

# (35) College of Allied Health Sciences

2008 - 2009

College of Allied Health Sciences 1

## Advanced Medical Imaging Technology

### **35AMIT301**

#### **Pathophysiology for Diagnostic Medical Imaging**

The goal of this course is to familiarize students with normal human physiology, and to learn how alterations in function lead to disease. Emphasis will be placed upon pathologies altering diagnostic medical images. BoK: NA. Credit Level: U. Credit Hrs: 4.00

### **35AMIT401**

#### **Human Sectional Anatomy**

A regional survey of human anatomy in all sectional planes. It is primarily intended for Advanced Medical Imaging Technology students but may be taken by other College students to satisfy requirements or electives. BoK: NS., QR. Credit Level: U. Credit Hrs: 4.00

### **35AMIT402**

#### **Sonography Seminar I**

The first in a seminar series on professional development, clinical correlation, student presentations, current issues, and other miscellaneous topics in sonography. Case study presentations will be an integral part of this course. Guest speakers may be utilized on an occasional basis to enhance the presentation. BoK: NA. Credit Level: U. Credit Hrs: 1.00

### **35AMIT403**

#### **Introduction to Diagnostic Medical Sonography**

An introductory course to the health care field of sonography. History of ultrasound, medical terminology and professional organizations specific to the discipline, and introduction to the ultrasound system will be covered. BoK: NA. Credit Level: U. Credit Hrs: 2.00

### **35AMIT404**

#### **Sonography Seminar II**

The second course in a seminar series on professional development, clinical correlation, student presentations, current issues and other miscellaneous topics in sonography. Case study presentations will be an integral part of this course. Guest speakers may be utilized on an occasional basis to enhance the presentations. BoK: NA. Credit Level: U. Credit Hrs: 1.00

### **35AMIT405**

#### **Sonography Seminar III**

The third course in a seminar series on professional development, clinical correlation, student presentations, current issues, and other miscellaneous topics in sonography. Case study presentations will be an integral part of this course. Guest speakers may be utilized on an occasional basis to enhance the presentations. BoK: NA. Credit Level: U. Credit Hrs: 1.00

### **35AMIT411**

#### **Gynecological Sonography**

The study and the uses of transabdominal and transvaginal medical sonography and its application in the diagnosis of diseases of the female pelvis. The sonographic appearance of the female reproductive organs, surrounding anatomy, and gynecological pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 3.00

### **35AMIT412**

#### **Obstetrical Sonography I**

An extensive study of the anatomy, physiology, pathology, and sonographic appearance of the developing fetus. Clinical presentation and maternal complications associated with pregnancy are also covered. BoK: NA. Credit Level: U. Credit Hrs: 3.00

### **35AMIT413**

#### **Obstetrical Sonography II**

An extensive study of the anatomy, physiology, pathology, and sonographic appearance of the developing fetus. Clinical presentation and maternal complications associated with pregnancy are also covered. This course will also thoroughly discuss malformations and

## Advanced Medical Imaging Technology

### **35AMIT413**

#### **Obstetrical Sonography II**

congenital anomalies. BoK: NA. Credit Level: U. Credit Hrs: 2.00

### **35AMIT421**

#### **Abdominal Sonography I**

The study and uses of diagnostic medical sonography and its application in the diagnosis of diseases of the abdomen. General principles of medical sonography scanning procedures and ultrasonic characteristics of the various abdominal organs and pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 3.00

### **35AMIT422**

#### **Abdominal Sonography II**

This course is a continuation of Abdominal Sonography I and continues the study and uses of diagnostic medical sonography and its application in the diagnosis of diseases of the abdomen. General principles of medical sonography scanning procedures and ultrasound characteristics of the various abdominal organs and pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 3.00

### **35AMIT423**

#### **Abdominal Sonography III**

The study and uses of diagnostic medical sonography and its application in the diagnosis of diseases of the abdomen and small parts. General principles of medical sonography scanning procedures and ultrasonic characteristics of the various abdominal organs, small parts (breast, thyroid, scrotum, etc.), and pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 2.00

### **35AMIT431**

#### **Sonographic Physics and Instrumentation I**

The first course in sonographic principles covering basic principles of medical sonography. The basics of the ultrasound system instruments and controls, basic mathematical concepts, Doppler, and the basics of sound waves will be discussed. BoK: NA. Credit Level: U. Credit Hrs: 1.00

### **35AMIT432**

#### **Sonography Physics and Instrumentation II**

The second course in sonographic principles covering basic principles of medical sonography. Acoustic variables, the interaction of sound with tissue, transducers, and instrumentation of machine controls will be discussed. BoK: NA. Credit Level: U. Credit Hrs: 3.00

### **35AMIT433**

#### **Sonographic Physics and Instrumentation III**

The final course in sonographic principles covering basic principles of medical sonography. Pulsed echo instrumentation, displays and storage of images, Doppler, hemodynamics, artifacts, and quality assurance of ultrasound will be discussed. BoK: NA. Credit Level: U. Credit Hrs: 2.00

### **35AMIT441**

#### **Magnetic Resonance Imaging Directed Practice I**

This is the first in a sequence of four classes that will stress practical laboratory experience, seminars, and case studies in magnetic resonance imaging technology. Students are provided the specialized instruction and experience to accomplish procedures normally performed in magnetic resonance imaging facilities. Students are expected to demonstrate the skill, knowledge, and experience to proficiently perform routine magnetic resonance imaging procedures. BoK: NS. Credit Level: U. Credit Hrs: 2.00

### **35AMIT442**

#### **MAGNETIC RESONANCE IMAGING DIRECTED PRACTICE II**

This is the second in a sequence of four courses that will stress practical laboratory experience, seminars, and case studies in magnetic resonance imaging. Students are provided the specialized instruction

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Advanced Medical Imaging Technology**35AMIT442****MAGNETIC RESONANCE IMAGING DIRECTED PRACTICE II**

and experience to accomplish procedures normally performed in MRI facilities. BoK: NS. Credit Level: U. Credit Hrs: 5.00

**35AMIT443****Magnetic Resonance Directed Practice III**

This is the third in a sequence of four courses that will stress practical laboratory experience, seminars, and case studies in magnetic resonance imaging. Students are provided the specialized instruction and experience to accomplish procedures normally performed in MRI facilities. Prereq: 35AMIT442. BoK: NS, SE. Credit Level: U. Credit Hrs: 6.00

**35AMIT444****Magnetic Resonance Technical Evaluation**

Clinical training associated with learning the practice of magnetic resonance imaging. BoK: NS., SE. Credit Level: U. Credit Hrs: 6.00

**35AMIT446****Sonographic Directed Practice I**

The study and the uses of transabdominal and transvaginal medical sonography and its application in the diagnosis of diseases of the female pelvis. The sonographic appearance of the female reproductive organs, surrounding anatomy, and gynecological pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35AMIT447****Sonography Directed Practice II**

The study and the uses of transabdominal and transvaginal medical sonography and its application in the diagnosis of diseases of the female pelvis. The sonographic appearance of the female reproductive organs, surrounding anatomy, and gynecological pathology will be covered. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35AMIT448****Sonographic Directed Practice III**

This is the third in a sequence of four classes that will stress practical laboratory experience, seminars, and case studies in sonography. Students are provided the specialized instruction and experience to accomplish procedures normally performed in sonography facilities. Prereq: 35AMIT422. BoK: NS, SE. Credit Level: U. Credit Hrs: 6.00

**35AMIT449****Sonographic Directed Practice IV**

This is a final in a series of clinical experiences for sonography students. Students will apply learned techniques in the clinical setting under close supervision of clinical instructors at the designated clinical sites. BoK: NA. Credit Level: U. Credit Hrs: 6.00

**35AMIT451****Medical Imaging Physics & Instrumentation**

Explores the physics & instrumentation that underpins magnetic resonance scanning. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT452****Magnetic Resonance Physics & Instrumentation II**

Discussion on MRI scanning principles, manipulation of MRI instrumentation, causes of image contrast and noise, principles of RF pulses, rapid scan techniques, fat and water signal separation methods, safety issues, and spectroscopy techniques. Prereq: 35AMIT451. BoK: NS, QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT453****Magnetic Resonance Imaging Physics & Instrumentation III**

Physics that underpin the operation of the Magnetic Resonance Imaging scanner. Prereq: 35NMT452. BoK: NS, QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT457****Sonography Physics and Instrumentation II**

This course deals with the fundamental principles of sonographic physics. Topics such as the nature of waves, wave properties, interactions of ultrasound with tissue, Ultrasonic beam parameters and

Advanced Medical Imaging Technology**35AMIT457****Sonography Physics and Instrumentation II**

basic Doppler principles are covered. Prereq: 35AMIT431. BoK: NS, QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT458****Sonography Physics and Instrumentation III**

This course deals with the fundamental principles of sonographic physics. Topics such as the nature of waves, wave properties, interactions of ultrasound with tissue, ultrasonic beam parameters and basic Doppler principles are covered. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT461****Basic Elements of Magnetic Resonance Imaging Technology**

An introductory course that presents basic concepts of the health care system and an introduction to magnetic resonance imaging procedures, applied magnetic resonance safety, anatomy, and magnetic resonance imaging systems. Course involves didactic and laboratory experiences. BoK: NS., QR. Credit Level: U. Credit Hrs: 6.00

**35AMIT462****Medical Imaging Anatomy, Physiology, & Pathology I**

Human anatomy & pathology as it appears on MRI images. BoK: NS., SE. Credit Level: U. Credit Hrs: 3.00

**35AMIT463****Magnetic Resonance Anatomy, Physiology & Pathology II**

Anatomy, Physiology and Pathology as it relates to MRI identification. Prereq: 35AMIT462. BoK: NS, SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT464****Magnetic Resonance Anatomy Physiology & Pathology III**

Anatomy, physiology & pathology in MRI. Joints & extremities of the human body with associated pathological conditions. Prereq: 35NMT463. BoK: NS, SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT466****Basic Elements of Sonography**

An introductory course that presents basic concept of the healthcare system and an introduction to sonography procedures, anatomy and physiology relevant to sonography and sonography safety concerns. BoK: NA. Credit Level: U. Credit Hrs: 6.00

**35AMIT468****Sonography Anatomy, Physiology, and Pathology II**

This course will familiarize the student with anatomical and physiological irregularities and common pathologies found in sonography imaging. The course sequence will be inclusive of all commonly imaged body systems and areas. Case studies and images of the pathologies will use Prereq: 35AMIT402. BoK: NS, SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT469****Sonography Anatomy Physiology & Pathology III**

This course will familiarize the student with anatomical and physiological irregularities and common pathologies found in sonography imaging. The course sequence will be inclusive of all commonly imaged body systems and areas. Case studies and images of the pathologies will be used to reinforce the lectures. BoK: NS., SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT471****Nuclear Medicine Technology Directed Practice I**

This is the first sequence of four classes that will stress practical laboratory experience, seminars, and case studies in nuclear medicine technology. Students are provided the specialized instruction and experience to accomplish procedures normally performed in nuclear medicine imaging facilities. Students are expected to demonstrate the skill, knowledge, and experience to proficiently perform routine nuclear medicine procedures. BoK: NS. Credit Level: U. Credit Hrs: 2.00

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Advanced Medical Imaging Technology**35AMIT472****Nuclear Medicine Technology Directed Practice II**

This is the second in a sequence of four classes that will stress practical laboratory experience, seminars, and case studies in nuclear medicine technology. (The first class of four has already been approved for delivery during autumn quarter. Students are provided the specialized instruction and experience to accomplish procedures normally performed in nuclear medicine imaging facilities. Students are expected to demonstrate the skill, knowledge, and experience to proficiently perform routine nuclear medicine procedures. BoK: NS. Credit Level: U. Credit Hrs: 5.00

**35AMIT473****Nuclear Medicine Technology Directed Practice III**

This is the third in a sequence of four classes that will stress practical laboratory experience, seminars, and case studies in nuclear medicine technology. Students are provided the specialized instruction and experience to accomplish procedures normally performed in nuclear medicine imaging facilities. Students are expected to demonstrate the skill, knowledge, and experience to proficiently perform routine nuclear medicine procedures. Prereq: 35AMIT472. BoK: NS, SE. Credit Level: U. Credit Hrs: 6.00

**35AMIT474****Technical Evaluation of Nuclear Medicine Procedures**

This course stresses practical laboratory experience and case study presentation in nuclear medicine technology. Students are provided the specialized instruction and experience to accomplish procedures normally performed in nuclear medicine imaging facilities. Students are expected to demonstrate the skill, knowledge, and experience to proficiently perform routine nuclear medicine procedures and to present the results of their performance to supervising technologists, residents, and staff physicians. Prereq: 35NMT471, 35NMT472, 35NMT473. BoK: NS, SE. Credit Level: U. Credit Hrs: 6.00

