

# SCHOOL OF HEALTH SCIENCES COURSE DESCRIPTIONS

## Department of Diagnostic Sciences Course Descriptions

### Clinical Laboratory Sciences (CLST, CLSS)

#### CLST 100 - *Introduction to Medical Laboratory Sciences*

This introductory course covers the admission and medical requirements for entrance into the CLST program. Career guidance and career development are addressed. The design of the lab and function of the CLST are described in detail.

Credit Hours: 1. Prerequisites: None

#### CLST 101 - *Introduction to Laboratory Techniques*

The theory and practice of laboratory safety, math, and quality control are included in the first few weeks of this course. Principles and procedures for laboratory instruments such as the microscope, the spectrophotometer, the fluorometer, and the pH meter are covered next. Methods such as immunoassay, chromatography, and electrophoresis are studied and practiced.

Credit Hours: 3. Prerequisites: CHEM 101, MATH 112

#### CLST 200 - *Phlebotomy*

This course is designed to expose the student to the knowledge and skills necessary to function safely and effectively as a phlebotomist. The definition, purpose and professional aspects of phlebotomy are included in the course content. The course describes the proper phlebotomy collection, equipment, and methods of patient identification, and techniques for routine and special procedures. Complications associated with the collection process are listed and discussed. Both the student laboratory and the clinical component of the course are designed to develop proper phlebotomy skills.

Credit Hours: 1. Prerequisites: None

#### CLST 203 – *Urinalysis and Phlebotomy*

Topics covered in this laboratory course are phlebotomy and body fluids. The body fluids topics includes morphology and physiology of the renal system and the theories associated with formation of synovial fluid, serous fluid, spinal fluid, semen, feces and the biochemical analyses of urine and other body fluids. The phlebotomy section includes the purpose and practice of phlebotomy as well as the proper collection containers, phlebotomy equipment, methods of patient identification, phlebotomy procedure for both routine and special procedures, and complications that may occur.

Credit Hours: 2. Prerequisites: BIOL 211, BIOL 280, BIOL 281, CHEM 102, CHEM 103, CLST 101. Corequisites: CLST 204

#### CLST 204 - *Special Laboratory*

##### *Topics II*

The disciplines covered in this course are immunology, mycology, and parasitology. Immunology will cover the basic mechanisms and physiological theories of immunity, principles of clinical immunological methods, pathology and clinical correlations of immune system dysfunctions. Lectures will discuss innate resistance, compliment, phagocytosis, acquired immunity, B-cells and immunoglobulins, CMI and T-cells, and antigen recognition. Lab exercises will consist of demonstrations of immune functions and selected immunological procedures. Mycology lectures will discuss specimen preparation, culture

conditions, macroscopic and microscopic morphology, biochemical and serological reactions, pathology of human mycoses and antimycotic therapy. The lab exercises will consist of demonstrations of macroscopic and microscopic morphology, biochemical and serological reactions, pathology of human mycoses and antimycotic therapy. The lab exercises will consist of demonstrations of macroscopic and microscopic morphology, biochemical and serological reactions, and fungal stains. Parasitology lectures will discuss specimen preparation, staining procedures, life cycles, macroscopic and microscopic morphology, and pathology of parasitic diseases. Lab exercises will demonstrate stains and macroscopic and microscopic parasite morphology.

Credit Hours: 2. Prerequisites: BIOL 211, BIOL 280, BIOL 281, CHEM 102, CHEM 103, CLST 101. Corequisites: CLST 203

#### CLST 210 - *Immunology and Immunoematology*

This course includes the basic principles and applications of blood bank immunology, the ABA system, the Rh system, other blood groups, compatibility testing, antibody identification, quality control, hemolytic disease of the newborn, aphaeresis, blood components and derivatives and transfusions complications. The lab covers basis principles and procedures of blood bank.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204. Corequisites: CLST 211, CLST 212, CLST 213

#### CLST 211 - *Clinical Chemistry I*

This lecture includes math and quality control, the principles of laboratory instrumentation, and the biochemistry of chemical substances affecting health and disease. The laboratory covers the principles and practice of methods used to identify and quantitate chemical substances measured in the clinical lab.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204. Corequisites: CLST 210, CLST 212, CLST 213

#### CLST 212 - *Hematology I*

This lecture course explores the maturation, morphology, pathology, and destruction of erythrocytes, white blood cells, and platelets. The Hemostasis component includes lecture on the three components of normal coagulation: platelets, blood vessels, and factors. The laboratory includes practice of hand cell counts, white cell differentials, and other selected hematological and coagulation tests.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204. Corequisites: CLST 210, CLST 211, CLST 213

#### CLST 213 - *Clinical Microbiology I*

This course covers the morphology and structure of microorganisms. The diseases and methods of identification are covered for selected organisms. The lab includes the techniques of isolation handling specimens, sterilization, and antibiotic treatment, biochemical testing, and infection control procedures.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204. Corequisites: CLST 210, CLST 211, CLST 212

#### CLST 220 - *Clinical Practicum I*

This course includes a one week rotation in phlebotomy and a three week clinical rotation in a hospital immunoematology laboratory. It covers the principles and practices of serology, blood donor screening and collection, component preparation and blood banking.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204, CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLST 221, CLST 222, CLST 223

#### CLST 221 - *Clinical Practicum II*

This four week clinical rotation in a clinical chemistry hospital laboratory covers the principles and operation of multi channeled chemistry analyzers, spectrophotometers, osmometers and Cotlove titrators. The application and theories of analytical methodologies are included in this course.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204, CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLST 220, CLST 222, CLST 223

#### CLST 222 - *Clinical Practicum III*

This four week rotation in a clinical Hematology hospital laboratory covers the practices and theories of Hematology, Hemostasis, and Body Fluids. The principles and operations of Hematology, Hemostasis and Body Fluid analyzers are included in this course.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204, CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLST 220, CLST 221, CLST 223

#### CLST 223 - *Clinical Practicum IV*

This four week rotation in a clinical Microbiology hospital laboratory includes Microbiology, Parasitology, Mycology, and Virology. Included are the specimen collection, handling and preparation and principles of certain biochemical methods of detection.

Credit Hours: 4. Prerequisites: CLST 203, CLST 204, CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLST 220, CLST 221, CLST 222

#### CLST 224 - *Clinical Practicum I*

This clinical practicum is only for students who have a baccalaureate degree from a regionally accredited institution and successful completion of 16 semester hours in chemistry to include one semester of organic and/or biochemistry. These Students must be enrolled in the Bachelor of Science Degree program in Clinical Laboratory Sciences. This course is a four week rotation that includes three weeks in the immunohematology laboratory and one week learning and practicing phlebotomy. The course content entails the principles and practices of serology, blood donor screening and collection, component preparation and blood banking, and the principles and practice of phlebotomy.

Credit Hours: 2. Prerequisites: B.S. degree in Science, CLST 203, 204, 210, 211, 212, 213, and approval of the Director Clinical Laboratory Sciences

#### CLST 225 - *Clinical Practicum II*

This clinical practicum is only for students who have a baccalaureate degree from a regionally accredited institution and successful completion of 16 semester hours in biological sciences to include general microbiology, pathogenic microbiology, and immunology and 16 semester hours in chemistry to include one semester of organic and/or biochemistry. These students must be enrolled in the Bachelor of Science Degree program in Clinical Laboratory Sciences. The course encompasses a four week clinical rotation in chemistry hospital laboratory. During this rotation, the student will explore the principles and operation of multi channeled chemistry analyzers, spectrophotometers, osmometers, fluorometer, and instruments for electrochemical analyses. The application and theories of analytical methodologies are included in this course.

Credit Hours: 2. Prerequisites: B.S. degree in Science, CLST 203, 204, 210, 211, 212, 213, and approval of the Director Clinical Laboratory Sciences

#### CLST 226 - *Clinical Practicum III*

This clinical practicum is only for students who have a baccalaureate degree from a regionally accredited institution and successful completion of 16 semester hours in biological sciences to include general microbiology, pathogenic microbiology, and immunology and 16 semester hours in chemistry to include one semester of organic and/or biochemistry. The

student must be enrolled in the Bachelor of Science Degree program in Clinical Laboratory Sciences. This four week rotation in a clinical Hematology hospital laboratory covers the practices and theories of Hematology, Hemostasis, and Body Fluids. The principles and operations of Hematology, Hemostasis and Body Fluid analyzers and included in this course. Credit Hours: 2. Prerequisites: B.S. degree in Science, CLST 203, 204, 210, 211, 212, 213, and approval of the Director Clinical Laboratory Sciences

#### CLST 227 - *Clinical Practicum IV*

This clinical practicum is only for students who have a baccalaureate degree from a regionally accredited institution and successful completion of 16 semester hours in biological sciences to include general microbiology, pathogenic microbiology, and immunology and 16 semester hours in chemistry to include one semester of organic and/or biochemistry. These students must be enrolled in the Bachelor of Science Degree program in Clinical Laboratory Sciences. This four week rotation in a clinical Microbiology hospital laboratory includes Microbiology, Parasitology, Mycology, and Virology. Included are the specimen collection, handling and preparation, and principles of certain biochemical methods used in the detection of microorganisms.

