound of his/her own voice. Students cannot receive credit for both SPCH 1342 and DRAM 2336. Prerequisite: Reading level 6 (3:3-0)

### SPCH 2333 Discussion and Small Group Communication
This course includes discussion and small group theories and techniques as they relate to group processes and interaction. Prerequisite: Reading level 7 (3:3-0)

### SPCH 2335 Arguementation and Debate
This course includes instruction in the principles of argumentation and debate; analysis and discussion of current public questions in briefing, strategy and refutation. Students will not receive credit for both SPCH 2335 and SPCH 2336. Prerequisite: Reading level 7 (3:3-0)

### SPCH 2336 Forensics
This is open to students in interpretation and forensics as related to competition and public performance. Students will not receive credit for both SPCH 2335 and SPCH 2336. Prerequisite: Reading level 7 (3:3-0)

### SPCH 2341 Oral Interpretation
This course covers an introduction to oral interpretation of literature, including preparation and reading of printed material, and practical experience in storytelling and choral speaking. Instruction in techniques and analysis of literature will be read aloud. It covers the techniques of oral reading. Students cannot receive credit for both SPCH 2341 and DRAM 2341. Prerequisite: Reading level 6 (3:3-0)

### SRGT 1260 Clinical I Surgical
This is a method of instruction providing detailed education, training and work-based experience and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement is the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Introductory level. Prerequisites: Reading level 7, Writing level 6, and prerequisites or co-requisites: SRGT 1505 and SRGT 1509 (2:0-8)

### SRGT 1261 Clinical III Surgical
This is a method of instruction providing detailed education, training and work-based experience and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement is the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Advanced level. Prerequisites: SRGT 1201, 1260, 1360, 1471, 1505, 1509, 1541; HPRS 2200, 2301. Prerequisites or co-requisites: SRGT 1542, 2130 (2:0-12)
SRGT 1360 Clinical II Surgical
This is a method of instruction providing detailed education, training and work-based experience and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation and placement is the responsibility of the College faculty. Clinical experiences are unpaid external learning experiences. The course may be repeated if topics and learning outcomes vary. Intermediate level. Prerequisites: Reading level 7, Writing level 6, and co-requisite: SRGT 1541 (3:0-14)

SRGT 1471 Anatomy and Physiology for Surgical Technology
This course will introduce a foundation for anatomy and physiology which focuses on relations to surgical intervention and perioperative care. Prerequisites: Reading level 7, Writing level 6, HPRS 1106 and 1171 (4:4-0)

SRGT 1505 Introduction to Surgical Technology
This is an orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts. Prerequisites: Reading level 7, Writing level 6, HPRS 1106, HPRS 1171; (previously SRGT 1201 (5:5-1)

SRGT 1509 Fundamentals of Perioperative Concepts and Techniques
This course is an in-depth coverage of perioperative concepts such as aseptic/sterile principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field. Prerequisites: Reading level 7, Writing level 6, HPRS 1106, 1171 (5:4-3)

SRGT 1541 Surgical Procedures I
This is an introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to general, obstetrics/gynecology, genitourinary, otorhinolaryngology and orthopedic surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: Reading level 7, Writing level 6, HPRS 1106, 1171; SRGT 1505, 1509, 1471 and 1260. (5:5-0)

SRGT 1542 Surgical Procedures II
This is an introduction to surgical procedures and related pathologies with emphasis on surgical procedures related to thoracic, peripheral vascular, plastic/reconstructive, ophthalmology, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies. Prerequisites: HPRS 1106, 1171, 2200, 2301; SRGT 1505, 1509, 1260, 1360, 1471, and 1541. (5:5-0)

SRGT 2130 Professional Readiness
This course is a transition into the professional role of the surgical technologist. Includes professional readiness for employment, attaining certification, and maintaining certification status. Prerequisites: HPRS 1106, 1171, 2200, 2301; SRGT 1505, 1509, 1471, 1260, 1360, and 1541. (1:1-0)

TECA 1303 Families, School and Community
This is a study of the child, family, community, and schools. It includes parent education and involvement, family and community lifestyles, child abuse, and current family life issues. The course content is aligned with state Board of Educator Certification Pedagogy and Professional Responsibilities standards. The course requires students to participate in a minimum of 16 hours field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Credit will not be given for both TECA 1303 and CDEC 1303. (3:3-1)