**35AMIT481****Nuclear Medicine Physics & Instrumentation**

This course will cover the fundamental principles of physics, mathematics, and instrumentation as applied to nuclear medicine. Topics include principles of radiation detection, radiation measuring instruments, atomic and nuclear structure, radioactive decay, interaction of radiation with matter, and the detection and registering of radiation events. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT482****Nuclear Medicine Physics & Instrumentation II**

This course will cover the fundamental principles of physics, mathematics, and instrumentation as applied to nuclear medicine. Topics include principles of radiation detection, radiation measuring instruments, atomic and nuclear structure, radioactive decay, interaction of radiation with matter, and the detection and registering of radiation events. Prereq: 35AMIT481. BoK: NS, QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT483****Nuclear Medicine Physics and Instrumentation**

This course will cover the fundamental principles of physics, mathematics, and instrumentation as applied to nuclear medicine. Topics include principles of radiation detection, radiation measuring instruments, atomic and nuclear structure, radioactive decay, interaction of radiation with matter, and the detection and registering of radiation events. Prereq: 35NMT482. BoK: NS, QR. Credit Level: U. Credit Hrs: 3.00

**35AMIT490****Sonography Technical Assessment and Review**

Students will demonstrate technical proficiency in performing abdomen, small parts, obstetrical, and gynecological procedures. Students will complete and pass comprehensive examinations in these areas as well as in Sonographic physics and instrumentation. Strategies for passing nationally administered board examinations will be discussed. BoK: NA. Credit Level: U. Credit Hrs: 5.00

Advanced Medical Imaging Technology**35AMIT491****Basic Elements of Nuclear Medicine Technology**

An introductory course that presents basic concepts of the health care system and an introduction to radiopharmacy, applied radiation safety, physiology, nuclear medicine imaging systems, and nuclear medicine procedures. Course involves didactic and laboratory experiences. BoK: NS., QR. Credit Level: U. Credit Hrs: 6.00

**35AMIT492****Nuclear Medicine Anatomy, Physiology & Pathology**

Didactic and laboratory instruction on the structure, function, and pathologies of the human body as they apply to the field of nuclear medicine. Ethics, patient care and management, response to emergency procedures, and imaging principles and procedures are included. BoK: NS., SE. Credit Level: U. Credit Hrs: 3.00

**35AMIT493****Nuclear Medicine Anatomy, Physiology, & Pathology**

Didactic instruction on the structure, function, and pathologies of the human body as they apply to the field of nuclear medicine. Patient care and management with respect to nuclear medicine procedures, response to emergency procedures, and imaging principles and procedures are included. BoK: NS., SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT494****Nuclear Medicine Anatomy, Physiology & Pathology III**

Didactic instruction on the structure, function, and pathologies of the human body as they apply to the field of nuclear medicine. Patient care and management with respect to nuclear medicine procedures, response to emergency procedures, and imaging principles and procedures are included. BoK: NS., SE. Credit Level: U. Credit Hrs: 4.00

**35AMIT495****Medical Imaging Research Methodologies I**

Introduction to research methodologies, specifically qualitative, in the field of medical imaging. BoK: QR., SE. Credit Level: U. Credit Hrs: 3.00

**35AMIT496****Quantitative Analysis in Medical Imaging**

This course provides students with the basic competencies in the understanding, design, analysis, interpretation, and evaluation of quantitative research used in the medical imaging sciences. BoK: QR., SE. Credit Level: U. Credit Hrs: 3.00

**35AMIT497****Medical Imaging Capstone**

A course in which students interact as both participants and presenters in a series of seminars in state-of-the-art medical imaging, radiation biology and radiation safety and health care ethics. Students also engage in a brief research assignment. Prereq: 35AMIT495, 35AMIT496. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35AMIT498****Advanced Medical Imaging Technology Review**

This course provides students with a comprehensive review of the basic competencies in advanced medical imaging modalities. It is the intent of this course to prepare students for national certification in multiple medical imaging modalities. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35AMIT499****Radiopharmacy & Radiochemistry Laboratory**

Through direct, hands-on experience supervised by faculty, the student will perform quality control of radioactive materials and radiation measuring and monitoring devices, prepare, transport, administer and control the disposition of radioactive materials used in nuclear medicine practice, correctly document procedures for state and radiation. BoK: NS., QR. Credit Level: U. Credit Hrs: 4.00

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Advanced Medical Imaging Technology**35AMIT501****Advanced Medical Imaging Practicum**

This course is designed to incorporate service learning with the required AMIT curriculum. In this course, students will travel to a poverty ridden area and perform studies for patients who otherwise have no access to health care. BoK: NS., DC. Credit Level: U. Credit Hrs: 2.00

**35AMIT588****Radiobiology and Radiation Protection**

Safe handling of radioactive materials, units of radiation, exposure and dose, dose calculations, radiation protection guides, radiation protection instrumentation BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

Blood Transfusion Medicine**35BTM801****Foundations for Blood Transfusion Medicine I**

Instruction on pretransfusion testing, serological methods, immunohematology, cellular therapies, transplantation immunology, blood groups, donor selection, infectious disease testing, blood component blood administration, apheresis, hazards of transfusion, clinical indications for blood trans. Credit Level: G. Credit Hrs: 3.00

**35BTM802****Foundations for Blood Transfusion Medicine II**

Instruction on pretransfusion testing, serological methods, immunohematology, cellular therapies, transplantations immunology, blood groups, blood collection, infectious disease testing, blood component manufacturing and storage, blood administrations apheresis, hazards and clinical indications of transfusion. Credit Level: G. Credit Hrs: 3.00

**35BTM803****Foundations for Blood Transfusion Medicine III**

Instruction on pretransfusion testing, serological methods, immunohematology, cellular therapies, transplantations immunology, blood groups, donor selection, infectious disease testing, blood component storage, administrations, apheresis, hazards of transfusions, clinical indications for blood trans. Credit Level: G. Credit Hrs: 3.00

**35BTM804****Transfusion Medicine Seminar I**

Literature review, written paper and oral presentation of blood transfusion medicine topic. Credit Level: G. Credit Hrs: 2.00

**35BTM805****Transfusion Medicine Seminar II**

literature review, written paper and oral presentation of blood transfusion medicine topic. Credit Level: G. Credit Hrs: 2.00

**35BTM806****Transfusion Medicine Seminar III**

Literature review, written paper and oral presentation of blood transfusion medicine topic. Credit Level: G. Credit Hrs: 2.00

**35BTM811****Laboratory/Clinical Practicum I**

Practical training in the laboratories, donor collection services, blood manufacturing, product management, supervision, administration, education and quality assurance. Credit Level: G. Credit Hrs: 4.00

**35BTM812****Laboratory/Clinical Practicum II**

Practical training in the laboratories, donor collection services, blood manufacturing, product management, supervision, administration, education and quality assurance. Credit Level: G. Credit Hrs: 4.00

**35BTM813****Laboratory/Clinical Practicum III**

Practical training in the laboratories, donor collection services, blood manufacturing, product management, supervision, administration, education and quality assurance. Credit Level: G. Credit Hrs: 4.00

Blood Transfusion Medicine**35BTM814****Laboratory/Clinical Practicum IV**

Practical training in the laboratories, donor collection services, blood manufacturing, product management, supervision, administration, education and quality assurance. Credit Level: G. Credit Hrs: 4.00

**35BTM821****Masters Thesis Research I**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Investigative research in laboratory or clinical setting. Credit Level: G. Credit Hrs: 6.00-12.00

**35BTM822****Masters Thesis Research II**

Investigative research in a laboratory or clinical setting. Credit Level: G. Credit Hrs: 6.00-12.00

**35BTM823****Masters Thesis Research III**

Investigative research in a laboratory or clinical setting. Preparation of written thesis. Perm of Instructor. Credit Level: G. Credit Hrs: 6.00-12.00

**35BTM831****Research Project**

Introduction to research to include literature review, research plan, laboratory investigation data collection and statistical analysis. Credit Level: G. Credit Hrs: 3.00

**35BTM841****Teaching Practicum in Transfusion Medicine**

Curriculum development, preparation of laboratory specimens, preparation and presentation of didactic lectures, and test construction. Perm of Instructor. Credit Level: G. Credit Hrs: 3.00

**35BTM851****Scientific Writing and Presentation**

Research findings summarized and submitted for regional or national presentation. Submission of research findings to peer review journal. Perm of Instructor. Credit Level: G. Credit Hrs: 3.00

**35BTM901****Human Blood Groups**

Introduction to donor selection and blood collection; blood component manufacturing and storage; pretransfusion testing and blood administration; apheresis and transplantation; hazards of blood transfusion and disease transmission. Problem cases and research. Credit Level: G. Credit Hrs: 6.00

**35BTM902****Human Blood Groups**

See 35BTM901. Credit Level: G. Credit Hrs: 6.00

**35BTM903****Human Blood Groups**

See 35BTM901. Credit Level: G. Credit Hrs: 6.00

**35BTM904****Immunohematology**

Biochemistry, genetics, immunology and serology of blood group antigens and antibodies. Literature review, written paper, oral presentation. Credit Level: G. Credit Hrs: 6.00

**35BTM905****Immunohematology**

See 35BTM904. Credit Level: G. Credit Hrs: 6.00

**35BTM906****Immunohematology**

See 35BTM904. Credit Level: G. Credit Hrs: 6.00

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Blood Transfusion Medicine**35BTM907****Seminar -- Blood Group Serology**

Introduction to research to include literature review, research plan, data collection techniques, and statistical analysis. Credit Level: G. Credit Hrs: 2.00

**35BTM908****Seminar -- Blood Group Serology**

See 35BTM907. Credit Level: G. Credit Hrs: 2.00

**35BTM909****Seminar -- Blood Group Serology**

See 35BTM907. Credit Level: G. Credit Hrs: 2.00

**35BTM911****Laboratory I**

Practical training relating to courses 901,2,3 and 904,5,6. Credit Level: G. Credit Hrs: 3.00

**35BTM912****Laboratory II**

See 35BTM911. Credit Level: G. Credit Hrs: 3.00

**35BTM913****Laboratory III**

See 35BTM911. Credit Level: G. Credit Hrs: 3.00

**35BTM921****Thesis Laboratory I**

Investigative research in partial fulfillment of requirements for the Master of Science degree. Credit Level: G. Credit Hrs: 6.00

**35BTM922****Thesis Laboratory II**

See 35BTM921. Credit Level: G. Credit Hrs: 6.00

**35BTM923****Thesis Laboratory III**

See 35BTM921. Credit Level: G. Credit Hrs: 6.00

**35BTM961****Research I**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Credit Level: G. Credit Hrs: 3.00

**35BTM962****Research II**

Preliminary presentation of investigative research findings. Credit Level: G. Credit Hrs: 3.00

**35BTM963****Research III**

See 35BTM962. Credit Level: G. Credit Hrs: 3.00

**35BTM972****Advances in Immunohematology**

Introduction to research to include literature review, research plan, data collection techniques, and statistical analysis. Credit Level: G. Credit Hrs: 2.00

**35BTM973****Advances in Immunohematology**

Research findings summarized and submitted for regional or national presentation. Submission of research findings to peer review journal. Credit Level: G. Credit Hrs: 2.00

**35BTM974****Advances in Immunohematology**

See 35BTM973. Credit Level: G. Credit Hrs: 2.00

Blood Transfusion Medicine**35BTM975****Advanced Techniques in Immunohematology**

Advanced laboratory and didactic instruction in serological methods and pretransfusion testing. Case studies. Credit Level: G. Credit Hrs: 2.00

**35BTM976****Advanced Techniques in Immunohematology**

See 35BTM975. Credit Level: G. Credit Hrs: 2.00

**35BTM981****Thesis Dissertation Research**

Final presentation and defense of thesis research. Credit Level: G. Credit Hrs: 3.00

Clinical Laboratory Science**35CLSC201****Survey of Clinical Lab**

An overview of routine clinical laboratory tests as they relate to human health and disease. Included are discussions describing the major areas of the laboratory, followed by demonstrations and hands-on experience in the student laboratory. Open to non-Medical Technology majors. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35CLSC301****Introduction To Forensic Science**

This course is a survey in the medical laboratory aspects of forensic science. Each week a different discipline will be presented, with the focus on scientific techniques which constitute a crime solving tool. Experts will be used to impart understanding of the wide scope of Forensic Science. BoK: NS. Credit Level: U. Credit Hrs: 2.00

**35CLSC305****Introduction to Biomedical Laboratory Science**

Introductory course in Biomedical Laboratory Science covering general topics related to the biomedical research laboratory. Emphasis will be placed upon the role of a research laboratory associate in a research setting. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC310****Clinical Immunology I**

The study of fundamental concepts in clinical immunology as pertinent to the clinical laboratory. Discussions include the structure and function of the immune system in health and disease and the clinical approaches to immunological testing. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC340****Principles of Clinical Laboratory Practice**

This course will provide the students with an introduction to the practice of clinical laboratory science. Topics include professionalism, professional ethics, laboratory organization and safety. Students will learn and perform fundamental laboratory techniques. Students will be introduced to the various departments of the clinical laboratory and will learn the use of basic laboratory equipment. BoK: NA. Credit Level: U. Credit Hrs: 10.00