Credit Hours: 2. Prerequisites: B.S. degree in Science, CLST 203, CLST 204, CLST 210, CLST 211, CLST 212, CLST 213, and approval of the Director of Clinical Laboratory Sciences. Corequisites: None

#### CLSS 406 - *Laboratory Management*

The dynamics of the health care delivery systems and how they affect laboratory services are addressed in this course. Critical pathways, clinical decision making, and performance improvement are discussed as they relate to the principles of laboratory operations. Other topics examined in this course include the theories and practices of clinical laboratory supervision involving personnel, motivation, performance evaluation, recruitment, and selection of employees. Other human resource issues include the utilization of personnel, the analysis of workflow, and staffing patterns. The principles and practices of quality assurance as they apply to laboratory services are examined. The paradigms for workload, profit and loss, cost and reimbursements, and materials and inventory management are included in the financial management lectures. Methods of preparing for laboratory and hospital accreditations are important aspects of the course, as well as complying with government standards that apply to laboratory practices. Legal and ethical issues facing laboratory personnel are presented in case study format.

Credit Hours: 3. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213.  
Corequisites: CLSS 407, CLSS 408

#### CLSS 407 - *Pathophysiology and Laboratory Diagnosis*

This is a 9-hour course that includes 6 hours of lecture and 3 hours of laboratory, participation in which is mandatory. The lectures are centered on individual diseases of anatomic systems, including, but not limited to, the following: central nervous system, cardiovascular system, viral hepatitis, arthritides, lipid metabolism, autoimmune diseases, endocrinopathies, cancer, genetic diseases and chromosomal abnormalities. Lectures will compare and contrast the normal anatomy and physiology with the abnormal states associated with human disease. The lecture will then identify laboratory tests needed to diagnose the disease state, and demonstrate why the tests are useful.

During the student laboratory, students will have the opportunity to perform many of these tests on normal and abnormal patient specimens received from the OLOLRMC pathology laboratory. The laboratory will also instruct students in the analysis and interpretation of the data collected. Because students have received prior instruction in the basic laboratory analyses in the CLST curriculum, and emphasis will be placed on molecular methodologies.

Credit Hours: 9. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213.  
Corequisites: CLSS 406, CLSS 408

*CLSS 408 - Laboratory Education*

The educational topics examined in this course include teaching and learning strategies, student diversities, instructional design, competency-based education, and laws involving education. Bloom's taxonomy levels are used to develop objectives and test questions. Behavioral objectives are developed using Roger Marger's format. The course participants are required to develop and design projects involving the educational issues presented in the course. Credit Hours: 2. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213  
Corequisites: CLSS 406, CLSS 407

*CLSS 409 - Laboratory Education and Research*

CLSS 409, Laboratory Education and Research, is a 3-credit hour course consisting of three hours of lecture instruction per week. This course examines the topics of both laboratory education and research. The education topics examined in this course include teaching and learning strategies, student diversities, instructional design, competency-based education, and laws involving education. Bloom's taxonomy levels are used to develop objectives and test questions. Objectives are developed using Roger Mager's format.

The research component of this course begins with a discussion of the various types of quantitative and qualitative research designs. Elements of the research process including research questions/hypotheses, the literature review, data collection, and data/analyses/interpretations are discussed and applied to the field of Clinical Laboratory Sciences. The course participants are required to develop and design projects involving the research and educational issues presented in the course. Credit Hours: 3  
Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213 and admission to the B.S. degree program. Corequisites: CLSS 406, CLSS 416

[Note the following 8-credit hour course will replace the 9-credit hour course, CLSS 407 in the Sp2006 semester]

*CLSS 416 - Pathophysiology and Laboratory Diagnoses*

CLSS 416, Pathophysiology and Laboratory Diagnoses, is an 8-credit hour course that includes 6 hours of lecture and 2 hours of laboratory, participation in which is mandatory. The course covers advanced topics in clinical laboratory science, including, but not limited to, the following: molecular diagnostic methods, virology, medical genetics and cytogenetics, hematology and oncology, toxicology, fetomaternal medicine and others. Lectures typically compare and contrast the normal and abnormal anatomy and physiology of human diseases, and then discusses the laboratory diagnosis of the disease.

During laboratory meetings, students will have the opportunity to perform many of the diagnostic methods discussed, using normal and abnormal specimens obtained from the pathology laboratory. The laboratory also instructs students in the analysis and interpretation of data generated by the diagnostic tests. Credit Hours: 8. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213 and admission to the B.S. degree program.  
Corequisites: CLSS 406, CLSS 409

*CLSS 424 - Clinical Practicum IX*

This course includes clinical practice in phlebotomy, immunohematology, immunology, serology, blood donor screening and collection, component preparation and blood banking. The course also includes clinical practice in molecular diagnostics, medical genetics and cytogenetics. Credit Hours: 6. Prerequisites: CLSS 406, CLSS 409, CLSS 416  
Corequisites: CLSS 425, CLSS 426, CLSS 427

**CLSS 425 - *Clinical Practicum X***

This course is a clinical practicum in clinical chemistry and includes the principles and operation of multi-channeled chemistry analyzers, spectrophotometers, osmometers, and electrophoretic equipment. It also includes management-based projects concerning the evaluation of new instruments and procedure, the implementation of a quality control program, and the development of a budget. Credit Hours: 6. Prerequisites: CLSS 406, CLSS 409, CLSS 416. Corequisites: CLSS 424, CLSS 426, CLSS 427

**CLSS 426 - *Clinical Practicum XI***

This course includes clinical practice in both automated and manual methods in hematology, hemostasis, urinalysis, and body fluid analysis. The course also includes advanced hematological methods including the principles and theories of flow cytometry, antinuclear antibody testing, and specialized testing in coagulation. Credit Hours: 6. Prerequisites: CLSS 406, CLSS 409, CLSS 416. Corequisites: CLSS 424, CLSS 426, CLSS 427

**CLSS 427 - *Clinical Practicum XII***

This course includes clinical practice in microbiology, parasitology, mycology, and virology. Basic techniques such as specimen collection and processing and the performance of various manual/automated methods for biochemical and susceptibility testing are included. Advanced topics include the identification/diagnosis of infectious disease through the use of molecular methods. Credit Hours: 6. Prerequisites: CLSS 406, CLSS 409, CLSS 416. Corequisites: CLSS 424, CLSS 426, CLSS 427

**CLSS 415 - *Independent Study in Clinical Laboratory Science***

*Independent Study* is designed to allow the Clinical Laboratory Science student to pursue scholarly activity in his/her area of interest; therefore, the actual course content will vary according to each individual student's interest and career goals. Student activities in CLSS 415 may include, but are not limited to: (1) writing topical research papers; (2) writing grants; (3) performing research projects; (4) presenting lectures to CLT students; and (5) participating in continuing education seminars. Students will be allowed to pursue interests in one of the following areas: (1) clinical laboratory science education; (2) laboratory management; (3) hematology/oncology; (4) biochemistry; (5) blood/tissue banking; (6) microbiology; or (7) cytogenetics/genetics/molecular biology. *Independent Study* will reinforce the concepts presented in CLSS 410, 411, 412, and 413 and will better prepare the student for the challenges of the clinical practicums CLSS 420, 421, 422 and 423. The purpose of this course is to provide an interest-specific curriculum that will provide the student with knowledge and experience that will facilitate the pursuit of their career goals. Credit Hours: 2. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLSS 414

**CLSS 420 - *Clinical Practicum IV***

Clinical Practicum IV is the counterpart to CLSS 410, Molecular Biology and Genetics. The course is composed of several clinical rotations relating to immunohematology and genetic diseases with an emphasis on diagnosis by molecular methods. One week will be spent in a hospital laboratory in each of the following areas: immunogenetics, cytogenetics, molecular biology and management of the clinical molecular biology laboratory. Credit Hours: 3. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213. Corequisites: CLSS 421, CLSS 422, CLSS 423. CLINICAL LABORATORY SCIENCES (CLSS) 421 - *Clinical Practicum V*

This practicum is the clinical component of CLSS 411 and consist of management based projects that affect the operation of a clinical chemistry laboratory. These projects include implementing a quality control program for a clinical chemistry laboratory, evaluating new instruments and procedures, designing a procedure manual, evaluating CAP criteria, developing a budget, and developing an instrument maintenance system.

Credit Hours: 3. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213

Corequisites: CLSS 420, CLSS 422, CLSS 423

#### CLSS 422 - *Clinical Practicum VI*

This practicum is the clinical component of CLSS 412. The course includes techniques of recognizing and counting abnormal blood cells on bone marrow and peripheral blood smears. The results are then evaluated and related to the appropriate hematological diseases. The course includes competency in staining and evaluating blood cells using the flow cytometer as well as the fluorescent microscope. Coagulation factor analyses are performed and results are evaluated and related to corresponding pathological conditions.

Credit Hours: 3. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213

Corequisites: CLSS 420, CLSS 421, CLSS 422

#### CLSS 423 - *Clinical Practicum VII*

Clinical Practicum VII is the counterpart to CLSS 413, Advanced and Molecular Microbiology. The course is composed of several clinical rotations relating to Clinical Microbiology with an emphasis on identification/diagnosis by molecular methods. One week will be spent in a hospital laboratory in each of the following areas: virology, bacteriology (does not include routine culture/identification/susceptibility testing), mycology and management of the clinical microbiology laboratory.

Credit Hours: 3. Prerequisites: CLST 210, CLST 211, CLST 212, CLST 213

Corequisites: CLSS 420, CLSS 421, CLSS 422

### Radiologic Technology (RADT) Course Descriptions

#### RADT 101 - *Introduction to Radiography*

An introduction to the principles and practices of radiology; historical and professional evolution, status of the health care delivery system, medicolegal and ethical considerations, medical communications, organization and operation of a radiology department, the imaging process and equipment, radiographic preparation and examinations, basic principles of radiation safety, and management techniques of the patient during radiologic procedures.

Learning activities include demonstrations, video presentations and the use of computerized programs in patient care management in the learning resources center.