TECA 1311 Educating Young Children
This is an introduction to the education of the young child. It includes developmentally appropriate practices and programs, theoretical and historical perspectives, ethical and professional responsibilities, and current issues. Course content is aligned with state Board for Educator Certification Pedagogy and Professional Responsibilities standards. It requires students to participate in a minimum of 16 hours of field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Credit will not be given for both TECA 1311 and CDEC 1311. (3:3-1)

TECA 1318 Wellness of the Young Child
This is a study of the factors impacting the well-being of young children. It includes healthy behavior, food, nutrition, fitness, and safety practices. This course focuses on local and national standards and legal implications of relevant policies and regulations. The course content is aligned with state Board of Educator Certification Pedagogy and Professional Responsibilities standards. It requires students to participate in a minimum of 16 hours of field experience with children from infancy through age 12 in a variety of settings with varied and diverse populations. Credit will not be given for TECA 1318 and CDEC 1318. (3:3-1)

TECA 1354 Child Growth and Development
This is a study of the physical, emotional, social, and cognitive factors impacting growth and development of children through adolescence. Credit will not be given for both TECA 1354 and CDEC 1354. (3:3-0)

TECM 1301 Industrial Mathematics
This course covers Math skills applicable to industrial occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem solving techniques for equations and ratio/proportion applications. Prerequisites: Reading level 6, Writing level 6, Math level 6 (3:3-0)

VNSG 1116 Nutrition
This course is the introduction to nutrients and the role of diet therapy in growth and development and the maintenance of health. Prerequisites: Reading level 7, Writing level 7, Math level 7 and/or Department Chair/Program Director approval (1:0-2)
**VNSG 1119 Leadership and Professional Development**
This is a study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multidisciplinary health care team, professional organizations, and continuing education. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of second semester VNSG courses. Course must be taken in third semester. (1:1-0)

**VNSG 1170 Clinical Prep**
This course covers methods of instruction providing detailed education, training, and work-based experiences, and simulated direct patient/client care in a laboratory setting. This lab-based course prepares students for a beginning experience in nursing care of adult medical-surgical clients and is a six-week course. Prerequisites: Reading level 7, Writing level 7, Math level 7, and admission into the Vocational Nursing Program. Co-requisite: VNSG 1323. Successful completion of VNSG 1170 and VNSG 1323 are required prior to enrolling in VNSG 2331 and 1260. If unsuccessful in VNSG 1170 and/or 1323, students are ineligible to continue in VNSG 1227 and the VNSG program. Hours: 64 lab hours (1.0-4)

**VNSG 1226 Gerontology**
This course is an overview of the physical, psychosocial, and cultural aspects of the aging process which addresses disease processes of the aging patient. The course also explores the perceptions toward care of the older adult. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the first semester of VNSG courses. Co-requisite: Concurrent enrollment in VNSG 1262 (2:2-0)

**VNSG 1227 Essentials of Medication Administration**
This course covers general principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Instruction includes various systems of measurement. Prerequisites: Reading level 7, Writing level 7, Math level 7 and admission into the VNSG program. Co-requisite: VNSG 1260, 1323 and 2331 (2:2-1)

**VNSG 1230 Maternal-Neonatal Nursing**
This course focuses on the study of the biological, psychological, and sociological concepts applicable to basic needs of the family including childbearing and neonatal care. The course utilizes the nursing process in the assessment and management of the childbearing family. Topics include physiological changes related to pregnancy, fetal development, and nursing care of the family during labor and delivery and the puerperium. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the second semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 1234 and 2261 required. (2:2-1)

**VNSG 1231 Pharmacology**
This course discusses the fundamentals of medications and their diagnostic, therapeutic, and curative effects. The course also includes nursing interventions utilizing the nursing process. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the first semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 1329 and 1361 (2:2-1)

**VNSG 1234 Pediatrics**
This course is the study of the care of the pediatric patient and family, using the nursing process, during health and disease with an emphasis on growth and developmental needs. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the second semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 1320 and 2261 required. (2:2-1)

**VNSG 1260 Clinical I**
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory (nursing theory), skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: Reading level 7, Writing level 7, Math level 7 and successful completion of VNSG 1323 and 1170. Co-requisites: VNSG 2331 and 1227 (2:0-8)

**VNSG 1262 Clinical III - Practical Nurse**
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory (nursing theory), skills, and concepts with direct supervision by the clinical professional in the clinical setting. The clinical practice offers the student continued experience in the nursing care of adult medical surgical clients in a variety of clinical settings with a focus on gerontological nursing. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the first semester VNSG courses. Co-requisite: VNSG 1226 (2:0-8)