**35CLSC350****Special Topics in CLS**

An objective look at the field of Clinical Laboratory Medicine from its inception, and leading up to current and future technologies with an emphasis on specialized and advanced technologies and the issues surrounding those. Topics will include microscopy, staining technologies, forensic medicine, gene therapy, and cytogenetics. BoK: HP., NS. Credit Level: U. Credit Hrs: 3.00

**35CLSC351****Laboratory Operations: Management, QA/QC, and Continuing Education**

A study of the basic principles of clinical laboratory management, including theory and practice. Topics will include personnel and financial management, regulation and accreditation, information management, quality assurance and quality control, and continuing education. BoK: QR., DC. Credit Level: U. Credit Hrs: 4.00

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Clinical Laboratory Science**35CLSC351****Laboratory Operations: Management, QA/QC, and Continuing Education**

A study of the basic principles of clinical laboratory management, including theory and practice. Topics will include personnel and financial management, regulation and accreditation, information management, quality assurance and quality control, and continuing education. BoK: QR., DC. Credit Level: U. Credit Hrs: 4.00

**35CLSC352****Introductory Medical Biochemistry**

The basic principles of the structure and function of organic compounds in the human system including amino acids, enzymes, lipids, carbohydrates, and nucleic acids. BoK: NS., QR. Credit Level: U. Credit Hrs: 4.00

**35CLSC353****Clinical Chemistry and Body Fluids**

A study of serum and fluid chemistry in normal and pathological states. Topics will include the basic principles of the structure and function of organic compounds in the human system. Discussions emphasize the relationship between normal and abnormal laboratory results and organ system function. The study of body fluids is included, as well as a review of urinalysis and renal function. BoK: NS., QR. Credit Level: U. Credit Hrs: 10.00

**35CLSC354****Statistics and Research in Clinical Laboratory Science**

The statistics units will focus on the statistical principles that are pertinent to health care, and to the clinical laboratory. The research and methods units will focus on current research topics in laboratory medicine, and the development and verification of laboratory protocols. BoK: NA. Credit Level: U. Credit Hrs: 4.00

**35CLSC355****Ecology and Environmental Toxicology**

The basic principles of ecology including ecosystem structure and function, and conservation biology. The environmental toxicology units will focus on the nature and the detection of toxic substances in the environment and their effects on humans. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC356****Clinical Hematology and Hemostasis**

An advanced study of blood and blood cells in normal and pathological states. Discussions on normal and abnormal hematopoiesis are included. The hemostasis unit is a comprehensive study of the blood clotting system in normal and pathological states. Included are discussions regarding the correlation of the test results with disease states and therapies. BoK: NS., QR. Credit Level: U. Credit Hrs: 10.00

**35CLSC357****Clinical Microbiology**

Advanced study of microorganisms associated with human infectious processes. Discussions include the characteristics, isolation, identification, antimicrobial techniques, and clinical infections associated with pathogenic bacteria. BoK: NS. Credit Level: U. Credit Hrs: 10.00

**35CLSC358****Clinical Immunohematology**

A study of the theory, principles and procedures associated with transfusion medicine. Discussions cover routine and specialized procedures, blood donors, components, regulations, and quality assurance. BoK: NA. Credit Level: U. Credit Hrs: 10.00

**35CLSC359****Human Genetics and Molecular Diagnostic Techniques**

Overview of nucleic acid structure, gene expression and genetic disease. Principle of DNA and RNA isolation, cloning, amplification, hybridization, sequencing and analysis. Applications in microbiology, hematology and oncology, thrombosis risk testing, genetics disease, anthropology and forensic medicine. BoK: NA. Credit Level: U. Credit

Clinical Laboratory Science**35CLSC359****Human Genetics and Molecular Diagnostic Techniques**

Hrs: 5.00

**35CLSC360****Clinical Mycology and Virology**

The study of clinically relevant fungi and viruses and the laboratory diagnosis of the organisms involved. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35CLSC361****Advanced Clinical Practice I**

A clinical practicum experience that will focus on advanced, applied clinical laboratory techniques and concepts. The practicum experience will be individually designed for each student. The student will participate in choosing the the practicum site. BoK: NS., QR. Credit Level: U. Credit Hrs: 1.00-10.00

**35CLSC362****Clinical Parasitology**

The study of clinically relevant parasites and the laboratory diagnosis of the organisms involved. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35CLSC363****Advanced Clinical Applications**

The second of two clinical practicum courses. This course will focus on the project based study of advanced, applied clinical laboratory techniques and concepts BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC364****Clinical Laboratory Science Distance Learning Seminar**

This seminar course will focus on building critical thinking and problem solving skills during clinical case study discussions. The course will include a comprehensive review of the major clinical laboratory science disciplines. Students will take a comprehensive examination at the end of the course. BoK: NS., QR. Credit Level: U. Credit Hrs: 4.00

**35CLSC365****Clinical Laboratory Science Distance Learning Capstone**

A course in which students participate in a series of seminars culminating in the development and presentation of a fundamental research project involving an aspect of state-of-the-art clinical laboratory science practice. Under the direction of faculty, students prepare a written report and publicly present their findings. BoK: QR., SE. Credit Level: U. Credit Hrs: 3.00

**35CLSC366****Immunology**

This course is a focused study of clinical immunology concentrating on immune system functions, the response of the immune system to infection and disease, and current diagnostic methodologies and molecular applications. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC400****Introduction to Clinical Laboratory Science**

Introduction and orientation to the field of Clinical Laboratory Science. Includes discussions on professionalism, basic laboratory concepts and techniques, and phlebotomy. Microscopy and phlebotomy techniques are practiced in the student laboratory. BoK: NS., HP. Credit Level: U. Credit Hrs: 3.00

**35CLSC401****Basic Lab Skills**

Introduction and orientation to the field of Medical Technology. Includes discussions on professionalism, basic laboratory concepts and techniques, and phlebotomy. Microscopy and phlebotomy techniques are practiced in the student laboratory. BoK: NS., SS. Credit Level: U. Credit Hrs: 4.00

**35CLSC402****Clinical Hematology I**

The study of blood and blood cells in a normal state. Discussions on normal and abnormal hematopoiesis are included. Routine hematology procedures are performed in the student laboratory, with an emphasis

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Clinical Laboratory Science**35CLSC402****Clinical Hematology I**

on the microscopic evaluation of normal blood cell morphology and evaluation of complete blood count data. BoK: NA. Credit Level: U. Credit Hrs: 4.00

**35CLSC403****Coagulation**

A comprehensive study of the blood clotting system in normal and pathological states. Included are discussions regarding the correlation of test results with disease states and therapies. Semi-automated and manual techniques are performed in student laboratory exercises. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC404****Clinical Immunology II**

The study of advanced topics in clinical immunology including the discussion of autoimmune diseases, immunodeficiencies, histocompatibility, and advanced immunodiagnostic techniques. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC405****Immunoematology**

A study of the theory, principles, and procedures associated with transfusion medicine. Discussions and laboratory exercises cover routine and specialized procedures, blood donors, components, regulations, and quality assurance. BoK: NS., QR. Credit Level: U. Credit Hrs: 6.00

**35CLSC406****Urinalysis and Body Fluids**

A study of urinalysis procedures, renal function, and body fluid examination. Manual and semi-automated laboratory procedures are performed in the student laboratory. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35CLSC407****Computer Applications**

Overview of computer applications relevant to laboratory work. Discussions of Laboratory Information Systems are included. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35CLSC408****Issues in Medical Technology**

Discussions of current and timely issues affecting the Medical Technology professional. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC409****Clinical Virology**

Introduction to the study of clinical virology. Laboratory exercises and demonstrations illustrate culture and serologic techniques. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC410****Clinical Chemistry**

A study of serum and fluid chemistry in the normal and pathological states. Discussions emphasize the relationship between normal and abnormal laboratory results and organ system function. Manual and automated procedures are performed in the student laboratory. BoK: NS., QR. Credit Level: U. Credit Hrs: 7.00

**35CLSC411****Clinical Parasitology**

The study of human parasitic diseases and the organisms involved. Lectures and laboratory exercises emphasize the detection and identification of diagnostic forms. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC412****Clinical Mycology**

The study of clinically relevant fungi, with emphasis on diagnostic forms. Isolation and culture techniques are practiced in the laboratory. BoK: NA. Credit Level: U. Credit Hrs: 2.00

Clinical Laboratory Science**35CLSC413****Survey of Management**

A study of the basic principles of management theory and practice. Current clinical issues including daily operation, regulations, and accreditation are discussed. Basic educational theory and concepts are discussed in the education component. BoK: QR. Credit Level: U. Credit Hrs: 3.00

**35CLSC414****Clinical Microbiology**

A study of the microorganisms associated with human infectious processes. Discussion include the characteristics, isolation, identification, and antimicrobial techniques associated with pathogenic bacteria. Manual techniques used in diagnostic microbiology are practiced in the student laboratory. BoK: NS., QR. Credit Level: U. Credit Hrs: 8.00

**35CLSC416****Clinical Toxicology**

A study of the principles and techniques of toxicology relating to therapeutic drug monitoring, overdose, poisoning, and unknown substance analysis. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35CLSC417****Senior Seminar**

A capstone experience including assessment of laboratory knowledge through guided & independent review and other activities related to certification. Additional research experience is provided through senior research projects that lead to poster presentations in the college PRaise Conference. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35CLSC418****Clinical Laboratory Science Elective**

Opportunity for students to gain practical experience in a specialized clinical or research laboratory. Students participate in site selection for this experience. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35CLSC422****Clinical Experience III**

Supervised clinical hospital laboratory experience in Chemistry, Urinalysis and Body Fluids. BoK: NS., QR. Credit Level: U. Credit Hrs: 4.00

**35CLSC423****Clinical Experience IV**

Supervised clinical hospital laboratory experience in Immunoematology. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35CLSC424****Diagnostic Molecular Techniques**

Introduction to molecular biology techniques and their application to laboratory diagnosis of disease. BoK: NS., QR. Credit Level: U. Credit Hrs: 3.00

**35CLSC425****Independent Study in Medical Technology**

A course designed to allow students to pursue an individualized learning project with approval of an advisor under the supervision of a faculty member. BoK: NS., QR. Credit Level: U. Credit Hrs: 1.00-8.00

**35CLSC430****Clinical Practicum I**

This is the first of two courses that will stress practical laboratory experience, professional and performance and mastery of skills in Clinical Laboratory Sciences. Students are provided the specialized instruction and experience needed to accomplish procedures normally performed in a hospital laboratory. BoK: DC., SE. Credit Level: U. Credit Hrs: 6.00

**35CLSC431****Clinical Practicum II**

This is the second in a series of two courses that will stress practical laboratory experience, professional performance and case studies in Clinical Laboratory Sciences. Students are provided specialized

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Clinical Laboratory Science**35CLSC431****Clinical Practicum II**

instruction and experience to accomplish procedures normally performed in a Hosp/Diag. Lab. BoK: NA. Credit Level: U. Credit Hrs: 8.00

**35CLSC432****Clinical Hematology II**

The study of the blood and blood cells in an abnormal or malignant state. Discussions on Red Blood Cells and White Blood Cell Disorders are included. Specialized hematology procedures are performed in the student laboratory, with an emphasis on the microscopic evaluation of abnormal blood cell morphology, evaluation of complete blood count data along with cytochemical and molecular testing. BoK: NA. Credit Level: U. Credit Hrs: 4.00

**35CLSC433****Senior Seminar**

This course is designed to give senior students an introduction to scientific research. The purpose of this course is to provide students time to conduct research projects and present them at the PRAISE conference. Perm of Instructor. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC434****Senior Seminar II**

The course will serve to bring together all concepts covered throughout the clinical year via case studies and structured review. Its purpose is to prepare graduating CLS students for the final comprehensive exam and the national certifying exam. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CLSC435****Clinical Microbiology I**

The study of microorganisms associated with human infections process. Discussions include the characteristics, isolation, identification and antimicrobials associated with pathogenic organisms. Techniques are practiced in the teaching laboratory BoK: NS., QR. Credit Level: U. Credit Hrs: 5.00

**35CLSC436****Clinical Microbiology II**

This course covers advanced topics in microbiology including antibiotics and antimicrobial susceptibility testing, mycobacteriology, anaerobic bacteriology, virology, and clinical aspects of microbiology. The lecture and laboratory portions of the course train students to be well-prepared BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CLSC440****Clinical Laboratory Science Capstone**

A course in which students participate in a series of seminars culminating in the development and presentation of a fundamental research project involving an aspect of state of the art clinical laboratory science practice. Under direction of faculty, students prepare a written report and publically present their findings. BoK: QR., SE. Credit Level: U. Credit Hrs: 3.00