Credit Hours: 3. Corequisites: ACSM 100, BIOL 210, MATH 112, RADT 111, RADT 141

#### RADT 111 - *Image Production I*

A study of radiation concepts with related practical application; x-ray properties, basic x-ray equipment, principles of x-ray production, x-ray interactions, prime factors of exposure, exposure calculations, image receptors and accessory devices, components of radiographic quality, technique charts, characteristics of film, intensifying screens, grids, filtration, beam restriction, technique manipulation, exposure control systems, and technical factors that influence and control image production and quality. Learning activities include: interactive video presentations, demonstrations with phantoms, experiments in the radiographic laboratories, and computerized programs in the principles of image production in the learning resources center.

Credit Hours: 3. Corequisites: ACSM 100, MATH 112, RADT 101, RADT 141

#### *RADT 141 - Radiographic Practicum*

Supervised clinical experiences designed to provide students with a fundamental understanding of the actual practice of radiology. Instruction in positioning and basic imaging principles and considerations, terminology, anatomy and radiographic examination and evaluation of the upper extremity, shoulder girdle, lower extremity, pelvis and upper femora, bony thorax and thoracic viscera; emphasis on operation of equipment, performance of darkroom and office procedures, patient care management, communication skills, application of radiation protection precautions, and the general radiographic process. Learning activities include: demonstrations, interactive video and slide presentations, film evaluation sessions, the use of computerized programs, models, skills practice with a phantom in the radiographic laboratories, and skills performance in the actual clinical setting. Credit Hours: 5. Prerequisites: Admission to the Rad Tech associate degree program; Current CPR-C certification. Corequisites: ACSM 100, BIOL 210, MATH 112, RADT 101, RADT 111

#### *RADT 110 - Radiographic Procedures*

A study of radiographic procedures with related positioning and anatomy. Emphasis on the vertebral column, abdomen, surgical, and trauma radiography, fluoroscopic and contrast media examinations. Cranial topography and morphology, radiography of the cranial, facial, nasal, and temporal bones, zygomatic arches, paranasal sinuses, orbits, optic foramen, mandible and temporomandibular joints with film evaluation and interpretation is also included. Learning activities include: demonstrations, interactive video presentations, the use of computerized programs, models, review of radiographs for anatomy, technical and positioning accuracy, and skills practice with a phantom in the radiographic laboratories. Credit Hours: 3 (2 lecture; 1 lab). Prerequisites: ACSM 100, BIOL 100, MATH 112, RADT 101, RADT 111, RADT 141. Corequisites: BIOL 211, ENGL 101, RADT 112, RADT 142

#### *RADT 112 - Image Production II*

This course is a continuation of RADT 111. The technical factors and variables that affect the photographic and geometric quality of an image are analyzed. The course examines the methods of processing with related practical application; design and construction requirements for development and viewing areas; film holders, film handling and storage, latent image formation; automatic processor equipment, system components, cycles, chemistry, processor monitoring and preventative maintenance; quality assurance/control testing programs, silver recovery, sensitometry, artifacts, evaluation of image quality, exposure conversions. Learning exercises include experiments in the radiographic laboratories and sensitometric measurements and processor monitoring involving the use of the radiographic darkroom equipment. The use of computerized programs and interactive video available in the learning resources center are integrated into the course. Credit Hours: 3. Prerequisites: ACSM 100, BIOL 210, MATH 112. RADT 101, RADT 111, RADT 141. Corequisites: BIOL 211, ENGL 101, RADT 110, RADT 142

#### *RADT 142 - Radiographic Practicum*

Supervised clinical performance of basic skills with more emphasis on preparation of the patient, room, and equipment for fluoroscopic, mobile, surgical, emergency/trauma and general radiographic procedures, including film evaluation. Continued development and application of clinical competencies. Learning activities include: demonstrations, film evaluation sessions, skills practice with a phantom in the radiographic laboratories, and skills performance in the actual clinical setting. Credit Hours: 6. Prerequisites: ACSM 100, BIOL 210, MATH 112, RADT 101, RADT 111, RADT 141 and current CPR-C Certification. Corequisites: BIOL 211, ENGL 101, RADT 110, RADT 112

### *RADT 123 - Radiation Protection & Radiobiology*

A study of radiation protection safety practices and radiobiology; Emphasis on units of measurement, radiation quantities and units, detection devices, cellular components, radiation effects, dose limits and calculations, protective measures, equipment and shielding design; federal and state regulations governing radiation protection. Learning activities include the use of interactive video and computerized programs available in the learning resources center.

Credit Hours: 2. Prerequisites: LEVEL I Semesters I and II Radiologic Technology courses. Corequisites: PHSC 100, RADT 143.

### *RADT 143 - Radiographic Practicum*

Continued development and application of clinical competencies with emphasis on precautions in patient care and performance of general radiographic procedures, emergency/trauma, mobile, surgical, fluoroscopic and contrast media procedures, and corresponding film evaluation. Learning activities include: demonstrations, film evaluation sessions, skills practice with a phantom in the radiographic laboratories, and skills performance in the actual clinical setting.

Credit Hours: 3. Prerequisites: LEVEL I Semester I and II Radiologic Technology courses and current CPR-C Certification. Corequisites: PHSC 100, RADT 123

### *RADT 214 - Special Imaging Technology*

A study of the fundamental principles of special imaging techniques and equipment with emphasis on radiographic equipment and accessory devices, x-ray circuitry and rectification, image intensified fluoroscopy, body section radiography, macroradiography, mammographic equipment, exposure control systems and devices, stereoscopy digital imaging, thermography, cine, mobile equipment, duplication, evaluation of radiographic equipment; uses of the computer in the radiology department. Introduction to specialized imaging and therapeutic equipment including MRI, CT, US, PET, radiation therapy and nuclear medicine technologies. Learning activities include: library assignments, videos, computerized programs available in the learning resources center, and individual research projects. Application of computer technology as it relates to radiology information systems are available in the radiology department.

Credit Hours: 3. Prerequisites: LEVEL I Radiologic Technology courses.  
Corequisites: PSYC 100, RADT 220, RADT 241

### *RADT 220 - Advanced Radiographic Procedures*

An examination of radiographic anatomy advanced positioning, and patient care methods with related imaging equipment. Emphasis on basic pharmacology, venipuncture, advanced contrast media examinations, pelvimetry, mammography, computed tomography, scanograms, pediatric radiography, foreign body localization, advanced imaging studies of all body systems, including cross-sectional anatomy presentations. Learning activities include: demonstrations, interactive video presentations, the use of computerized programs, models, review of radiographs for anatomy positioning and technical accuracy, review of cross-sectional images, and skills practice with a phantom in the radiographic laboratories.

Credit Hours: 3. Prerequisites: LEVEL I Radiologic Technology courses.  
Corequisites: PSYC 100, RADT 214, RADT 241

### *RADT 241 - Radiographic Practicum*

Continued participation and application of general radiographic procedures, emergency/trauma, mobile, surgical, fluoroscopic procedures, contrast media administration and examinations, angiography, patient care procedures, film evaluation, and quality control testing; introduction to CT, and MRI. Learning activities include: demonstrations, film

evaluation sessions, equipment monitoring, skills practice with a phantom in the radiographic laboratories, and skills performance in the actual clinical setting with emphasis on special imaging modalities.

Credit Hours: 6. Prerequisites: LEVEL I Radiologic Technology courses and current CPR-C Certification. Corequisites: PSYC 100, RADT 214, RADT 220

#### RADT 230 - *Radiographic Pathology*

A study of medical disease processes and their radiographic manifestations. Emphasis on radiographic anatomy, physiology, pathology, and evaluation of radiographic quality with related exposure considerations. Classroom activities will include: slide presentations, interactive video presentations, review of radiographs for pathological conditions, library assignments, and individual case study projects.

Credit Hours: 2. Prerequisites: LEVEL II Semester III Radiologic Technology courses. Corequisites: HUMN elective, RADT 232, RADT 242

#### RADT 232 - *Senior Seminar*

Seminars of topics related to the practice of radiologic technology including written and oral presentations; a review of materials in preparation for the American Registry of Radiologic Technologists Examination. Learning activities will include library assignments, individual projects, use of computerized programs, videos and laboratory experiments.

Credit Hours: 2. Prerequisites: LEVEL II Semester III Radiologic Technology courses. Corequisites: HUMN elective, RADT 230, RADT 242

#### RADT 242 - *Radiographic Practicum*

Advanced integration and application of all clinical skills including production of radiographs of optimal diagnostic quality. Clinical experiences are provided to enable students to manage patients and perform radiographic procedures with proficiency and using independent judgment. Clinical competencies related to patient preparation and management, room preparation, equipment operation, radiation safety practices, effective communication, performance of radiologic procedures utilizing appropriate supplies and accessory devices, image production, positioning, overall analysis of image quality and structures demonstrated. Elective rotations will be provided in radiation oncology, nuclear medicine, and ultrasound.

Credit Hours: 8. Prerequisites: LEVEL II Semester III Radiologic Technology courses and current CPR-C Certification. Corequisites: HUMN elective, RADT 230, RADT 232

#### RADT 345 - *Principles of Mammography*

The purpose of this course will prepare the student to enter the advanced practice of mammography. This course consists of didactic and clinical experiences necessary to expose the technologist to the actual practice of screening mammography. This course is not applicable to any of the degree or certificate programs at OLOL College. The study of the fundamentals of mammography. The course will include mammographic imaging of the breast (including the augmented breast), positioning, breast anatomy, breast physiology, pathology, mammographic education/care, instrumentation, techniques, and laboratory/clinical demonstrations. It includes a clinical component in which participants will become skilled in screening mammography. This course will be taught in a condensed format utilizing evenings and weekends. This provides the opportunity for those students who are employed to enroll in this course. The learning activities are designed to enable students to meet course objectives. Learning activities include: demonstrations; the use of computerized programs; review of mammograms for anatomical, positioning, pathological, and technical considerations; skills practice with a phantom in the mammographic laboratory; skills practice in actual clinical setting; and independent study assignment.