**VNSG 1301 Mental Health and Mental Illness**
This course includes factors influencing mental health and mental illness including personality development, human needs and common mental mechanisms. The course also includes common mental disorders and related therapy. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the first semester of VNSG courses. (3:3-0)

**VNSG 1320 Anatomy and Physiology for Allied Health**
This course is the study of the structure (anatomy) and function (physiology) of the human body, including the neuroendocrine, integumentary, musculoskeletal, digestive, urinary, reproductive, respiratory and circulatory systems. Prerequisites: Reading level 7, Writing level 7, Math level 7 and Department Chair/Program Director approval (3:3-1)

**VNSG 1323 Basic Nursing Skills**
This course provides instruction for the mastery of basic nursing skills and competencies for a variety of health care settings using the nursing process as the foundation for all nursing interventions. Prerequisites: Reading level 7, Writing level 7, Math level 7 and admission into the VNSG program. Co-requisites: VNSG 1170 and 1227 required. (3:2-4)

**VNSG 1329 Medical-Surgical Nursing I**
This course is the application of nursing process to the care of adult patients experiencing medical-surgical conditions in the health-illness continuum. A variety of health care settings are utilized. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of first semester VNSG courses. Co-
VNSG 1322 Medical-Surgical Nursing II
This course is the continuation of Medical-Surgical Nursing I with application of the nursing process to the care of the adult patient experiencing medical-surgical conditions along the health-illness continuum in a variety of health care settings. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the second semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 2260 required. (3:3-1)

VNSG 1361 Clinical II- Licensed Practical/Vocational Nurse Training
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the first semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 1321 and 1329 required. (3:0-12)

VNSG 2260 Clinical IV- Licensed Practical/Vocational Nursing Training
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory (nursing theory), skills, and concepts with direct supervision by a clinical professional in the clinical setting. The clinical practice offers the student continued experience in the nursing care of adult medical-surgical clients in a variety of clinical settings with a focus on medical-surgical nursing. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the second semester VNSG courses. Co-requisite: Concurrent enrollment in VNSG 1332 (2:0-8)

VNSG 2261 Clinical V-Licensed Practical/Vocational Nurse Training
This course is a health-related work-based learning experience that enables the student to apply specialized occupational theory (nursing theory), skills, and concepts with direct supervision by a clinical professional in the clinical setting. The clinical practice offers the student continued experience in the nursing care of the maternal, newborn and pediatric patients. Prerequisites: Reading level 7, Writing level 7, Math level 7 and completion of the second semester VNSG courses. Co-requisites: Concurrent enrollment in VNSG 1230 and 1234 (2:0-8)

VNSG 2331 Advanced Nursing Skills
This course provides instruction for the mastery of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool. Prerequisites: Reading level 7, Writing level 7, Math level 7 and VNSG 1170 and 1323. Co-requisites: VNSG 1227 and 1260 (3:2-4)

WLDG 1305 Art Metals
This course covers the fundamentals of conceptualizing and producing utilitarian items in ferrous and non-ferrous metals. Includes skill development through the techniques of sinking, raising, repousse, and piercing to create objects from sheet and stock materials. Also covers welding, brazing, soldering, tinning, polishing, and tool making. (3:2-2)

WLDG 1308 Metal Sculpture
This course covers techniques and methods of oxy-acetylene and electric welding and cutting to produce metal sculptures. Includes skill development in material forming, welding, brazing, and finishing techniques. Also covers work ethics, artistic styles, and professionalism. (3:2-2)

WLDG 1528 Introduction to Shielded Metal Arc Welding (SMAW)
This is an introduction to the shielded metal arc welding process. Emphasis placed on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction is provided on SMAW fillet welds in various positions. (5:3-5)

WLDG 1530 Introduction to Gas Metal Arc Welding (GMAW)
This course covers principles of gas metal arc welding, setup and use of Gas Metal Arc Welding (GMAW) equipment, and safe use of tools and equipment. Instruction provided in various joint designs. (5:3-5)

WLDG 1534 Introduction to Gas Tungsten Arc Welding (GTAW)
This is a study of the principles of gas tungsten welding, including setup, GTAW equipment. Instruction is provided in various positions and joint designs. (5:3-5)

WLDG 2506 Intermediate Pipe Welding
This is a comprehensive course on the welding of pipe using the shielded metal arc welding (SMAW) process. Welding will be done using various positions. Topics covered include electrode selection, equipment setup, and safe shop practices. (5:3-5)