**35CLSC500****Independent Studies in Clinical Laboratory Sciences**

Independent study in area if focus based upon the student's interest or need. BoK: NA. Credit Level: U. Credit Hrs: 1.00-10.00

**35CLSC501****Independent Studies in Clinical Laboratory Sciences**

Independent study in area if focus based upon the student's interest or need. BoK: NA. Credit Level: U. Credit Hrs: 1.00-10.00

**35CLSC502****Independent Studies in Clinical Laboratory Sciences**

Independent study in area if focus based upon the student's interest or need. BoK: NA. Credit Level: U. Credit Hrs: 1.00-10.00

Communication Sciences and Disorders**35CSD171****Communication Disorders in the Media and Lit**

An exploration of various communication disorders and how they are portrayed by the media and in literature. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35CSD212****Survey of Communication Disorders**

A survey of the field of communication disorders: descriptions of speech, language and voice disorders. Prereq: 35CSD171 Prereq: 35CSD171. BoK: SE, DC. Credit Level: U. Credit Hrs: 3.00

**35CSD309****Anatomy and Physiology of Speech and Vocal Mechanisms for Speech-Language Pathology**

This course is an introduction to the anatomy and physiology of the speech/voice/language mechanisms. The course will include learning unit on the anatomical systems of respiration, phonation, articulation and swallowing. We will also include an introduction to brain anatomy as it pertains to systems of speech, language and swallowing mechanisms. None of these human systems exist in isolation. We will learn how the systems interact to produce speech and language. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35CSD310****Anatomy & Physiology of Voice and Speech Production**

Anatomy and physiology of the systems of respiration, phonation, articulation, and neurology for voice, speech and swallowing. Prereq: 35CSD171, 35CSD212. Prereq: 35CSD171, 35CSD212. BoK: NS. Credit Level: U. Credit Hrs: 4.00

**35CSD311****SPEECH AND LANGUAGE DEVELOPMENT**

Principles of normal speech and language development in children. Prereqs. 35CSD212, 35CSD371, 35CSD372 Prereq: 35CSD212, 35CSD371, 35CSD372. BoK: SS. Credit Level: U. Credit Hrs: 4.00

**35CSD371****Phonetics**

Introduction to general phonetics. Analysis of speech patterns. Mastering of International Phonetic Alphabet. Relationship between sound feature patterns of English and linguistic rules of English. 1 hr. lab/wk. to be arranged. Prereq: 35CSD171, 35CSD212. Prereq: 35CSD171, 35CSD212. BoK: HU. Credit Level: U. Credit Hrs: 3.00

**35CSD372****Syntax for Language Assessment**

This course provides prospective SLP students with the basics of syntax that they can apply to language samples analysis and intervention. Prereq. 35CSD171, 35CSD212. Prereq: 35CSD171, 35CSD212. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35CSD512****Neurological Foundations of Communication**

Basic neuroanatomy and physiology of human communication and swallowing. Prereqs: 310, 521. Prereq: 35CSD310, 35CSD521. BoK: NA. Credit Level: U, G. Credit Hrs: 4.00

**35CSD520****Speech Science**

Critical analysis of speech acoustics and the intersection of speech perception and production. Prereq: 35CSD310, 35CSD371. Prereq: 35CSD310, 35CSD371. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35CSD521****Clinical Process I: Professional Issues**

Professional issues in speech-language pathology and audiology including observation of children and adults with communication disorders. Prereqs. 35CSD171, 35CSD212, 35CSD310, 35CSD311, 35CSD371 or permission of instructor. Prereq: 35CSD212, 35CSD311, 35CSD371, 35CSD310, 35CSD171. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-3.00

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Communication Sciences and Disorders**35CSD522****Clinical Process II: Assessment**

Methods for assessment and evaluation of communication disorders in children and adults. Prereq: 35CSD212, 35CSD311, 35CSD371, 35CSD520, 35CSD521. Prereq: 35CSD212, 35CSD311, 35CSD371, 35CSD520, 35CSD521. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD523****Clinical Process III: Intervention**

Methods for management of communication disorders in children and adults. Prereqs: 35CSD212, 35CSD311, 35CSD371, 35CSD520, 35CSD521, 35CSD522 Prereq: 35CSD311, 35CSD371, 35CSD520, 35CSD521, 35CSD522. Coreq.: BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD524****Clinical Processes in CSD**

Overview of professional issues and clinical processes used in assessment and intervention for speech-language disorders. Prereqs: 35CSD309, 35CSD371. Prereq: 35CSD309, 35CSD371. BoK: NA. Credit Level: U, G. Credit Hrs: 5.00

**35CSD559****Anatomy of the Auditory and Vestibular Systems**

Brief review of techniques for describing sound; study of the anatomy and physiology of the peripheral auditory and vestibular system; brief reference to central auditory nervous system; study of common diseases or pathologies of the auditory and vestibular system that effect children and adults. BoK: NS. Credit Level: U, G. Credit Hrs: 5.00

**35CSD560****Basic Audiological Assessment**

In depth introduction to basic audiological assessment techniques for both pediatric and adult populations. Specific emphasis on skills necessary to complete basic pure tone testing; interpretation of basic pure tone, speech, and immitance tests; and development of hearing screening program. Overview of more advanced audiological test procedures. Prereq: 35CSD559 Prereq: 35CSD559. BoK: NA. Credit Level: U, G. Credit Hrs: 5.00

**35CSD561****Audiology I**

Anatomy, physiology, and pathology of the auditory systems; psychophysical procedures. Prereqs: 15MATH174, 35CSD310, 35CSD371. Prereq: 35CSD310, 35CSD371, 15MATH174. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35CSD562****Audiology II**

Hearing tests and testing instruments, case finding and referral, interpretation of hearing test results, organization of hearing conservation programs. Prereqs: 35CSD212, 35CSD310, 35CSD371, 35CSD561. Prereq: 35CSD212, 35CSD310, 35CSD371, 35CSD561. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD563****Audiology III**

Introduction to rehabilitation of children and adults with hearing loss. Prereqs: 35CSD212, 35CSD310, 35CSD371, 35CSD561, 35CSD562. Prereq: 35CSD212, 35CSD310, 35CSD371, 35CSD561, 35CSD562. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD568H****Hearing and Sound Production Through the Ages: Jurassic Acoustics**

This course is designed to familiarize students with the bioacoustics of human and animal communication and hearing including comparative terrestrial/marine mammal vocal anatomy, physiology and neuroanatomy, sound production mechanisms and acoustic behavior. The course documents the evolution of the hearing and vocal systems of humans and their relationship to animals. Prereq: Honor students only. BoK: HP., NS. Credit Level: U, G. Credit Hrs: 3.00

Communication Sciences and Disorders**35CSD593****Individual Work in Speech Language & Hearing**

Guided study in communication sciences and disorders. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-9.00

**35CSD594****Honors Work in Speech Language & Hearing**

Honor's projects in Communication Sciences & Disorders. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-9.00

**35CSD595****Capstone Experience**

The Capstone Experience will allow the students to demonstrate proficiency in the four Baccalaureate Competencies of the General Education Program as well as in the content of the B.S. Degree in CSD. BoK: NA. Credit Level: U. Credit Hrs: 1.00-3.00

**35CSD619****Physical Bases of Audiology**

Basic concepts in acoustics, electricity and electronics necessary for audiology. BoK: NA. Credit Level: G, U. Credit Hrs: 4.00

**35CSD620****Biological Bases of Audiology**

Biological foundation for future courses in auditory neurosciences, development, pathophysiology and clinical assessment of sensory systems. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD622****Biology of the Cochlea**

Structure and function of the peripheral auditory system. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35CSD623****Introductory Audiology Practicum I**

First year clinical hands-on experience performing basic diagnostic testing and habilitative intervention in the on-campus clinic or at an off-campus site. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-3.00

**35CSD624****Introductory Audiology Practicum II**

First year clinical hands on experience performing basic diagnostic testing and habilitative intervention in the on-campus clinic or at an off-campus site. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-3.00

**35CSD625****Introductory Audiology Practicum III**

First year clinical hands-on experience performing basic diagnostic testing and habilitative intervention in the on-campus clinic or at an off-campus site. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-3.00

**35CSD626****Audiology Clerkship I**

Practicum following the first academic year with placement in the on-campus clinic or an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD650****Autism Spectrum Disorders: Assessment & Intervention**

This course will provide information for assessment and development of communication intervention for individuals with Autism Spectrum Disorders. BoK: NA. Credit Level: G, U. Credit Hrs: 3.00

**35CSD700****Counseling in Communication Disorders**

Overview of the personal and family emotional toll and life impact of communication disorders. Examination and role playing will center on building healthy patient/professional dynamics to facilitate rehabilitation. Credit Level: G. Credit Hrs: 3.00

**35CSD702****Special Topics in Communication Disorders**

Specialized information about current issues and techniques. Perm of Instructor. Credit Level: G. Credit Hrs: 1.00-6.00

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Communication Sciences and Disorders**35CSD706****Diagnostic Audiology I**

Assessment of auditory function, emphasis on pure tone, speech and immittance measurements, interpretation of test results. Prereq: 35CSD562. Credit Level: G. Credit Hrs: 4.00

**35CSD708****Management of the Hard of Hearing Child**

Assessment and management of children with hearing loss in educational settings. Prereq: 35CSD563. Credit Level: G. Credit Hrs: 3.00

**35CSD709****Cochlear Implantation: Theory and Practice**

Overview of Cochlear Implantation. Cochlear implant technology and function. Patient criteria and determination. Pre and post-implant counseling, testing and mapping/coding strategies. Medical and surgical perspectives in cochlear implantation. Aural habilitation for the CI user. Understanding other professional roles in the CI process. Credit Level: G. Credit Hrs: 3.00

**35CSD710****Speech Sound Disorders**

Assessment and intervention for speech sound disorders in children. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD711****Language Disorders in Early Childhood**

Contemporary strategies for assessment and intervention for preschool and early school age children with language disorders. Prereq: 35CSD710. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD712****Language Disorders in Later Childhood**

Contemporary strategies for assessment and intervention for school age children with language disorders. Prereq: 35CSD711. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD716****Pathophysiology of Audition**

Overview of the biological bases of auditory dysfunction; anatomical and physiological studies associated with different categories of cochlear insult (eg. ototoxicity, acoustic trauma, presbycusis) and central auditory nervous system (eg. auditory neuropathy). Credit Level: G. Credit Hrs: 3.00

**35CSD717****Diseases of the Ear**

Survey of pathologies, medical and surgical management of diseases of the auditory system. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD718****Pediatric Audiology:Assessment**

Identification and evaluation of infants and children with hearing loss. Credit Level: G. Credit Hrs: 4.00

**35CSD719****Amplification Systems I**

Introduction to amplification systems for the hearing impaired. Topics: types of aids and their components, electroacoustic characteristics of hearing aids, coupler measurements, output limitation and earmolds. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD720****Amplification Systems II**

Selection and fitting of amplification for the hearing impaired. Topics include: hearing aid evaluation, prescription of electroacoustic characteristics, fitting procedures, and post- fitting counseling. Credit Level: G. Credit Hrs: 5.00

**35CSD723****Graduate Audiologist I**

Second year, first clinical practicum placement in the on-campus clinic or an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-

Communication Sciences and Disorders**35CSD723****Graduate Audiologist I**

15.00

**35CSD724****Graduate Audiologist II**

Second year, second clinical practicum placement in the on-campus clinic or an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD725****Graduate Audiologist III**

Second year, third clinical practicum placement in the on-campus clinic or an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD726****Audiology Clerkship II**

Practicum following the second academic year with placement in and off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD727****Diagnostic Audiology II**

Description, definition, and basic instrumentation of otoacoustic emissions and ECoCh and ABR in the assessment of hearing-impaired people. Credit Level: G. Credit Hrs: 3.00

**35CSD728****Seminar in Auditory Processing Disorders**

Contemporary techniques used by audiologists for assessment management of central auditory processing disorders. Credit Level: G. Credit Hrs: 3.00

**35CSD731****Neuro Bases of CD**

Neurophysiology for evaluation and treatment of neurogenic speech and language disorders in children and adults. Prereq: 35CSD210 Prereq: 35CSD210. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD732****Neurogenic Language Disorders**

Evaluation and treatment of aphasia and the communication aspect of other language, cognitive and neurobehavioral disorders in children and adults. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD733****Neurogenic Cognitive Disorders**

Evaluation and treatment of the communicative aspects of cognitive and neurobehavioral disorders in children and adults. Credit Level: G. Credit Hrs: 3.00

**35CSD734****Neurogenic Speech Disorders**

Neurophysiology, evaluation, and treatment of neurogenic speech disorders in children and adults. Credit Level: G. Credit Hrs: 3.00

**35CSD743****Research Design in Communication**

Planning and analysis, application to individual research. Prereqs: MATH 146 or 147 or a stats course Prereq: 15MATH146. Credit Level: G. Credit Hrs: 3.00