This class meets Mammography Quality Standards Act for the FDA.  
Credit Hours: 3 - not for degree credit. Prerequisites: Must be a registered technologist, registry eligible technologist, or enrolled in the last semester of a radiologic technology program.

## DEPARTMENT OF HEALTH SERVICES COURSE DESCRIPTIONS:

### Emergency Health Science (EMHS)

#### EMHS 101 - *Basic Emergency Medical Care*

This lecture and laboratory course is the foundation course upon which the Emergency Medical Technician - Paramedic program is based. The course includes recognition of signs and symptoms of illness or injury through patient assessment. Treatment choices based on the findings of the patient assessment are introduced. Instruction includes the use of a variety of pieces of equipment and emergency medical care techniques. Students are given an opportunity to handle and practice application of oxygen delivery devices, splinting and immobilization materials, methods of controlling bleeding, selected assisted medication administration, and the semi-automatic external defibrillator. Safe movement and transportation of patients is also practiced. Upon completion of this course, the student has the opportunity to obtain certification as a Nationally Registered Emergency Medical Technician - Basic.

Credit Hours: 5. Prerequisites: BIOL 210

#### EMHS 104 - *Advanced Paramedic Skills*

This course is designed to introduce the paramedic student to the advanced skills necessary to treat life-threatening medical and traumatic emergencies. Skills learned at the basic level are used as a foundation to build upon for this course. Students are instructed in patient assessment, advanced airway management, medication administration, and circulatory management including intravenous and intraosseous initiation. The cardiac skills of ECG monitoring, defibrillation, cardioversion, and non-invasive external cardiac pacing are presented. This course will include both lecture and laboratory sessions.

Credit Hours: 2. Prerequisites: All General Studies Courses in EHS Curriculum, EMHS 101. Corequisites: EMHS 108, EMHS 110

#### EMHS 108 - *Introduction to Advanced Emergency Care*

This lecture course is designed to introduce the practice of an Emergency Medical Technician - Paramedic. Students are instructed in the roles responsibilities, operations equipment, and medical/legal considerations of a paramedic. An overview of the human systems is presented to prepare the student for further coursework while emphasizing the use of proper medical terminology. A history of the Emergency Medical Service profession is also presented in this course.

Credit Hours: 2. Prerequisites: All General Studies Courses in EHS Curriculum, EMHS 101. Corequisites: EMHS 104, EMHS 110

#### EMHS 110 - *Emergency Pharmacology*

This lecture course will provide the paramedic student with a study of pharmacological interventions utilized by emergency medical services. General pharmacology, routes of administration, actions, indications, contraindications, side effects, and dosages of commonly used emergency drugs are presented. The physiological impact of these drugs on the whole organ system is emphasized.

Credit Hours: 3. Prerequisites: All General Studies Courses in EHS Curriculum, EMHS 101. Corequisites: EMHS 104, EMHS 108

#### EMHS 200 - *Cardio-Pulmonary Emergencies*

This lecture and laboratory course presents the pathophysiology, assessment, and current treatment modalities for the pre-hospital cardiac respiratory patient. The lecture emphasizes recognition and etiology of life-threatening cardio-pulmonary emergencies. The laboratory segment will present the skills of assessment, treatment, and pharmacological interventions for which the student must show proficiency in prior to performing them in the clinical setting. Credit Hours: 4. Prerequisites: Summer semester EMHS courses. Corequisites: EMHS 202, EMHS 204, EMHS 206, EMHS 208

#### EMHS 202 - *Care of Trauma Patients*

This lecture and laboratory course presents the pathophysiology, assessment, and current treatment modalities for the pre-hospital patient with traumatic injuries. Discussions include the kinematics of trauma, burn management, and multi-systems trauma. Emphasis is placed on the advanced skills of triage, injury prioritization, and fluid resuscitation. The basic skills of trauma care is also reviewed. Credit Hours: 4. Prerequisites: Summer semester EMHS courses. Corequisites: EMHS 200, EMHS 204, EMHS 206, EMHS 208

#### EMHS 204 - *Medical Emergencies*

This lecture and laboratory course presents the pathophysiology, assessment, and current treatment modalities for the pre-hospital medical emergency patient. The lecture emphasizes the physiological changes that occur with the most common medical emergencies. Medical situations related to drug abuse and overdose, diabetes, cerebral vascular accident, anaphylaxis, poisoning, acute abdomen, infectious disease, epilepsy and other nervous system disorders are studied. A special section dealing with behavioral emergencies and crisis intervention will be covered. The laboratory segment presents the assessment, treatment, and pharmacological interventions, which the student must show proficiency in prior to performing them in the clinical setting.

Credit Hours: 4. Prerequisites: Summer semester EMHS courses. Corequisites: EMHS 200, EMHS 202, EMHS 206, EMHS 208

#### EMHS 206 - *OB/Pediatric Emergencies*

This lecture and laboratory course presents the obstetrical, gynecological, and pediatric emergency patient in the pre-hospital setting. Evaluation of obstetrical/gynecological disorders are reviewed. The management of the expectant mother, complications of labor, and normal/abnormal delivery are discussed. Pediatric medical and traumatic emergencies are presented in addition to considerations concerning sexual assault and child abuse.

Credit Hours: 2. Prerequisites: Summer semester EMHS courses. Corequisites: EMHS 200, EMHS 202, EMHS 204, EMHS 208

#### EMHS 208 - *Advanced Clinicals*

A clinical practicum at approved hospital departments designed to provide the student with patient care experience. This course will provide the student with opportunities to apply advanced skills under precepted conditions to patients of various ages. Departments include but are not limited to: emergency department, intensive care, labor and delivery, pediatrics, psychiatry, and anesthesia.

Credit Hours: 3. Prerequisites: Summer semester EMHS courses. Corequisites: EMHS 200, EMHS 202, EMHS 204, EMHS 206

#### EMHS 210 - *Patient Care Internship*

A field internship with approved local paramedic level ambulance services designed to provide the student with pre-hospital patient care experience. Field internship begins

following successful completion of Fall semester coursework and all hospital clinical experience.

Credit Hours: 8. Prerequisites: Fall semester EMHS courses. Corequisites: EMHS 219, EMHS 220

#### EMHS 216 - *Paramedic Transition*

This course is designed to be an independent self-study course for those students with current National Registry Emergency Medical Technician - Paramedic certification. The EHS Program Director determines research content after assessment and interview with the student. Upon successful completion of this course, the student may receive credit for Summer and Fall EMHS courses.

Credit Hours: 1. Prerequisites: All EMHS required General Studies courses  
Corequisites: EMHS 212, EMHS 219, EMHS 220

#### EMHS 219 - *EMS Operations*

This lecture course introduces the paramedic student to concepts related to the daily operations of EMS systems. Principles and methods used in the supervision of personnel within EMS systems are presented. Budgeting and financial skills necessary to manage emergency health systems are discussed. Case studies, group assignments, and research papers are utilized in addition to lecture content.

Credit Hours: 3. Prerequisites: Fall semester EMHS courses. Corequisites: EMHS 210, EMHS 212, EMHS 220

#### EMHS 220 - *Paramedic Special Skills*

This lecture and laboratory course serves as the forum for which special skills associated with EMS can be presented. The course will serve as a comprehensive review of the didactic material and clinical skills introduced during the paramedic program in order to prepare the student for certification testing. Non-traditional skills as well as special considerations in pre-hospital care are presented through discussions and research papers. The scope-of-practice of the EMT-Paramedic is revisited and possible future changes discussed.

Credit Hours: 4. Prerequisites: Fall semester EMHS courses. Corequisites: EMHS 210, EMHS 212, EMHS 219

## Gerontology (GERO)

#### GERO 100 - *Introduction to Gerontology*

Introduction to the interdisciplinary study of aging emphasizing biological, psychological, cultural, economic, and social processes. The course also explores gerontology as a career.  
Credit Hours: 3.

#### GERO 200 - *Fundamentals of Movement Science*

This course presents an overview to the science of human movement through a multidisciplinary approach that includes mechanical, psychological, physiological, anatomical, environmental, and sociological conceptions. Throughout the course the effects of aging on human movement are integrated.

Credit Hours: 3.

#### GERO 300 - *Health Promotion and Aging*

Principles of health promotion surveying physiological, psychological and social health problems, and the changing health of adults during the middle and later years. This course focuses on the challenges facing older adults and on strategies to promote successful aging.  
Credit Hours: 3.

#### GERO 310 - *Exercise in Health and Disease*

The course examines the role of exercise in health and disease, including acute and chronic effects of exercise for individuals with chronic diseases. In addition, this course explores exercise prescriptions, training guidelines, and therapeutic benefits of exercise intervention and rehabilitation.

Credit Hours: 4. Prerequisites: Junior standing; BIOL 210/212; GERO 200.

#### GERO 350 - *The Physiology of Aging*

Lecture and discussion of the effects of normative aging processes on homeostatic mechanisms and how these changes relate to development of disorders and diseases in later life.

Credit Hours: 3. Prerequisites: Junior standing; GERO 310.

#### GERO 380 - *Aging and Disabilities*

An examination of the disablement process, chronic disease, and aging. Issues and implications of disablement are discussed.

Credit Hours: 3. Prerequisites: Junior standing; GERO 350.