WLDG 2513 Intermediate Welding Using Multiple Processes
This course offers instruction using layout tools and blueprint reading with demonstration and guided practices with some of the following welding processes: oxy-fuel gas cutting and welding, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux-cored arc welding (FCAW), gas tungsten arc welding (GTAW), or any other approved welding process. (5:3-5)

WLDG 2543 Advanced Shielded Metal Arc Welding (SMAW)
This course covers advanced topics based on accepted welding codes. Training is provided with various electrodes in shielded metal arc welding with open V-groove joints in all positions. (5:3-5)

WLDG 2551 Advanced Gas Tungsten Arc Welding (GTAW)
This course covers advanced topics in GTAW welding, including welding in various positions and directions. (5:3-5)
WLDG 2553 Advanced Pipe Welding
This course covers advanced topics involving welding of pipe using the shielded metal arc welding process. Topics include electrode selection, equipment setup, and safe shop practices, with an emphasis on weld positions 5G and 6G using various electrodes. (5:3-5)

WLDG 2580 Cooperative Education Welding
This course covers career-related activities encountered in the student’s area of specialization offered through an individualized agreement among the College, employer, and student. Under the supervision of the College and the employer, the student combines classroom learning with work experience. It includes a lecture component. Prerequisite: None (5:1-28)

Continuing and Professional Development

Pipefitting

PFPB 1001 Pipefitting Certificate: Introduction to Pipefitting: Pipefitting 1B
This course offers instruction in pipefitting hand and power tools, threaded pipe, ladders and scaffolds, motorized equipment, excavation, underground pipe and installation, drawings and detail sheets, piping systems, and trade math. 64 contact hours

PFPB 1008 Basic Pipefitting Skills
This course is the study of the Mathematical operations necessary to calculate laying lengths of pipe fittings for fabrication. Identification and use of hand tools and power tools. Identification of pipe, pipe fittings, flanges, and fasteners used in the trade. 64 contact hours

PFPB 1043 Pipefitting Fabrication and Blueprint Reading: Pipefitting II
This course offers instruction in socket and butt weld pipe fabrication, rigging, pipe hangers and supports, advanced blueprint reading, standards and specifications, and advanced trade math. 64 contact hours

PFPB 2032 Advanced Pipefitting Standards, Specifications, Installation: Pipefitting III
This course promotes skill development related to these areas: motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring can supports, testing piping systems and equipment, basic plumbing, planning work activities, and non-destructive testing (NDT). 64 contact hours

PFPB 2033 Pipefitting, Advanced Fabrication and Installation: Pipefitting IV
This course promotes skill development in these areas: advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, inline specialties, special piping, hot taps, and maintaining valves. 64 contact hours

Plumbing

PFPB 1001 Pipefitting Certificate: Introduction to Pipefitting: Pipefitting 1B
This course offers instruction in pipefitting hand and power tools, threaded pipe, ladders and scaffolds, motorized equipment, excavation, underground pipe and installation, drawings and detail sheets, piping systems, and trade math. 64 contact hours

PFPB 1003 Basic Plumbing Skills
In this course students develop skills and knowledge required to install drains, sanitary sewers, water and natural gas supply lines, and fixtures commonly used in residential and light commercial buildings and facilities. 72 contact hours

PFPB 1071 Plumbing Standards for Water Supplies
This course focuses on the installation of water service from the installation of valves and faucets to connecting to water mains. It covers both residential and commercial settings. 72 contact hours

PFPB 2031 Advanced Technologies and Specialized Applications for Piping Trades (Plumbing IVB)
This course offers instruction in new plumbing techniques and materials in the pipe trades. Topics include specialized piping/fitting procedures for specific industrial applications and upgrades to techniques and practices designed to deal with federal, state, and local environmental and safety regulations. 72 contact hours

PFPB 2032 Pipefitting Standards, Specifications, Installation
This course promotes skill development related to these areas: motorized equipment, above-ground pipe installation valves, field routing and vessel trim, spring can supports, testing piping systems and equipment, basic plumbing, planning work activities, and non-destructive testing (NDT). 72 contact hours

PFPB 2033 Pipefitting, Advanced Fabrication and Installation (Plumbing IIIA)
This course promotes skill development related to these areas: advanced pipe fabrication, aligning pipe to rotating equipment, steam traps, in-line specialties, special piping, hot taps, and maintaining valves. 72 contact hours

PFPB 2071 Installation and Repair of Potable Water Systems
This course focuses on the plumbing of potable water systems according to local plumbing codes. Methods of filtering and softening water systems are also discussed. 72 contact hours