**35CSD745****Psychoacoustics**

Thresholds, scaling of judgements, signal detection, lab demonstrations. Credit Level: G. Credit Hrs: 3.00

**35CSD748****Advanced Speech and Hearing Science**

Advanced understanding of normal and disordered speech production and perception. Credit Level: G. Credit Hrs: 3.00

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Communication Sciences and Disorders**35CSD761****Speech Communication for the Hearing Impaired**

Principles from speech and hearing science, normal development, phonetics as applied to development and/or modification of speech in deaf children and adults. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD762****Speech Communication for the Hearing Impaired**

Study of speech, voice and informal auditory evaluation procedures for students with impaired hearing. Case study development and reporting emphasized. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD763****Speech Communication for the Hearing Impaired**

Principles of assessment and modification of speech in deaf children and adolescents. Credit Level: G. Credit Hrs: 3.00

**35CSD773****Reading and Literacy for SLP's**

This course provides in depth information concerning evidence based practice in all aspects of reading and literacy as it pertains to the knowledge needed by SLP's to provide state of the art services to children. Credit Level: G. Credit Hrs: 3.00

**35CSD774****Emergent Literacy for Speech-Language Pathologists**

The course provides a connection between theory and practice in emergent literacy for speech- language. Credit Level: G. Credit Hrs: 3.00

**35CSD777****Seminar in School Issues**

Organization, management and administration of a school speech-language pathology and audiology program. Credit Level: G. Credit Hrs: 3.00

**35CSD783****Collaborative Literacy Seminar I : Language and Literacy**

Development of an understanding of issues related to language and literacy. Credit Level: G. Credit Hrs: 2.00

**35CSD784****Collaborative Literacy Seminar II: Collaboration**

A survey of the collaborative process in language and literacy intervention. Credit Level: G. Credit Hrs: 2.00

**35CSD785****Collaborative Literacy Seminar III: Curriculum**

The implementation of curriculum in language and literacy intervention. Credit Level: G. Credit Hrs: 2.00

**35CSD786****Collaborative Literacy Seminar IV: Capstone Project**

Synthesis and application of language and literacy modules to Providers, Activities, Contexts model. Credit Level: G. Credit Hrs: 2.00

**35CSD811****Voice Disorders**

Function and disorders of the larynx; evaluation and management. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD812****Craniofacial Anomalies**

Cleft palate and associated orofacial anomalies. Evaluation and management. Credit Level: G. Credit Hrs: 3.00

**35CSD813****Seminar in Stuttering**

Theories of stuttering; therapeutic approaches. Taught concurrently with intensive therapy program. Credit Level: G. Credit Hrs: 1.00-5.00

**35CSD816****Noise and Hearing**

Concepts in hearing risk, personnel protection, noise measurement. Credit Level: G. Credit Hrs: 2.00

Communication Sciences and Disorders**35CSD818****Audiologic Rehabilitation of the Adult**

Discussion and study of the principles and methods of aural rehabilitation of the adult. Credit Level: G. Credit Hrs: 3.00

**35CSD819****Pediatric Audiology: Intervention and Management**

Principles of hearing habilitation and hearing managements counseling for families and their young children with mild to profound hearing loss. Credit Level: G. Credit Hrs: 5.00

**35CSD822****Vestibular Assessment and Rehabilitation**

Theory and practice in electrophysiologic assessment of normal and disordered vestibular systems. Credit Level: G. Credit Hrs: 3.00

**35CSD823****Internship in Audiology I**

Third year, first clinical practicum placement in an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD824****INTERNSHIP IN AUDIOLOGY II**

Third year, second clinical practicum placement in an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD825****INTERNSHIP IN AUDIOLOGY III**

Third year, third clinical practicum placement in an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD826****Audiology Clerkship III**

Practicum following the third academic year with placement in an off-campus site such as a medical setting, school, private practice, or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD827****Vestibular Assessment and Rehabilitation II**

Pedagogy and practical training in the advanced assessment of vestibular disorders, including advanced diagnostic procedures that include rotary chair, sway platform posturography, vestibular evoked myogenic potentials, electrocochleography, canalith repositioning. Prereq: 35CSD822. Credit Level: G. Credit Hrs: 3.00

**35CSD830****Dysphagia**

In depth instruction regarding anatomy and physiology of normal and disordered swallowing, assessment, treatment and research. Perm of Instructor. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD831****Augmentative and Alternative Communication**

Selection of communication systems for non- speaking clients and strategies for assessment intervention using augmentative/alternative systems. Prereq.: 18SPED714 Prereq: 18SPED714. Credit Level: G. Credit Hrs: 3.00-5.00

**35CSD832****Early Intervention for Children with Communication Disorders**

The speech language pathologists role in providing transdisciplinary services to infants and toddlers. Credit Level: G. Credit Hrs: 3.00

**35CSD834****Advanced Dysphagia**

To provide students with an in-depth understanding of the assessment and treatment of abnormal swallowing in medically complex children and adults. Included will be a review of pathophysiology, etiological correlates, evaluation and management techniques, and current research on swallowing disorders involving complex pulmonary, airway, systemic, or neurogenic disorders. This course assumes a prior knowledge of basic head and neck anatomy, physiology,

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Communication Sciences and Disorders**35CSD834****Advanced Dysphagia**

neuroanatomy, normal and abnormal swallowing, clinical and instrumental assessment and basic treatment planning. Prereq: 35CSD830, 35CSD731, 35CSD310. Credit Level: G. Credit Hrs: 3.00

**35CSD835****Pediatric Dysphagia**

This course will provide students with knowledge and resources necessary to effectively evaluate and treat feeding and swallowing disorders in medically complex infants and children in medical, school, and home settings. Normal and abnormal anatomy, changes in swallowing physiology from infancy to childhood, evaluation and management techniques, and pertinent research will be covered in the course. Knowledge of head and neck anatomy and physiology as well as basic neuroanatomy is assumed. This course is available to graduate students, doctoral students, and community speech language pathologists. Prereq: 35CSD830 Prereq: 35CSD830. Credit Level: G. Credit Hrs: 2.00

**35CSD840****Seminar in Auditory Evoked Potentials (AEP)**

Basic outcomes and effects of communication disorders on the late auditory evoked potentials and discussion, description of the use of AEP's for both research and applied purposes. Credit Level: G. Credit Hrs: 3.00

**35CSD841****Practice Management in Communication Disorders**

Overview of business principles including planning, financing, operations and marketing. Credit Level: G. Credit Hrs: 3.00

**35CSD842****Seminar in AEP II**

This course covers the latest information on electrophysiology of the auditory system and the clinical application of auditory evoked potentials. Prereq: 35CSD840. Credit Level: G. Credit Hrs: 3.00

**35CSD863****Directed Problems in Speech/Language Pathology**

Projects are designed and supervised by the faculty. Offered ea. qtr. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD864****Directed Problems in Audiology**

Projects are designed and supervised by the faculty. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD865****Directed Problems in Speech and Hearing Science**

Projects are designed and supervised by the faculty. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD908****Special Topics in Clinical Practice in Audiology**

Interactive clinical seminar designed to cover applications of specific theoretical audiological information to everyday clinical practice Credit Level: G. Credit Hrs: 2.00

**35CSD911****Clinical Practicum in Speech/Language Pathology**

Diagnostic, therapeutic participation in speech/language pathology. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD913****Internship in Speech/Language Pathology**

Off-campus experience in speech/language pathology. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD914****School Practicum in Audiology**

Supervised experience in educational audiology in a school setting. Credit Level: G. Credit Hrs: 1.00-15.00

Communication Sciences and Disorders**35CSD915****School Practicum in Speech-Language Pathology**

Supervised experience in providing speech-language services to children in a school setting. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD916****Advanced Clinical Methods in Communication Science**

This course is directed toward graduate students in speech/language pathology who have had experience in practicum with persons with communication disorders. Students will review assessment and intervention processes to prepare their portfolios. Credit Level: G. Credit Hrs: 3.00

**35CSD920****Clinical Externship in Speech-Language Path II**

Full or part-time clinical practicum experience at an off campus site such as a medical setting, school, private practice or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD921****Clinical Externship in Speech-Language Path III**

Full or part-time clinical practicum experience at an off campus site such as a medical setting, school, private practice or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD923****Clinical Externship in Audiology I**

Full-time clinical practicum experience at an off-campus site such as medical setting, school, private practice or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD924****Clinical Externship in Audiology II**

Full-time clinical practicum experience at an off-campus site such as medical setting, school, private practice or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD925****Clinical Externship in Audiology III**

Full-time clinical practicum experience at an off-campus site such as medical setting, school, private practice or non-profit organization. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD940****Graduate Seminar in Speech Pathology and Audiology**

Presentation of graduate student projects, publishable papers, theses or dissertation designs in seminar mode. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD943****Graduate Research Project Communication Disorders I**

Research project in Communication Disorders I. Completion of research proposal for thesis or publishable paper. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD944****Graduate Research Project Communication Disorders II**

Research Project in Communication Disorders II. Completion of data collection for thesis or publishable paper. Prereq: 35CSD943. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD945****Graduate Research Project Communication Disorders III**

Research project in Communication Disorders III. Completion of written document and oral defense of thesis or publishable paper. Prereq: CSD 943, 944. Credit Level: G. Credit Hrs: 1.00-3.00

**35CSD946****Research Methods in Communication Disorders**

Research project and lectures focus on application of design, analysis and short research report. Review MA thesis and published articles. Credit Level: G. Credit Hrs: 3.00

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Communication Sciences and Disorders**35CSD983****Doctoral Seminar Research in Communication Disorders I**

Pre-dissertation research evaluation, planning and experience. Credit Level: G. Credit Hrs: 3.00-6.00

**35CSD984****Doctoral Seminar in Research in Communication Disorders II**

Pre-dissertation research evaluation planning and experience. Prereq: 35CSD983. Credit Level: G. Credit Hrs: 3.00-6.00

**35CSD985****Doctoral Seminar in Research in Communication Disorders III**

Pre-dissertation research evaluation, planning and experience; professional writing emphasized. Prereq: 35CSD984. Credit Level: G. Credit Hrs: 3.00-6.00

**35CSD986****Doctoral Seminar in Communication Disorders: Pedagogy**

Discussion of issues related to teaching at the college level and guided experience in teaching. Credit Level: G. Credit Hrs: 3.00

**35CSD987****Doctoral Seminar in Communication Disorders: Supervision**

Discussion of issues related to supervision and guiding experience on supervision of student practicum in Communication Disorders. Credit Level: G. Credit Hrs: 3.00

**35CSD988****Doctoral Seminar in Communication Disorders: Grant Writing**

Review of granting agencies, funding sources, grants and guided experience on grant writing. Credit Level: G. Credit Hrs: 3.00

**35CSD989****Topics in Language, Speech and Hearing Disorders**

This is a reseach seminar in which students present, defend and critique recent research articles on Hot Topics in Speech-Language Pathology and Audiology. Topics vary according to student interest. Credit Level: G. Credit Hrs: 1.00

**35CSD991****Doctoral Dissertation Research**

Degree candidates only. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD992****Doctoral Dissertation Research**

Degree candidates only. Credit Level: G. Credit Hrs: 1.00-15.00

**35CSD993****Doctoral Dissertation Research**

Degree candidates only. Credit Level: G. Credit Hrs: 1.00-15.00

Cellular Therapies**35CT831****Foundations for Cellular Therapies I**

Instruction on stem cell biology, stem cell coll- ection and storage, positive and negative selec- tion, genetic manipulation, clinical cell trans- plantation, blood groups, infectious disease test- ing, hazards of transplantations, regulatory issue and quality management. Credit Level: G. Credit Hrs: 2.00

**35CT832****Foundations for Cellular Therapies II**

Instruction on stem cell biology, stem cell coll- ection and storage, positive and negative selec- tion, genetic manipulation, clinical cell trans- plantation, blood groups, infectious disease test- ing, hazards of transplantations, regulatory issue and quality management. Credit Level: G. Credit Hrs: 2.00

**35CT833****Foundations for Cellular Therapies III**

Instruction on stem cell biology, stem cell coll- ection and storage, positive and negative selec- tion, genetic manipulation, clinical cell trans- plantation, blood groups, infectious disease test- ing, hazards of

Cellular Therapies**35CT833****Foundations for Cellular Therapies III**

transplantations, regulatory issue and quality management. Perm of Instructor. Credit Level: G. Credit Hrs: 2.00

**35CT841****Cellular Therapies Seminar I**

Literature review, written papaer and oral presentation of cellular therapies topic. Credit Level: G. Credit Hrs: 2.00

**35CT842****Cellular Therapies Seminar II**

Literature review, written papaer and oral presentation of cellular therapies topic. Credit Level: G. Credit Hrs: 2.00

**35CT843****Cellular Therapies Seminar III**

Literature review, written papaer and oral presentation of cellular therapies topic. Perm of Instructor. Credit Level: G. Credit Hrs: 2.00