#### GERO 480 - *Gerontology Practicum*

Supervised experience in one or more community agencies that serve older adults.

Credit Hours: 3. Prerequisites: Senior standing.

#### GERO 490 - *Directed Research in Aging*

Individual readings and research leading to the preparation of a senior paper.

Credit Hours: 4. Prerequisites: Senior standing.

## Health Service Administration (HSER)

#### HSER 320 - *Health Care Systems and Trends I*

The course is an introduction to the health care delivery system in the United States. Classes will be conducted as forums of discussion emphasizing contemporary issues related to health care professionals, facilities, organization patterns, reimbursement and quality of care.

Credit Hours: 3. Prerequisites: Junior standing or permission of instructor.

#### HSER 340 - *Health Care Systems and Trends II*

The course is an analysis of administrative structures and inter-organizational arrangements among hospitals and other health care organizations. Issues for institutional, community and home settings for chronic care as well as services to the poor are addressed. Issues and problems related to the design, implementation, and evaluation of quality assessment and risk management programs in acute and non-acute health care settings are also discussed. The role of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and federal legislation in the development of quality assessment and risk management are also covered.

Credit Hours: 3. Prerequisites: Junior standing or permission of instructor.

#### HSER 350 - *Introduction to Health Service Administration*

Introduction to the principles for management for organizations that deliver health care services such as hospitals, nursing homes, multi-specialty clinics, and home health care agencies. Concepts and theories from the general management literature that are

particularly helpful in organization and management of health care organizations will be surveyed.

Credit Hours: 3. Prerequisites: Junior standing or permission of instructor.

#### *HSER 360 - Health Care Economics*

The health care economy is of special interest because of its size in the US economy and because of the profound effect that health and the lack of health can have on every individual. This course provides a focused look at the economics of the health sector and the major issues that motivate the current attempts at health care reform.

Credit Hours: 3. Prerequisites: HSER 320 or HSER 340, or permission from the instructor.

#### *HSER 380 - Accounting for Health Service Management*

Review of standard accounting techniques and applications to reimbursement structures, regulatory mechanisms, cost control and budgeting. Applications to health service administration.

Credit Hours: 3. Prerequisites: HSER 320, HSER 350

#### *HSER 410 - Health Care Financial Management*

This course will review the financial issues in reimbursement structures, regulatory mechanisms, cost control and budgeting as it relates to health care.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350, HSER 360, HSER 380

#### *HSER 420 - Managed Care and Insurance*

This course is designed to introduce the student to managed care as it exists in various forms in the United States today. The course includes a discussion of managed care structures, products, methods of reimbursement, and contracting enrollees, network providers, and/or services. The role of the health care administrator and the responsibilities of those under administrative span of control in a managed care environment are presented and illustrated through exercises and discussion.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350, HSER 360, HSER 380

#### *HSER 430 - Health Care Marketing*

This course covers market research, strategy, and the strategic marketing process. Students will be introduced to the process of the development of marketing strategies and analysis in a health care setting. Topics include pricing, communication, distribution channels, and client motivation and services.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350

#### *HSER 440 - Legal Aspects of Health Service Administration*

This course is an introduction to the law as it relates to health care settings. It provides an overview of health care law aimed at assisting students in developing an intuitive sense for what the laws will permit them to do, and for when to consult legal counsel. Unit Topics such as contracts, negligence, damages, workers compensation, litigation and trial proceedings will be covered.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340. Corequisites: HSER 350, HSER 360, HSER 380.

#### *HSER 450 - Health Policy*

This course will consider major aspects of the American health care policy system and changes in that system, their impact upon health services organizations, and appropriate administrative strategies for responding to those changes.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350, HSER 360.  
Corequisites: HSER 380, HSER 410, HSER 420. Recommended HSER 440.

#### HSER 460 - *Managerial Epidemiology*

The overall goal of this course is to increase the health professional's ability to analyze problems and make decisions based on application of epidemiological concepts and methods in a variety of settings and across a spectrum of disease topics. Social, physical and biological determinants of disease will be examined, and the epidemiology of selected infectious and chronic diseases will be studied in greater depth. Epidemiological tools to be presented include use of vital statistics, rates, and methods of descriptive, observational and experimental studies.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 360

#### HSER 470 - *Seminar in Health Service Administration*

This course will integrate theory and practice by examining issues and solutions to problems in the management of health services organizations. It functions as a capstone for the health services administration program, allowing students to apply coursework from across the curriculum.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350, HSER 360, HSER 380, HSER 410, HSER 430

#### HSER 480 - *Health Care Information Systems*

Survey of the technology and processes used in management information systems. Role of management information systems in health care organizations.

Credit Hours: 3. Prerequisites: HSER 320, HSER 340, HSER 350, HSER 360, HSER 380, one (1) HSER 400-level course completed successfully

#### HSER 491 - *Internship/Practicum*

Placement in a health care agency and completion of a project in one or more areas of health service administration. Seminars for participant presentations will be conducted.

Credit Hours: 1-6. Prerequisites: Eight (8) HSER courses completed successfully, or permission of the instructor

## Long-Term Care Administration (LTCA)

#### LTCA 100 - *Introduction to Long-Term Care Administration*

This course is a review of long-term care administration including the description of clients, services, and provider settings. Reimbursement and regulation of long-term care providers, ethical issues, and quality improvement are special topics. The second half of the course examines long-term care settings such as nursing homes, assisted living, subacute care, adult day care, home care and hospice care.

Credit Hours: 3

#### LTCA 200 - *Introduction to Long-Term Care*

This course explores long-term care and administration. The course reviews a description of the clients, services, and provider settings in long-term care. Reimbursement and regulation of long-term care providers, ethical issues, and quality improvement are special topics. The second half of the course examines long-term care settings such as nursing homes, assisted living, subacute care, adult day care, home care, and hospice care.

Credit Hours: 3. Prerequisites: LTCA 100

#### LTCA 230 Clinicals – *Administrator in Training*

Clinical instruction providing training and work-based experience, and direct patient/client care. This course will serve as the AIT requirement necessary for board examination and licensure.

Credit Hours: 6. Prerequisites: LTCA 200

## Surgical Technology (SURT)

### SURT 105 – *Introduction of Surgical Technology*

This course introduces basic information regarding the health care system in general and the profession of surgical technology in order to explore surgical technology as a career choice. Emphasis is placed on the history and scope of the practice of the surgical technologist, factors influencing the delivery of service, relationships and communication with other health care providers, professional behaviors and legal and ethical issues related to health care. Guest lecturers and panels will provide insight into health care from current practitioners. The student will gain an understanding of the professional responsibilities inherent in providing health care and learn basic concepts of developing provider relationships.

Credit Hours: 1.

### SURT 109 – *Fundamentals of Surgical Technology*

This course introduces the surgical technology student to the basic principles and practices of surgical technology, which includes preoperative, intraoperative, and postoperative concepts, with emphasis on asepsis and sterile technique and the needs of the patient in the surgical environment.

Credit Hours: 3. Corequisites: SURT 105, SURT 111, BIOL 100, BIOL 210, BIOL 212.

### SURT 111 - *Fundamentals of Surgical Technology Skills Lab*

Instruction takes place in a well-equipped skills lab (mock OR). Emphasis is on instrument identification, classification, and use; sterile technique; case sequence - laying out and opening of supplies; skin preparation; surgical scrubbing, gowning, gloving and draping; minor and basic set-ups with count procedures; and post case activities.

Credit Hours: 1. Corequisites: SURT 110

### SURT 115 - *Surgical Procedures I*

This course introduces the surgical technology student to the basic surgical procedures; related anatomy, pathology and diagnostic measures; necessary instrumentation, supplies, equipment, and medications; possible complications; expected patient outcomes; and immediate postoperative care. Specific surgical procedures include; general, gastrointestinal, obstetrics, and gynecology.

Credit Hours: 3. Prerequisites: SURT 105, SURT 109.  
Corequisites: SURT 117.

### SURT 116 – *Surgical Procedures II*

This course introduces the surgical technology student to the basic surgical procedures; related anatomy, pathology and diagnostic measures; necessary instrumentation, supplies, equipment, and medications; possible complications; expected patient outcomes; and immediate postoperative care. Specific surgical procedures include: genitourinary, thoracic, plastics, oral, eye, ear, nose and throat.

Credit Hours: 3. Prerequisites: SURT 105, SURT 109, SURT 115.  
Corequisites: SURT 117.

### SURT 117 – Skills Lab I

This course provides instruction and demonstration, with return demonstration, in a well-equipped skills lab (mock operating room). Emphasis is on basic procedure set-ups and intraoperative activities, including establishing the sterile field around the patient, passing instruments, loading suture, dressing application, and postoperative routines. Students are also instructed in obtaining vital signs and urinary catheterization.

Credit Hours: 2. Prerequisites: SURT 111.

Corequisites: SURT 115, SURT 116.

### SURT 205 – Surgical Procedures III

This course introduces the surgical technology student to the basic surgical procedures; related anatomy, pathology and diagnostic measures; necessary instrumentation, supplies, equipment, and medications; possible complications; expected patient outcomes; and immediate postoperative care. Specific surgical procedures include: peripheral vascular, cardiovascular, orthopedic, and neurosurgery.

Credit Hours: 3. Prerequisites: SURT 115, SURT 116, SURT 117.

Corequisites: SURT 215.

### SURT 215 - *Surgical Procedures Practicum I*

The student will rotate through the operating rooms at OLOLRMC, BRGMC Bluebonnet, Woman's Hospital, and Healthsouth SurgiCenter using and refining the knowledge and skills learned in the 100 level courses. Additional sites may be available. All students during this course must complete clinical summaries for each surgical procedure and must attend a weekly class.

Credit Hours: 7. Prerequisites: SURT 115, SURT 116, SURT 117. Corequisites: SURT 205

### SURT 225 - *Surgical Procedures Practicum II*

The student will rotate through the operating rooms at OLOLRMC, BRGMC Bluebonnet, Woman's Hospital and Healthsouth SurgiCenter with St. Elizabeth Hospital in Bonzales and North Oaks Medical Center in Hammond as elective sites. Additional sites may be available. The student will continue to utilize and refine the knowledge and skills learned in the 100 level courses. All students during this course must complete clinical summaries for each surgical procedure and must attend a weekly class.

Credit Hours: 9. Prerequisites: SURT 205, SURT 215.

### SURT 240 - *Professional Portfolio Self Study Course*

The self-study program is designed only for previous Our Lady of the Lake College students who have completed the Surgical technology Certificate Program at this College. This will capture and document, in a portfolio format, all of the prospective candidate's professional, technical and work related experience since certificate completion and provide comprehensive documentation for assessment and evaluation of the candidate's abilities and aptitudes within the professional field of the Surgical Technologist. This course will be a self-study with periodic sessions with the Surgical Technology Faculty to assure focus, provide guidance and evaluate progress.

## DEPARTMENT OF PHYSICIAN ASSOCIATE STUDIES COURSE DESCRIPTIONS

### PHAS 525 - *PA Seminar*

Course spanning the entire clinical portion of the curriculum. All seminars are designed to familiarize the student with issues and subjects encountered on the physician associate national certifying exam (PANCE).

Credit Hours: 1.

### PHAS 526 - *Professional Issues in Physician Associate Studies*

Multifaceted course that includes sessions on the history of the PA Profession, professional and employment issues with special emphasis given to a transition to practice and future trends in the profession. There will be discussion of legal issues, with emphasis on contract writing and issues of current thinking with regards to medical ethics and the economics of health care. Research issues and the development of research proposals will also be discussed.

Credit Hours: 2.

### PHAS 527 - *Patient Assessment and Medical Information*

Lecture & skills mastery course that provides the student with the competency necessary to obtain a comprehensive medical history and perform a complete physical examination. The student must become proficient in the recording of obtained data in the diagnostic oriented format. Students also are introduced to the basic fundamentals of radiological interpretation.

Credit Hours: 4.

### PHAS 528 - *Inpatient Medicine*

Interdisciplinary lecture/skills mastery course encompassing issues encountered in inpatient medicine. Lectures and discussions incorporate aspects of inpatient medicine including: surgical skills in relation to sterile field and technique; infectious disease and control measures; community, resistant and hospital borne infections; nutritional status, malnutrition and obesity; charting and SOAP notes; DVT prevention and treatment; decubitus ulcers and wound care; rehabilitation issues and case management. Skills will involve hands on practice with proficiency in casting, suturing and maintaining sterile field.

Credit Hours: 3.

### PHAS 530 - *Clinical Therapeutics*

Lecture course that is a continuation of HESC 530 with an increased emphasis on clinical therapeutic applications. This course will also discuss OTC medications, current herbal medications, synthetic and naturally derived hormones, compounding, and brand names of certain drug classes.

Credit Hours: 2.

### PHAS 540 - *Gross Anatomy*

Lecture/lab course that presents all of the systems of the human body. Cells, tissues and organs of each system are examined in detail regarding structure, function, and the impact of disease on each of the systems.

Credit Hours: 5.

*PHAS 541 - Neuroanatomy*

Lecture/skills mastery course that encompasses study of the anatomy of the central and peripheral nervous system of the human body. Particular attention is given to clinically relevant anatomical structures involved in pathological conditions and peripheral nerve injuries that result in neurological deficits and loss of function. Particular attention is given to the neurological examination in patient assessment and diagnosis.

Credit Hours: 2.

*PHAS 542 - Medical Physiology*

Comprehensive course presenting the basic principles of cell physiology followed by an in-depth examination of the organ systems - muscle, cardiovascular, respiratory, gastrointestinal, renal and endocrine systems. Attention is given to the integrative nature of organ system behavior and to interactive control mechanisms. Special emphasis is placed on the clinical application and patient management.

Credit Hours: 4.

*PHAS 545 - Electrocardiography*

Covers intermediate and advanced electrocardiography including cardiac electrophysiology and dysrhythmia recognition. Extensive interpretation of EKG's including normal variations and diseased states. Students will also become certified in advanced cardiac life support.

Credit Hours: 3.

*PHAS 550 - Foundations of Clinical Medicine*

Lecture course that examines the essentials of human pathophysiology as related to clinical signs, symptoms, and physical findings. The etiology, epidemiology, pathophysiology, clinical manifestations, and diagnostic aspects of common diseases within each organ system are discussed and correlated. Current diagnostics and therapeutic modalities are discussed for disease processes in each organ system. General approaches to medical management of selected problems are also presented. Although an organ-systems approach is utilized, the systems are integrated for discussion of multi-system pathology.

Credit Hours: 6.

*PHAS 555 - Introduction to Clinical Laboratory Medicine*

Presented in multiple formats including traditional lectures, labs, self-study modules and case studies, this course introduces the student to the importance of clinical laboratory medicine in the delivery of health care. In addition to basic theory, the course focuses on selection, collection, and handling of samples for testing. Emphasis is placed on the interpretation and clinical application of common diagnostic laboratory studies. Topic areas include blood banking, chemistry, coagulation, hematology, immunology, microbiology, and urinalysis.

Credit Hours: 3.

*PHAS 562 - Psychosocial Dynamics in Health Care*

This course introduces the student to the psychological, social, and family contexts of health, illness, and health care. A major premise of this course is that to adequately meet the needs of the patient, the PA must consider not only disease factors, but also psychosocial factors, which affect the disease and are affected by it as well. Topics include personality development from infancy through old age, the family's role in health care, sex and sexuality, death and dying, and health care ethics. The student must become familiar with the DSM V and GAS scores and how they relate to practice. Credit Hours: 1.

*PHAS 570 - Family Medicine*

Four Weeks. This rotation may involve both inpatient and outpatient duties encountered in a family practice setting. Students gain experience in a primary care setting where they are exposed to a wide range of common ambulatory care problems. Students may be located in a rural or urban setting.

Credit Hours: 3.

*PHAS 571 - Internal Medicine I*

Four weeks. Students actively participates in all aspects of direct adult patient care in an outpatient/inpatient setting. Emphasis is on patient evaluation and assessment, oral and written case presentations, understanding the complexities and interrelationships of disease processes and diagnostic and therapeutic collaboration.

Credit Hours: 3.

*PHAS 572 - Internal Medicine II*

Four weeks. As a continuation of PHAS 571, the direct patient care fundamentals of inpatient/ outpatient adult medicine are continued in this clinical experience.

Credit Hours: 3.

*PHAS 573 - General Surgery*

Four weeks. This clinical experience provides exposure to concepts and principles that characterize the practice of general surgery. Students participate in the pre-operative, operative and post-operative care of patients admitted to a variety of surgical services in both inpatient, and outpatient settings.

Credit Hours: 3.

*PHAS 574 - Pediatrics*

Four weeks. Practical experience in the recognition and management of common pediatric problems is provided, including assessment of the newborn, well baby care, preventive pediatrics and parent counseling.

Credit Hours: 3.

*PHAS 575 - Women's Health*

Four weeks. This clinical rotation encompasses the fundamentals of women's health. Emphasis is on the medical history, physical examination, diagnosis and treatment involved with pre-natal, peri-natal, and post maternity states, as well as general gynecologic care. This may be in an in-patient or out-patient setting, or a combination of both.

Credit Hours: 3.

*PHAS 576 - Emergency Medicine*

Four weeks. This clinical experience includes the management of acute medical and surgical problems with an emphasis on the importance of precise diagnosis as well as the principles of emergency therapy.

Credit Hours: 3.

*PHAS 577 - Orthopedic Surgery*

Four weeks. Clinically based experience provides opportunities in orthopedic surgery and in an outpatient clinical setting.

Credit Hours: 3.

*PHAS 578 - Psychiatry and Behavioral Medicine*

Four weeks. This rotation provides an inpatient and/or outpatient clinical experience working with patients who have mental health problems. Emphasis is placed on the presentation, recognition, and management of these problems as well as understanding of overall role of mental health in the clinical setting.

Credit Hours: 3.

*PHAS 579 - Elective Rotation I*

This rotation is elective and may be chosen by the student from any discipline in medicine. Each choice must be approved by the clinical coordinator. These electives may not necessarily occur in the 2nd summer semester. It may not be a repeat of the core rotations but rather chosen from an established list of the programs elective rotations. If the student wishes to abstain from selecting a rotation, one will be assigned based on availability of the current clinical sites.

Credit Hours: 3.

*PHAS 580 - Elective Rotation II*

Second elective rotation choice approved by the Clinical Coordinator.

Credit Hours: 3.

*PHAS 581 - Preceptorship*

Eight weeks. This clinical experience integrates previous rotations and studies. This is the final phase of the PA students' education and therefore is intended to be fulfilled in the practice setting of prospective employers. This preceptorship is selected by the student and must be approved by the clinical coordinator.

Credit Hours: 4.

*PHAS 590 - Master's Seminar*

Students conclude their group research proposal by providing a final paper and a professionally developed and delivered multimedia presentation of the project.

Credit Hours: 3.