**35CT851****Cellular Therapies Laboratory/Clinical Prac I**

This course provides the practical training and experience in cell processing including Plasma reduction, Red cell reduction, Buffy coat prepara- tion, Controlled rate freezing, T cell depletion, CD34 selection and analysis, Donor Lymphocyte infusion, processing of stem cells for cyro- preservation, thawing frozen stem cells for infusion, cell counts using automated and manual equipment, record keeping systems for stem cell products and laboratory management training. Credit Level: G. Credit Hrs: 3.00

**35CT852****Cellular Therapies Laboratory/Clinical Prac II**

This course provides the practical training and experience in cell processing including Plasma reduction, Red cell reduction, Buffy coat prepara- tion, Controlled rate freezing, T cell depletion, CD34 selection and analysis, Donor Lymphocyte infusion, processing of stem cells for cyro- preservation, thawing frozen stem cells for infusion, cell counts using automated and manual equipment, record keeping systems for stem cell products and laboratory management training. Credit Level: G. Credit Hrs: 3.00

**35CT853****Cellular Therapies Laboratory/Clinical Prac III**

This course provides the practical training and experience in cell processing including Plasma reduction, Red cell reduction, Buffy coat prepara- tion, Controlled rate freezing, T cell depletion, CD34 selection and analysis, Donor Lymphocyte infusion, processing of stem cells for cyro- preservation, thawing frozen stem cells for infusion, cell counts using automated and manual equipment, record keeping systems for stem cell products and laboratory management training. Perm of Instructor. Credit Level: G. Credit Hrs: 3.00

**35CT861****Cellular Therapies Thesis Research I**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Investigative research in a laboratory or clinical setting. Final written thesis. Perm of Instructor. Credit Level: G. Credit Hrs: 4.00-12.00

**35CT862****Cellular Therapies Thesis Research II**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Investigative research in a laboratory or clinical setting. Final written thesis. Credit Level: G. Credit Hrs: 4.00-12.00

**35CT863****Cellular Therapies Thesis Research III**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Investigative research in a laboratory or clinical setting. Final written thesis. Credit Level: G. Credit Hrs: 4.00-12.00

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Cellular Therapies**35CT863****Cellular Therapies Thesis Research III**

Preparation of written research proposal to include a literature review, research plan, materials and methods, data analysis, budget and bibliography. Investigative research in a laboratory or clinical setting. Final written thesis. Credit Level: G. Credit Hrs: 4.00-12.00

Genetic Counseling**35GC600****Topics in Personalized Medicine Online**

An asynchronous online only course focused on the science and applications of personalized medicine in health care. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00

**35GC828****Emerging Topics in Clinical Genomics**

A series of invited speakers present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular & biochemical testing, treatment of genetic conditions and other areas. BoK: SE. Credit Level: G, U. Credit Hrs: 1.00-2.00

**35GC829****Emerging Topics in Clinical Genomics**

A series of invited speakers present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular & biochemical testing, treatment of genetic conditions and other areas. BoK: SE. Credit Level: G, U. Credit Hrs: 1.00-2.00

**35GC830****Emerging Topics in Clinical Genomics**

A series of invited speakers present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular & biochemical testing, treatment of genetic conditions and other areas. BoK: SE. Credit Level: G, U. Credit Hrs: 1.00-2.00

**35GC606****Legal and Ethical Issues in Human Genetics**

Issues and conflicts in the field of genetics are examined and discussed in the context of a systematic framework, employing principles and concepts of ethics with consideration of legal implications. Credit Level: G. Credit Hrs: 2.00

**35GC700****Providing Culturally Competent Care**

Use case studies, journaling & other methods of self-reflection, discourse with instructor and peers through a discussion board, readings taken from lay & professional literature, videos and other electronic instructional materials, and group work. Credit Level: G. Credit Hrs: 2.00

**35GC701****Introduction to Public Health Genomics**

An introduction to the role of genomics in public health. This course will explore the growing impact of the genomic revolution in relation to health and disease in populations. Credit Level: G. Credit Hrs: 2.00

**35GC734****Introduction to Genetic Counseling**

Practical genetic counseling approaches and methods taught by means of hands-on activities, peer instruction, guest lectures, and role playing. Credit Level: G. Credit Hrs: 3.00

**35GC735****Introduction to Genetic Counseling**

See 35-962-734. Credit Level: G. Credit Hrs: 3.00

**35GC736****Introduction to Genetic Counseling**

See 35-962-734. Credit Level: G. Credit Hrs: 3.00

**35GC740****Clinical Practicum I**

This course provides students with the opportunity to gain practical

Genetic Counseling**35GC740****Clinical Practicum I**

experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00

**35GC741****Clinical Practicum II**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00

**35GC742****Clinical Practicum III**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00

**35GC743****Clinical Practicum Summer Internship**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC750****Genetic Counseling Professional Development Series**

Topics related to professional development in the field of genetic counseling are addressed. Credit Level: G. Credit Hrs: 1.00

**35GC751****Clinical Genetics I**

In-depth description of clinical aspects and genetic counseling issues of common genetic diseases. For first year GC students only. Credit Level: G. Credit Hrs: 1.00

**35GC752****Clinical Genetics II**

In-depth description of clinical aspects and genetic counseling issues of common genetic disorders. For first year GC students only. Credit Level: G. Credit Hrs: 1.00

**35GC753****Clinical Genetics III**

In-depth description of clinical aspects and genetic counseling issues of common genetic diseases. Geared for first year GC students only. Credit Level: G. Credit Hrs: 1.00

**35GC754****Clinical Genetics IV**

In depth description of clinical aspects and genetic counseling issues of common genetic disorders. Credit Level: G. Credit Hrs: 1.00

**35GC755****Clinical Genetics V**

In depth description of genetic aspects and genetic counseling issues of common genetic disorders. Credit Level: G. Credit Hrs: 1.00

**35GC766****Independent Study in Genetic Counseling**

Independent study at the graduate level in genetic counseling, under the direction of G.C. Program faculty. Subject varies with student interests. Perm of Instructor. Credit Level: G. Credit Hrs: 1.00-6.00

**35GC767****Independent Study in Genetic Counseling**

See 35-962-766. Credit Level: G. Credit Hrs: 1.00-6.00

**35GC768****Independent Study in Genetic Counseling**

See 35-962-766. Credit Level: G. Credit Hrs: 1.00-6.00

**35GC777****Advanced Genetic Counseling Issues**

Advanced clinical practice and professional issues in genetic counseling. Perm of Instructor. Credit Level: G. Credit Hrs: 1.00-3.00

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Genetic Counseling**35GC778****Advanced Genetic Counseling Issues**

See 35-962-777. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC779****Advanced Genetic Counseling Issues**

See 35-962-777. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC781****Human Genetics Journal Club**

Molecular and clinical genetics papers are reviewed, presented and discussed. Credit Level: G. Credit Hrs: 1.00

**35GC785****Research Design**

This course provides genetic counseling students the skills and resources to develop their masters thesis research proposal and a protocol for submission to the IRB. Credit Level: G. Credit Hrs: 3.00

**35GC791****Master's Thesis Research**

Independent research towards master's degree. Credit Level: G. Credit Hrs: 1.00-15.00

**35GC800****Community Education Experience**

To develop educational interventions that accomplish the goals and meet the specific needs of the audience. Topics include: educational theory and pedagogy. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC825****Emerging Topics in Clinical Genomics**

Series of invited speakers present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular and biochemical testing, treatment of genetic conditions and other areas. Credit Level: G. Credit Hrs: 1.00-2.00

**35GC826****Emerging Topics in Clinical Genomics**

A series of invited speakers will present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular and biochemical testing, treatment of genetic conditions and other areas. Credit Level: G. Credit Hrs: 1.00-2.00

**35GC827****Emerging Topics in Clinical Genomics**

Series of invited speakers present lectures on diverse topics related to the spectrum of clinical genetics, genetic counseling, molecular and biochemical testing, treatment of genetic conditions and other areas. Credit Level: G. Credit Hrs: 1.00-2.00

**35GC840****Clinical Practicum IV**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC841****Clinical Practicum V**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC842****Clinical Practicum VI**

This course provides students with the opportunity to gain practical experience working with patients who are referred for genetic counseling. Credit Level: G. Credit Hrs: 1.00-3.00

**35GC853****Genetic Counseling Case Conference**

Review and discussion of cases seen for genetic counseling and medical genetic evaluation. Credit Level: G. Credit Hrs: 1.00

Genetic Counseling**35GC854****Genetic Counseling Case Conference**

See 35-962-853. Credit Level: G. Credit Hrs: 1.00

**35GC855****Genetic Counseling Case Conference**

See 35-962-853. Credit Level: G. Credit Hrs: 1.00

**35GC860****Teratology**

Basic principles of teratology will be discussed. Topics include drug testing, pharmacokinetics, retinoids, thalidomide, environmental chemicals, anticonvulsants, diabetes, behavioral teratology, fetal alcohol syndrome, therapeutic drugs, infectious diseases, radiation, and hormones. Credit Level: G. Credit Hrs: 3.00

**35GC881****Human Genetics**

Introduction to basic human genetics including mitosis, meiosis, chromosome structure and mechanisms of rearrangement, inheritance, modes / mechanisms, mutational mechanism, population / quantitative genetics and biochemical genetics (polymorphisms). Credit Level: G. Credit Hrs: 3.00

**35GC888****Cancer Genomics and Genetic Counseling**

Study of genetic, environmental and epigenetic causes of cancer, syndromes and the related genetic counseling issues. Credit Level: G. Credit Hrs: 3.00

**35GC900****Clinical Embryology**

A course designed for understanding the process of usual human development in order to appreciate the timing and mechanisms underlying birth defects, chromosomal abnormalities and genetic syndromes. Credit Level: G. Credit Hrs: 3.00

Healthcare Administration**35HCA401****Principles of Marketplace Dynamics in Healthcare**

The contents of the course will be an analysis of the effects of marketplace principles on health care and the effect of health policy and economic forces on the health care delivery system. The basic principles of competition and marketing will be presented as will the application of these principles as they relate to health care. Students will be taught to use these concepts to analyze market dynamics and improve the delivery of health care services. The effect of changes in market forces, policy, and regulation, workforce, formation of integrated delivery systems, and the impact of technology will be studied. Perm of Instructor. BoK: SS, QR. Credit Level: U. Credit Hrs: 3.00

Health Information Management**35HIM110****Introduction to Health Informatics**

This course will provide an overview of healthcare industry with emphasis on use of information for analysis, patient care, and decision making. This course will provide students with an introduction to concepts and practices of health informatics. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HIM504****Issues in Healthcare Delivery**

This course provides an overview of US health care systems and their many components including organizational structures, mechanisms for health care delivery, health services financing, health policy, quality of health care and health information management. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM506****Health Data Management**

This course will provide the methods and technique to manage health

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Health Information Management**35HIM506****Health Data Management**

care data, to develop documentation guidelines and understand compliance regulations and standards of AHIMA. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM508****Clinical Data Management**

This course will focus on evaluating and analyzing clinical data. The course will address clinical classifications, terminologies, and future initiatives in coding. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM510****Applied Reimbursement Methods**

This course will focus on analysis of reimbursement methods and the role of HIM professionals in revenue cycle management. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM512****Computer Systems in Healthcare**

Comprehensive study of computers in healthcare BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM514****Professional Computer Practicum**

Supervised computer practicum in a healthcare facility. Emphasis on evaluation of computer applications and utilizing software applications. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM516****Legal and Ethical Issues in Healthcare**

Study of legal and ethical issues in healthcare with a focus on practical applications in health information management BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM518****Electronic Health Records**

Study of the design and implementation of the electronic health record BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM520****Human Resource Management**

Applications in managing health information management (HIM) departments in healthcare facilities. Students will apply theories and utilize best practices to the management of human resources. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM522****Professionalism and Leadership**

Study of the management of change, team building, and leadership development related to practice in healthcare. Students will learn skills and outline effective strategies for communication. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM525****Clinical Terminologies and Classification Systems**

Analysis of standard clinical terminologies including SNOMED, ICD-10-PCS, medical linguistics, medical vocabulary standards, natural language processing and the role of the healthcare vocabularies and clinical terminologies in the electronic health record. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM526****Financial and Resource Management**

Financial aspects of healthcare and accounting principles BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM528****Strategic Planning and Organizational Development**

Course will focus on strategic and operational plans in healthcare. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM530****Project and Operations Management**

Application of project management techniques and implementing

Health Information Management**35HIM530****Project and Operations Management**

process engineering BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM532****Statistics and Research Methods**

Analysis and presentation of data and introduction to research methods. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM534****Quality Management and Performance Improvement**

Advanced study of the application of QI tools, evaluation of documentation standards, quality improvement, utilization and risk management, and credentialing. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM536****Capstone: Contemporary Issues in HIM**

Discussion of emerging issues and trends in the health information management (HIM) field. Integrate studies and apply knowledge to problems and issues facing the HIM profession. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HIM538****Professional HIM Practicum**

Professional practice course provides the student with the opportunity to integrate knowledge, behaviors, and professional attributes acquired throughout the curriculum that are necessary to the practice of HIM. The student will be involved in developing insight and skill in HIM management. BoK: NA. Credit Level: U. Credit Hrs: 5.00

Health Sciences**35HLSC172****Musculoskeletal Anatomy**

This course is designed to provide the student with a foundation in basic surface anatomy. In order to allow the student to develop a sound working knowledge of surface musculature and bony landmarks, laboratory experience will be utilized throughout the course. Prereq: 15BIOL201. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35HLSC211****Medical Terminology**

This course will cover medical terminology for health or allied health majors or anyone interested in learning medical terminology. The course will be formatted for on-line. Students will learn root words, combining forms, and application of learning via worksheets. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC294****Human Behavior in Health & Sickness for Health Related Programs**

This course will discuss the various aspects of human behavior in response to illness. Emphasis will be on understanding normal versus abnormal reactions to illness, and therefore being able to apply the most effective therapy regimen. The course will consist of lectures, case studies, and observation of psychiatric evaluations. This course is available to all majors. BoK: SS. Credit Level: U. Credit Hrs: 3.00

**35HLSC330****Introduction to Biomechanics**

This course will introduce students to the basic terminology in biomechanics. The forces that act on the body during static and dynamic activities will be emphasized. Information mastered will be applied to whole body function. Prereq: 15PHYS103, 35HLSC172. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC333****Computers and Equipment in Biomechanics**

This course will introduce students to the equipment and procedures used to measure movement and force. This lab-based class emphasizes techniques used in research and testing in health care settings, including manual and mechanical measurement of force, joint movement, 2D and 3D motion analysis, friction and gravity. BoK: NA.