## DEPARTMENT OF REHABILITATION SCIENCES COURSE DESCRIPTIONS

### PHYSICAL THERAPIST ASSISTING (PTAP)

*PTAP 100 — Introduction to Patient Care*

This course introduces basic information regarding the health care system in general and the profession of physical therapy, in order to explore physical therapist assisting as a career choice. Emphasis is placed on the provision of physical therapy services, the history and scope of the practice of the physical therapist and the physical therapist assistant, factors influencing the delivery of service, relationships and communication with patients and other health care providers, professional behaviors and legal and ethical issues related to health care. Guest lecturers and panels will provide insight into health care from current practitioners. The student will gain an understanding of the professional responsibilities inherent in providing health care and learn basic concepts of developing provider relationships.

Credit Hours: 1. Prerequisites: None.

#### PTAP 200 — *Introduction to Health Care*

This course is designed to give the physical therapist assistant student fundamental understanding of the provision of health care. Emphasis is placed on provision of physical therapy services, scope of practice of the physical therapist assistant and the physical therapist, factors influencing the delivery of service, relationships and this clinical course offers the student an opportunity for an individualized concentrated nursing practicum in an area related to the student's special interest. The student in collaboration with the faculty and a clinical preceptor will develop a project designed to enhance professional nursing practice. The student is expected to synthesize knowledge from previous nursing experiences.

This course should be taken during the semester that the student intends to graduate.  
Credit Hours: 3. Prerequisites: Level III NURS courses; NURS 410, NURS 420, NURS 430 previous or concurrent enrollment or with permission of the Dean of Nursing.

#### PTAP 211 - *Functional Anatomy and Kinesiology*

This course is designed to provide the potential physical therapist assistant student a fundamental understanding of the musculoskeletal system as it applies to movement. Emphasis is placed on muscles and muscle groups, their origins and insertions, innervations, movements, posture and gait. The student has the opportunity to learn characteristics and components of normal movement as a basis for understanding abnormal movement.  
Prerequisites: BIOL 210. COREQUISITE: PTAP 213. Credit Hours: 3

#### PTAP 212 - *Clinical Science I*

This course is designed to give the physical therapist assistant student the opportunity to learn and practice fundamental assessments, patient care skills and procedures. Students are instructed in assessments, skills and procedures and they then perform them in the laboratory setting with student-to-student practice. Students must demonstrate competency in performing these skills, procedures and assessments in the laboratory setting prior to performing them in a clinical setting.  
Credit Hours: 2. Prerequisites: All General Studies Courses in PTA curriculum, PTAP 100. Corequisites: PTAP 200, PTAP 211, PTAP 213

#### PTAP 213 - *Functional Anatomy and Kinesiology Lab*

This laboratory course is designed to coincide with the Functional Anatomy and Kinesiology lecture course. Course content follows the content presented in lecture and provides the student the opportunity to apply concepts of movement to the human anatomy through lab activities incorporating palpation, movement and problem solving. Students analyze movement in individual regions of the body and demonstrate comprehension through written and practical applications.  
Credit Hours: 1. Prerequisites: BIOL 210. COREQUISITE: PTAP 211.

#### PTAP 221 - *Clinical Science II*

This course is designed as a continuation of PTAP 212. Lecture and laboratory experiences are combined to instruct the student in assessment and treatment procedures utilized in current physical therapy practices. Emphasis is placed on the treatment procedures involved in therapeutic massage, hydrotherapy, wound care, electrical modalities, edema control, orthotics, gait dysfunction, prosthetics and traction within the scope of practice of the physical therapist assistant. The student will incorporate assessments and treatment modalities learned in the previous courses, with those learned in this course, to demonstrate competency in the provision of total patient treatment. Laboratory experiences will provide the opportunity to experience and to practice these procedures. Competency in performance of the procedures will be determined by skill check-off and by practical demonstration in competency utilizing patient scenarios.

Credit Hours: 3. Prerequisites: Summer PTAP courses. Corequisites: PTAP 222, PTAP 224, PTAP 226, PTAP 228

*PTAP 222 - Clinical Science III*

This therapeutic exercise course combined lecture and laboratory experiences to introduce the physical therapist assistant student to exercise as a treatment procedure. The student will learn about exercise from the cellular to the systemic effects. Emphasis is placed on various kinds of exercise, application of exercise technique and on special areas of therapeutic exercise. The student will practice range of motion exercise, stretching techniques, mobilization within the scope of the PTA practice, resistance, traction and aerobic exercise and pulmonary hygiene techniques. Assessments and procedures learned in previous classes will be utilized in combination with various exercise procedures in order to enhance rehabilitation and monitor subject response to the procedures.

Credit Hours: 4. Prerequisites: Summer PTAP courses. Corequisites: PTAP 220, PTAP 224, PTAP 226, PTAP 228

*PTAP 224 - Neuromusculoskeletal Dysfunction*

This lecture course introduces the student to injuries, diseases and conditions that affect the neuromusculoskeletal system, and which are primary to the practice of physical therapy. A system approach to understanding the function of the human body and the effect of pathological entities on the system are presented. Emphasis is placed on the course and effect of the pathological condition; the signs and symptoms of the pathology; the general effect on human performance and function of the patient; and, the physical therapy management of the condition and patient. The student is provided the opportunity to identify potential medical complications that effect physical therapy interventions and the patient's safe response to the intervention.

Credit Hours: 3. Prerequisites: Summer PTAP courses. Corequisites: PTAP 220, PTAP 222, PTAP 226, PTAP 228

*PTAP 225 - Neurophysiology of Rehabilitation*

This course is designed to give the physical therapist assistant student a fundamental understanding of the nervous system and its association to movement and movement dysfunction. Neuroscience from the perspectives of anatomy and physiology is explored. The student has the opportunity to learn the relationship of the nervous system to control of normal movement and movement dysfunction. Emphasis is placed on the use of correct terminology, neuromuscular function and rehabilitation of movement dysfunction.

Credit Hours: 1. Prerequisites: PTAP 200, PTAP 211, PTAP 212, PTAP 213

*PTAP 226 - Human Development*

This lecture course introduces the student to the development of cognition, speech and movement. The student has the opportunity to learn the relationship of the areas of the developmental process. Although focused on development from neonatal through early childhood, the student will be introduced to the changes that occur in aging throughout life. Emphasis is placed on the developmental sequence, developmental disabilities and adaptive equipment.

Credit Hours: 1. Prerequisites: Summer PTAP courses. Corequisites: PTAP 220, PTAP 222, PTAP 224, PTAP 228

*PTAP 228 - Clinical Education I*

This course is designed to provide the opportunity for the student to apply previously learned assessments, procedures and skills to direct patient care under the supervision of a licensed practitioner of physical therapy. The student will participate in two different full time two week affiliations. Each student is assigned to a clinical instructor, who is primarily

responsible for planning clinical experiences reflective of course objectives and current practice, evaluation of student performance and providing immediate feedback to facilitate learning. The student will have the opportunity to master skills learned in the laboratory setting and integrate behaviors reflective of professional competency within the scope of practice of the physical therapist assistant.

Credit Hours: 4. Prerequisites: Summer PTAP courses. Corequisites: PTAP 220, PTAP 222, PTAP 224, PTAP 226

#### PTAP 231 - *Clinical Science IV*

This course is designed to provide a forum by which PTA students can integrate didactic and clinical experiences in the development of skills relative to the practice of physical therapy. The student will have the opportunity to prepare for entry-level employment in physical therapy, and will be introduced to issues and topics relative to the practice of physical therapy, which are considered post-graduate level skill development. These include topics in specialty areas of physical therapy practice, alternative therapeutic approaches to patient care, and advanced techniques in musculoskeletal and neuromuscular dysfunction. Projects and laboratory experiences provide the opportunity for the student to gain an introductory knowledge and application base upon which clinical skills are developed.

Credit Hours: 2. Prerequisites: Fall PTAP courses. Corequisites: PTAP 238

#### PTAP 239 - *Clinical Education II*

This clinical education course involves assignment of the student to two different full time affiliations totaling eleven weeks. The student will have the opportunity to apply all treatment procedures, assessments and patient care skills necessary for entry level competency for the practice of physical therapist assisting. The longer assignments allow the student to follow patients through the course of therapy in order to observe changes in patient function in response to treatment. The student will have the opportunity to integrate knowledge and skills to master critical skills, analyze patient response to treatments, participate as a member of the health care team, participate in patient, family and staff teaching activities, and model professional behaviors. Upon completion of this course, the student will have demonstrated all critical skills necessary for entry-level competency of a practitioner of physical therapist assisting.

Credit Hours: 10. Prerequisites: Fall PTAP courses. Corequisites: PTAP 230

## Respiratory Therapy (RESP)

#### RESP 207 - *Cardiopulmonary Pharmacology*

An introductory course that focuses on the pharmacologic modes of action, indications, routes of administration and excretion, side effects, hazards and drug interactions for agents used in the management of patients with cardiopulmonary disease.

Credit Hours: 3. PREQUISITES: None

#### RESP 210 - *Respiratory Therapy Fundamentals*

This is a lecture/laboratory course that encompasses the basic principles of Respiratory Care. Topics include patient assessment, infection control, respiratory pharmacology, as well as, the theory and application of various types of equipment that are used in the diagnosis and treatment of cardiopulmonary disease. This course also introduces an analytical approach to determining appropriate treatment strategies with oxygen therapy, and teaches the accompanying techniques associated with patient care. The course also includes the theory and application principles behind new and upcoming therapy devices and compares

them to practices currently employed in the clinical setting. The laboratory portion offers hands-on practice of therapies and equipment discussed in the lecture portion of the course to prepare the student for clinical rotation.

Topics Addressed: Gas physics / associated equipment; Infection control; Industrial oxygen production and storage; Oxygen delivering devices; Patient assessment; Oxygen therapy; Respiratory pharmacology; Therapeutic equipment; Charting protocols; Cardiopulmonary resuscitation; Artificial airways; Airway management.

Credit Hours: 5. LECTURE/LAB: Lecture = 3 hours (56 contact hours); Laboratory = 2 hours (28 contact hours). Prerequisites: MATH 112, BIOL 210, PHYS 121

#### RESP 211 - *Clinical Applications and Procedures I*

Introductory course designed to provide clinical instruction in respiratory care procedures. Emphasis is placed on routine patient care, including such modalities as patient assessment, medical gas therapy, use of aerosol, humidity devices, bronchial hygiene, and chest physical therapy.

Credit Hours: 4. CLINIC: Clinic = 4 hours (192 contact hours). Prerequisites: RESP 210

#### RESP 212 - *Cardiopulmonary Physiology*

This lecture series addresses the physiology of the cardiovascular and pulmonary systems. The course is designed to demonstrate the application of cardiopulmonary physiological principles in practice of medicine. Discussions focus on the regulation and maintenance of cardiopulmonary function under normal conditions. The course also provides an introduction to the integrative control of the cardiopulmonary function. Topics Address: Mechanics of breathing; Alveolar ventilation; Pulmonary blood flow; Ventilation / perfusion; Diffusion and transport of gases; Acid-Base balance; Control of breathing; Clinical correlation to pulmonary function testing; Congestive heart failure; Electrophysiology of the heart; Cardiac cycle; Hemodynamics; Clinical correlation to cardiopulmonary profiles; Peripheral circulation and vascular control; Special circulations; Integrative control of the cardiovascular system; Clinical correlation to the cardiopulmonary response to stress.

Credit Hours: 3. LECTURE/LAB: Lecture = 3 hours (45 contact hours). Prerequisites: MATH 112, BIOL 210, PHYS 121

#### RESP 213 - *Professional Directions*

This course is designed to introduce students to current topics facing allied health practitioners involved in the practice of respiratory therapy. The course will include modules on professionalism, problem-based learning, critical thinking, as well as, ethical and legal issues related to the practice of respiratory therapy.

Topics Addressed: Professionalism; Accreditation, national registries, and state licensure; Introduction to problem based learning and critical thinking; Overview of ethics and legal aspects of health care; Information technology and its application in health care.

Credit Hours: 1. LECTURE/LAB: Lecture = 1 hours (15 contact hours)

#### RESP 220 - *Critical Care Concepts I*

This lecture series introduces students to the clinical application of respiratory care in critically ill patients. It incorporates the theories and protocols learned in Respiratory Therapy Fundamentals and develops critical care skills, which emphasize ventilatory support modalities, hemodynamic monitoring, metabolic monitoring and patient management techniques.

Topics Addressed: Artificial blood gas procurement and analysis; X-ray interpretation; Hemodynamics; Ventilation and Oxygenation strategies; Ventilator terminology; Ventilator modalities; Introduction to critical care.

Credit Hours: 2. LECTURE/LAB: Lecture = 2 hours (30 contact hours). Prerequisites: RESP 210, RESP 212

### RESP 221 - *Clinical Applications and Procedures II*

This course is designed to introduce students to essential concepts related to critical care medicine. Emphasis is placed on monitoring techniques, patient weaning and ventilatory support systems.

Credit Hours: 5. CLINIC: Clinic = 5 hours (225 contact hours). Prerequisites: RESP 211

### RESP 222 - *Cardiopulmonary Pathophysiology*

This course provides a review of the most common diseases that affect the cardiovascular and pulmonary systems. It includes discussions on clinical diagnostic techniques and treatment approaches commonly used in the management of patients with cardiopulmonary disease. The course also utilizes case studies in a problem-based learning format to teach students critical thinking skills that are required to successfully treat patients with diseases of the heart and lungs.

Topics Addressed: Medical history and physical examination; Pulmonary function testing; Cardiopulmonary profiles; Clinical Laboratory Assessment; Chest Roentgenology; Case Management of patient with respiratory disease; Chronic Bronchitis and Emphysema; Asthma; Sleep Apnea; Cystic Fibrosis; Pneumonia; Acquired Immunodeficiency Syndrome; Tuberculosis; Pulmonary Embolism and Infarction; Case Studies - Infectious Diseases; Diseases of the Pleura and Chest Wall; Neurological Disorders; Pneumoconiosis and COPD; Smoke and Thermal Injuries; ARDS.

Credit Hours: 2. LECTURE/LAB: Lecture = 2 hours (45 contact hours). Prerequisites: RESP 210, RESP 212

### RESP 230 - *Critical Care Concepts II*

A continuation of Critical Care Concepts I with furthered emphasis on adult critical care ventilatory support modalities. Coursework covers intermediate and advanced pulmonary care strategies. It encompasses patient management through a problem-based learning format. It also incorporates new advances in critical care procedures and a broadened approach to patient care beyond primary pulmonary diseases.

Topics Addressed: Patient assessment; Pulmonary inspection; Breathing patterns; Endotracheal Intubation; Bedside diagnostics; Breathing techniques; Mechanical Ventilation; Critical care protocols and procedures.

Credit Hours: 2. LECTURE/LAB: Lecture = 2 hours (45 contact hours). Prerequisites: RESP 220

### RESP 231 - *Clinical Applications and Procedures III*

Students are provided clinical instruction in advanced respiratory care procedures. Emphasis is placed on therapeutic strategies that are used in adult and neonatal critical care. Students also actively participate in experiences in cardiopulmonary rehabilitation and long term care of patients with cardiopulmonary disease.

Credit Hours: 5. CLINIC: Clinic 5 hours (225 contact hours). Prerequisites: RESP 221

### RESP 232 - *Neonatology and Pediatrics*

Lecture series encompassing the therapeutic approach to treatment of neonates and pediatric patients. Addresses the unique characteristics of both the cardiovascular and pulmonary systems for patients from birth to age twelve. Discusses the parameters of disease states specific to this age group, including diagnostic and management differences. Teaches the physiological changes during gestation in relation to pulmonary management at premature birth and into recovery, as well as acute resuscitation protocols. Mechanical ventilation modalities traditional to adult care are applied to this age group, and new

modalities are discussed. Topics Addressed: Patient assessment; Pediatric neuromuscular disease; Asthma / Bronchiolitis; Epiglottitis / Croup / Foreign object aspiration; Cystic Fibrosis; Sleep Apnea / Pneumonia / Drowning; Pulmonary development; Cardiovascular development; Transition of newborns; Prenatal history and patient assessment of the neonate; Asphyxia; Resuscitation; Cardiovascular Defects: Acyanotic and Cyanotic; Respiratory Defects; Respiratory Distress Syndrome; Transient tachypnea of the newborn; B Streptococcal infections; Meconium aspiration syndrome; Patent Ductus Arteriosus; Apnea of prematurity; Convent

Credit Hours: 2. LECTURE/LAB: Lecture = 2 hours (30 contact hours). Prerequisites: RESP 210, RESP 212, RESP 220

#### RESP 233 - *Cardiopulmonary Rehabilitation and Long Term Care*

This course is designed to introduce students to the care of chronically ill patients. Discussions will focus on the delivery of respiratory care services for hospital-based cardiopulmonary rehabilitation programs, extended care facilities, and home care. Topics include clinical exercise testing, exercise prescriptions, and clinical practice guidelines for management of patients who require long term respiratory care (e.g., oxygen therapy, bronchodilatory therapy, mechanical ventilation, etc.). Topics Addressed: Clinical exercise testing; Exercise prescriptions; Case Management of patient with chronic respiratory disease; Respiratory care procedures used in alternate care settings.

Credit Hours: 3. LECTURE/LAB: Lecture = 3 hours (45 contact hours)

#### RESP 234 - *Pulmonary Diagnostic Testing*

This course covers basic instrumentation and diagnostic techniques employed in the assessment of pulmonary functions. It includes interpretive analysis of test results as related to disease states and other abnormal lung conditions and provides information regarding the appropriate strategy for proper patient testing. Students are expected to apply their understanding of pulmonary physiology to the selection of appropriate testing techniques and equipment. Topics Addressed: Lung Volumes and Capacities; Diagnostic Equipment; Ventilation and Ventilatory Control Tests; Lung Volume test; Spirometry and Pulmonary Mechanics; Gas Distribution and Diffusion Tests; Critical Care Monitoring; Quality Assurance; Collection and evaluation of Clinical History and Case Studies; Sleep Studies; Bronchoscopy; Metabolic Measurements; PFT in Children and Adolescents; Computer Systems.

#### RESP 235 - *Cardiopulmonary Resuscitation and Advanced Cardiac Life Support*

This course is designed to review the most current American Heart Association (AHA) standards for basic life support and advanced cardiac life support. Special emphasis is devoted to the recording and interpretation of electrocardiograms, pharmacologic interventions used in the treatment of cardiac emergencies, and airway management techniques used during cardiopulmonary resuscitation. Students must successfully complete an AHA approved Advanced Cardiac Life Support course.

Credit Hours: 1. LECTURE/LAB: Lecture = 1 hour (15 contact hours)

#### RESP 235 - *Cardiopulmonary Resuscitation and Advanced Cardiac Life Support*

This course is designed to review the most current American Heart Association (AHA) standards for basic life support and advanced cardiac life support. Special emphasis is devoted to the recording and interpretation of electrocardiograms, pharmacologic interventions used in the treatment of cardiac emergencies, and airway management techniques used during cardiopulmonary resuscitation. Students must successfully complete an AHA approved Advanced Cardiac Life Support course.

Credit Hours: 1. LECTURE/LAB: Lecture = 1 hour (15 contact hours)