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LT: Literature. NS: Natural Sciences. QR: Quantitative Reasoning. SE: Social & Ethical Issues. SS: Social Sciences.

Health Sciences**35HLSC333****Computers and Equipment in Biomechanics**

Credit Level: U. Credit Hrs: 4.00

**35HLSC345****Physical Conditioning and Testing**

This course covers the guidelines and accepted methods for exercise testing, strength and conditioning established by the American College of Sports Medicine and the National Strength and Conditioning Association. Students will apply knowledge from previous coursework in anatomy and physiology, exercise physiology, biomechanics, and kinesiology. Students will develop exercise protocols / prescriptions using accepted methods of exercise testing and apply knowledge of methods of strength and conditioning training. Prereq: 35HLSC351, 35HLSC412. Coreq: 35HLSC352, 35HLSC413. BoK: NA. Credit Level: U. Credit Hrs: 4.00

**35HLSC351****Kinesiology I**

This course is designed to provide the student with a basic understanding of human movement. Included in this course is an examination of the anatomy of the musculoskeletal system, the structure and function of muscles and associated connective tissue, the structure and function of joints and the application of basic mechanical laws. This course is designed to contribute to the skills sets described by the ACSM and the NSCA as necessary components for entry level certifications. Prereq: 35HLSC330. Coreq: 35HLSC331. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC352****Kinesiology II**

A continuation of Kinesiology I, this course is designed to provide the student with a basic understanding of human movement. Included in this course is an examination of the anatomy of the musculoskeletal system, the structure and function of muscles and associated connective tissue, the structure and function of joints, and the application of basic mechanical laws. This course is designed to contribute to the skills sets described by the ACSM and the NSCA as necessary components for entry level certifications. Prereq: 35HLSC351. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC373****Health Care Ethics**

This interdisciplinary course considers ethical theories and principles applicable to the allied health professions. Using scholarly inquiry, students will analyze ethical dilemmas that may occur in their professional roles. Students will address ethical issues across the lifespan in diverse socioeconomic and cultural situations. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35HLSC401****Recreation Across the Lifespan I**

This course combines classroom study with service learning. Classroom study involves didactic information on aging and the effects of aging on physical activity. The service learning component provides students with weekly first-hand experience in implementing exercise programs for older adults. Students will utilize knowledge from previous coursework in anatomy, physiology, biomechanics, kinesiology, exercise testing, and strength and conditioning, and apply the principles to exercise and activity to the elderly population. This course is designed to contribute to the skills sets described by the ACSM and the NSCA as necessary components for entry level certifications. Prereq: 35HLSC345, 35HLSC332. Coreq: ., BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC402****Recreation Across the Lifespan II**

This course is designed to provide the student with the opportunity to apply previous course knowledge in a practical setting working with an adult population. The course will combine classroom activities with independent study and community engagement experiences. The students will apply the principles of exercise testing and prescription,

Health Sciences**35HLSC402****Recreation Across the Lifespan II**

kinesiology, biomechanics, and strength and conditioning in order to provide members of the community with guidance in matters of health and fitness. Prereq: 35HLSC401. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC403****Recreation Across the Lifespan III**

Combines on-line independent study with service learning. The on-line independent study portion of the course gives students the opportunity to design exercise programs for individuals of varying fitness levels. The service learning component provides students with weekly first hand experience in implementing exercise programs to members of the community who are between the ages of 5 and 20 years. Students will utilize knowledge from previous coursework in anatomy, physiology, biomechanics, kinesiology, exercise testing & strength & conditioning to the principles in the pediatric population. Prereq: 35HLSC402. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC411****Physiology of Exercise I**

Physiology of Exercise is the study of the human body's short term responses and its long term adaptations to exercise. This is the first course in a sequence of three that will investigate the human body's bio energy systems, the utilization during exercise and the application of these systems towards performance enhancement. Prereq: 15CHEM103, 15BIOL103, 15BIOL203. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC412****Physiology of Exercise II**

This course is an extension of Physiology of Exercise I. Cardiovascular physiology as it relates to exercise and ECG interpretation will be a major focus. In addition, special populations, environments, and supplemental aids will be addressed. Prereq: 35HLSC411. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35HLSC413****Physiology of Exercise III**

This course is an extension of Physiology of Exercise II. The student will write an exercise prescription using work calculations and ECG data from a cardiorespiratory stress test and other fitness information. A lab component will be a major part of this course. Prereq: 35HLSC412. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35HLSC421****Biomechanics of Sport I**

This course is designed to provide the student with an understanding of the biomechanics of movement and sport activities. This includes terminology, an examination of concepts and principles, and performing the observations, analyses and calculations necessary to examine mechanical and performance characteristics of human movements. This course is designed to meet the skill sets described by the ACSM and the NSCA as necessary components for entry level certifications. There is a lecture and a laboratory component to the course. Prereq: 35HLSC352. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC422****Biomechanics of Sport II**

This course is designed to provide the student with an increased understanding of human movement as it relates to dynamic activities. Included in this course is an examination of the anatomy of the musculoskeletal system, the structure and function of joints and the application of basic mechanical laws. This course is designed to contribute to the skill sets described by the ACSM and the NSCA as necessary components for entry level certifications. Prereq: 35HLSC421. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC423****Special Topics in Sports and Sports Science**

To cover topics related to sports biomechanics and exercise science that is not directly related to biomechanics but can effect the athlete or

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Health Sciences**35HLSC423****Special Topics in Sports and Sports Science**

participant Prereq: 35HLSC422. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC499****Behavior and Fitness**

This course is designed to provide students with the foundation and skills to facilitate behavior changes and conduct health promotion in the community and corporate setting. Prereq: 35HLSC330, 35HLSC351. Coreq: 35HLSC411, 35HLSC412. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC510****Research Methods**

The purpose of this course is to introduce the student to basic research methods and concepts with special emphasis on research for healthcare professionals. Specific method and concepts that will be introduced include basic epidemiological terms, study design, reliability and validity, statistics, and determination of causality. A goal of this course is to help the student interpret scientific literature. Prereq: 15MATH146, 15MATH147. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35HLSC520****Senior Project I**

Independent study course is a required course for students in the final year of the HLSC program. The course allows each student to work on his/her capstone experience which all health science students must complete prior to graduation. Prereq: 35HLSC510, 35HLSC345. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35HLSC521****Senior Project II**

Independent study course is a required course for students in the final year of the HLSC program. The course allows each student to work on his/her capstone experience which all Health Science students must complete prior to graduation. Prereq: 35HLSC520. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC522****Senior Project III**

Independent study course is a required course for students in the final year of the HLSC program. The course allows each student to work on his/her capstone experience which all Health Science students must complete prior to graduation. Prereq: 35HLSC521. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35HLSC523****Elective: Gait Analysis**

Students will study the kinematic and kinetic aspects of normal and abnormal gait. Emphasis will be on the clinical analysis of gait and the development and completion of a project related to the biomechanics of walking and running. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35HLSC567****Motor Learning for Performance**

Online course with lectures, independent study, and guided lab activities that will focus on individual differences and information processing in the principles of motor control. The process of skill learning from preparation to feedback will be discussed. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35HLSC570****Rational & Irrational Use of Drugs of Abuse**

Course will provide a basic understanding of how drugs that act on the brain produce their effects. The pharmacological, medical & social aspects of these drugs will be discussed. Emphasis will be placed on understanding how drugs act to produce desirable effects & undesirable or toxic effects. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

Health Sciences**35HLSC600****Independent Study**

Independent study into an area of interest (health sciences, biomechanics or rehabilitation sciences) to the student Perm of Instructor. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-4.00

Interdisciplinary Health Education**35HLTH101****Success in Allied Health I**

A continuation of Freshman Orientation. Subjects to be covered include but are not limited to academic survival skills, interpersonal relationships, campus life outside the classroom and career decisions. BoK: HU. Credit Level: U. Credit Hrs: 2.00

**35HLTH102****Success in Allied Health II**

This course is designed for first year students in CAHS to gain an understanding of the foundation of service learning. Students will learn professional skills to be successful in allied health professions. Students will prepare for services experiences in HLTH 103 to enhance learning and increase understanding of the method and value of civic engagement and social responsibility. BoK: HU. Credit Level: U. Credit Hrs: 1.00

**35HLTH103****Success in Allied Health III**

This course for CAHS first year students supports continued growth and success in all facets of the learning process academically, interpersonally and intrapersonally. Students complete service-learning experiences within the diverse communities where we study, work, and live to facilitate growth of professional skills and abilities to be successful in allied health professions. BoK: HU. Credit Level: U. Credit Hrs: 1.00

**35HLTH373****Health Care Ethics**

This interdisciplinary course considers ethical theories and principles applicable to nursing, pharmacology, and the allied health professions. Using scholarly inquiry, students will analyze ethical dilemmas that may occur in their professional roles. Students will address ethical issues across the lifespan in diverse socioeconomic and cultural situations. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35HLTH506****Health Data Management**

This course will provide the methods and techniques to manage health care data, to develop documentation guidelines and understand compliance regulations and standards of AHIMA (accreditation organization). BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HLTH508****Clinical Data Management**

This course will focus on evaluating and analyzing clinical data. The course will address clinical classifications, terminologies and future initiatives in coding. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HLTH510****Applied Reimbursement Methods**

This course will focus on analysis of reimbursement methods and the role of HIM professionals in revenue cycle management. BoK: NA. Credit Level: U. Credit Hrs: 5.00

**35HLTH570****Integrative Therapies for Health Sciences**

An interdisciplinary course introducing health science students to complementary and alternative therapies. BoK: DC. Credit Level: U, G. Credit Hrs: 3.00

**35HLTH650****Case Studies in Interdisciplinary Health Care**

An interdisciplinary course designed to provide hands-on experience in the concepts and rationale of interdisciplinary care. Emphasis is placed on the essential need for interdisciplinary care and effective

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Interdisciplinary Health Education**35HLTH650****Case Studies in Interdisciplinary Health Care**

communication among the disciplines. BoK: DC., SE. Credit Level: U, G. Credit Hrs: 3.00

**35HLTH660****Health Care Delivery Systems**

This course is a broad overview of the U.S. health care system and its many components including organizational structures, mechanisms for health care delivery, health services financing, determinants of health and health status, health policy, and quality of health care. BoK: HU. Credit Level: U, G. Credit Hrs: 2.00-5.00

**35HLTH680****Legal Aspects of Health Care**

This course explores the legal and regulatory environment within which health care providers and professional must operate. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35HLTH673****Health Care Ethics**

This interdisciplinary course considers ethical theories and principles applicable to nursing, pharmacology, and the allied health professions. Using scholarly inquiry, students will analyze ethical dilemmas that may occur in their professional roles. Students will address ethical issues across the lifespan in diverse socioeconomic situations. Credit Level: G. Credit Hrs: 2.00

Nutrition Sciences**35NUTR176****Food Science I**

Basic culinary techniques, and menu planning; introduction to the study of the physical and chemical properties and sensory evaluation of food. Lecture and lab. BoK: NA. Credit Level: U. Credit Hrs: 4.00

**35NUTR240****Personal Nutrition**

This course is designed for majors and non-majors. The course will provide an overview of nutrient metabolism and review important functions of nutrients on life processes and the role of nutrients on health and disease. Tools to evaluate and analyze personal nutrition will be discussed. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35NUTR241****Principles of Nutrition**

This course will review the scientific principles of nutrition with an emphasis on macronutrient and micronutrient metabolism and functions. The course includes an introduction to the basic methods of nutritional assessment. Prereq: 35NUTR240. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35NUTR252****Lifecycle Nutrition**

Nutritional needs to support growth and development from conception through adulthood and aging. Prereq: 35NUTR240. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35NUTR282****Explore Dietetics & Nutrition**

Introduction to the field of Dietetics and Nutrition in relation to its history and practices in the health care system. An overview of policies, procedures and curricula in the Department of Nutritional Sciences will be provided. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35NUTR376****Food Science II**

The study of the chemical and physical properties of food; the effects of processing on nutritive value; and sensory evaluation of foods. Prereq: 35NUTR176. BoK: QR. Credit Level: U. Credit Hrs: 4.00

**35NUTR381****Communication Skills in Nutrition**

Basic techniques of oral and written communication skills used in the

Nutrition Sciences**35NUTR381****Communication Skills in Nutrition**

field of nutrition. Includes oral presentations, interviewing and counseling techniques; development of lesson plans. Prereq: 35NUTR240. BoK: HU. Credit Level: U. Credit Hrs: 3.00

**35NUTR382****Nutritional Assessment Methods**

This course will provide students with an in-depth look at the major assessment techniques including dietary, anthropometric, physical and biochemical methods for assessing nutritional status. Students gain practical experience in applying specific assessment techniques to various disease states, including cardiovascular disease, diabetes gastrointestinal disease and renal disease. Prereq: 35NUTR252, 35NUTR603. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35NUTR476****Quantity Foods**

Planning of institutional menus, including purchasing, preparation, and service of food. Lec. and lab. Prereq: 35NUTR376. BoK: QR. Credit Level: U. Credit Hrs: 4.00

**35NUTR482****Professional Seminar**

Discussion of goal setting, portfolio development, resume preparation, interviewing skills, and other topics related to professional development. Assist students in portfolio preparation to fulfill requirement for capstone experience for Dietetics and Food and Nutrition majors. BoK: NA. Credit Level: U. Credit Hrs: 2.00

**35NUTR572****Projects and Problems in Nutrition**

A course designed to allow students to pursue an individualized learning project with approval of and under supervision of a faculty member. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00-6.00

**35NUTR575****Community Nutrition**

Nutrition programs in the community and fundamentals of nutrition care delivery. Includes nutrition assessment, nutrition education and design of programs. Prereq: 35NUTR240. BoK: SS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR578****Institutional Management**

Principles of management in institutional food service settings. Includes resource management, quality assurance, accounting and marketing. BoK: QR. Credit Level: U, G. Credit Hrs: 4.00

**35NUTR580****Nutrition Practicum**

Field experiences in areas of Nutrition, Nutrition and Business, Food Service, Management, or Nutrition and Exercise. Must be pre-arranged with instructor one quarter prior to enrollment. Senior standing. Majors only. BoK: NA. Credit Level: U, G. Credit Hrs: 2.00

**35NUTR582****Internship Seminar**

Discussion of the dietetic internship application process, including a review of internship requirements, introduction to specific internship alternatives, and assistance with completion of application requirements. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00

**35NUTR600****Advanced Nutrition I**

In-depth study of the biochemical and physiological functions of energy, protein, fat and carbohydrates. Prereq: 28CHEM206, 15BIOL203. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR601****Advanced Nutrition II**

In-depth study of the biochemical and physiological functions of vitamins. Prereq: 35NUTR600. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

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Nutrition Sciences**35NUTR602****Advanced Nutrition III**

In-depth study of the biochemical and physiological functions of minerals. Review of role of phytochemicals in nutrition and health. Prereq: 35NUTR601. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR603****Medical Nutrition Therapy I**

Nutrition therapy and diet modifications for pathological conditions. Includes nutrition care planning and medical record documentation. Prereq: 35NUTR600, 15BIOL203. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR604****Medical Nutrition Therapy II**

Nutrition therapy and diet modifications for pathological conditions. Includes nutrition care planning for cardiovascular disease, diabetes, hypertension and chronic obstructive pulmonary disease. Prereq: 35NUTR603. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR605****Medical Nutrition Therapy III**

Nutritional therapy and diet modifications for pathological conditions. Includes nutrition care planning for gastrointestinal diseases, diseases of the liver and kidney and cancer therapeutics. Prereq: 35NUTR604. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR650****Nutrition and Exercise**

Study of interactions between nutrition and exercise with emphasis on health promotion and fitness. Prereq: 35NUTR240. BoK: NS. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR685****Nutrition Research Methods**

Methodologies and practicum experience related to conducting nutrition research. Prereq: 35NUTR602, 15MATH146. BoK: NA. Credit Level: U, G. Credit Hrs: 3.00

**35NUTR691****Supervised Practice Experience I**

Individually assigned site rotations that enable the student to demonstrate entry-level dietitian competence by attaining all of the Commission on Accreditation for Dietitians Education Core Competencies. Students work with, and are evaluated by, a number of site preceptors. Participation is required in weekly programs designed to enhance the supervised practice experience. BoK: NA. Credit Level: U, G. Credit Hrs: 6.00

**35NUTR692****Supervised Practice Experience II**

Individually assigned site rotation that enable the student to demonstrate entry-level dietitian competence by attaining all of the Commission on Accreditation for Dietitians Education Core Competencies. Students work with, and are evaluated by a number of site preceptors. Participation is required in weekly programs designed to enhance the supervised practice experience. Prereq: 35NUTR691. BoK: NA. Credit Level: U, G. Credit Hrs: 15.00

**35NUTR693****Supervised Practice Experience III**

Individually assigned site rotations that enable the student to demonstrate entry-level dietitian competence by attaining all of the Commission on Accreditation for Dietitians Education Core Competencies. Students work with, and are evaluated by, a number of site preceptors. Participation is required in weekly programs designed to enhance the supervised practice experience. Prereq: 35NUTR692. BoK: NA. Credit Level: U, G. Credit Hrs: 15.00

**35NUTR694****Supervised Practice Experience IV**

Individually assigned site rotations that enable the student to demonstrate entry-level dietitian competence by attaining all of the Commission on Accreditation for Dietitians Education Core

Nutrition Sciences**35NUTR694****Supervised Practice Experience IV**

Competencies. Students work with, and are evaluated by, a number of site preceptors. Participation is required in weekly programs designed to enhance the supervised practice experience. Prereq: 35NUTR693. BoK: NA. Credit Level: U, G. Credit Hrs: 15.00

**35NUTR782****Nutrition Strategies for Behavior Change**

Understanding and application of theoretical frame works from the behavioral sciences to design nutrition intervention programs to various groups and to facilitate the adoption of healthful behaviors. Prereq: 35NUTR240. Credit Level: G. Credit Hrs: 3.00

**35NUTR783****Macronutrients**

An in-depth examination of energy and macronutrient metabolism. Prereq: 28CHEM206. Credit Level: G. Credit Hrs: 3.00

**35NUTR784****Vitamin Nutrition**

For each vitamin, consideration will be given to structure, sources, digestion, absorption, transport, functions and mechanisms of action, metabolism and excretion, recommended dietary allowance or dietary reference intake, deficiency, toxicity, and assessment of nutriture. Prereq: 28CHEM206. Credit Level: G. Credit Hrs: 3.00

**35NUTR785****Mineral Nutrition**

A course that will allow students to demonstrate a gain in knowledge related to the biochemical and physiological aspects of mineral nutrition. A discussion of current research related to mineral nutrition. Prereq: 28CHEM206. Credit Level: G. Credit Hrs: 3.00

**35NUTR786****Advanced Clinical Nutrition**

This course is based on a knowledge of macro-nutrient metabolism, physiology & biochemistry. Chronic and acute diseases that involve diet therapy will be examined from the standpoint of understanding the disease state and the current nutritional approaches to preventing and/or managing the disease. Prereq: 35NUTR783, 29NURS820. Credit Level: G. Credit Hrs: 3.00

**35NUTR787****Topics in Nutrition Research**

Students will learn the skills required to critically evaluate current nutrition research through reading research articles, interpreting results and conclusions, and searching for relevant literature. Prereq: 35NUTR240. Credit Level: G. Credit Hrs: 3.00

**35NUTR788****Methods in Nutritional Assessment**

The aims of this course are to provide the skills for understanding and evaluating the dietary, clinical, and biochemical components in the assessment of nutritional status of individuals and communities. Prereq: 35NUTR783, 35NUTR784. Coreq: 35NUTR785. Credit Level: G. Credit Hrs: 3.00

**35NUTR871****Individual Study in Food and Nutrition**

Individual research on a problem in the area of food and nutrition. Credit Level: G. Credit Hrs: 1.00-9.00

**35NUTR872****Readings in Food and Nutrition**

A selected program of readings regarding major research contributions in the area of food and nutrition when there is no opportunity in a regularly scheduled class to pursue such an investigation. Credit Level: G. Credit Hrs: 1.00-9.00

**35NUTR874****Masters Thesis Guidance**

A research investigation. Credit Level: G. Credit Hrs: 1.00-6.00

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Physical Therapy**35PT500****Sports Medicine Seminar I**

Lecture/Seminar/ Journal Club Series to bring new techniques, research and protocols to discussion in the sports medicine field. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00

**35PT501****Sports Medicine Seminar II**

Seminar Course geared toward active discussion following formal presentations and journal article review 2X a quarter. BoK: NA. Credit Level: U, G. Credit Hrs: 1.00

**35PT831****Physiology, Pathology and Pharmacology I**

Part I focuses on the basic principles of cell physiology and histology, homeostasis, and general introduction to the physiology of musculoskeletal system. In addition, pathologies of inflammation, cell and tissue injury and healing, immunopathology, general principles of pharmacology are also included. Emphasis will be on understanding and application of information of the respective topics. Credit Level: G. Credit Hrs: 3.00

**35PT832****Physiology, Pathology and Pharmacology II**

Part II emphasis is on an in-depth study of physiology, pathophysiology, and pharmacology of the musculoskeletal and endocrine systems, and cancer. Credit Level: G. Credit Hrs: 3.00

**35PT833****Physiology, Pathology & Pharmacology III**

This course emphasizes the physiology, pathophysiology and pharmacology of the cardiopulmonary systems, blood, and digestive system. Credit Level: G. Credit Hrs: 3.00

**35PT834****Physiology, Pathology and Pharmacology IV**

This course emphasizes the physiology, pathology, and pharmacology of the nervous and renal systems and the skin. Credit Level: G. Credit Hrs: 3.00

**35PT835****Physiology, Pathology and Pharmacology V**

This section discusses selective topics and case studies of various medical conditions. Emphasis on recognizing and management of medical emergencies will be discussed thoroughly. Credit Level: G. Credit Hrs: 2.00

**35PT841****Movement Science I**

This course will introduce students to the concepts of motor learning and progress to the analysis of static and dynamic activities in the upper quarter. Students will use biomechanical principles to study joint motion and the forces involved in activities of the cervical spine and upper extremity. Credit Level: G. Credit Hrs: 2.00

**35PT842****Movement Science II**

Students will use biomechanical principles to study joint motion and the forces involved in activities of the thoracic and lumbar spine and lower extremity. The components of gait and posture, including deviations will be covered. Credit Level: G. Credit Hrs: 3.00

**35PT843****Movement Science III**

Theories and principles of motor control and motor learning, concepts related to recovery of function and plasticity, models of disablement will be covered. Conceptual frameworks for clinical practice, normal aging and abnormal postural control and balance, and an introduction of constraints on motor control in general neurological impairments will be covered. Applied neuroscience will be the focus of laboratory activities related to motor control and learning. Credit Level: G. Credit Hrs: 3.00

Physical Therapy**35PT844****Movement Science IV**

This course will focus on motor development from conception through old age. The impact of age related changes, including social, psychological and physiological on functional movement will be discussed. Students will be introduced to some common abnormalities and pathologies. The material will be presented primarily in a lecture format although several laboratory sessions, primarily observation, such as observing typical infant development, will be included. Videos and computer assisted learning will also be utilized. Credit Level: G. Credit Hrs: 4.00

**35PT845****Movement Science V**

This course will focus on development from conception through old age. The impact of age related changes, including social, psychologic and physiologic, on functional movement will be discussed. Students will be introduced to some common abnormalities and pathologies, with an emphasis on the pediatric and geriatric populations, as well as appropriate PT intervention. The material will be presented primarily in a lecture format with one laboratory session on infant/child development. Videos and computer assisted learning will also be utilized. Credit Level: G. Credit Hrs: 2.00

**35PT846****Patient Management I: Musculoskeletal Conditions**

This course will focus on physical therapy evaluation and differential diagnosis in relationship to orthopedic problems of the upper extremity joints. Emphasis will be placed on differential diagnosis, imaging, conservative management and post surgical management of the shoulder, elbow and wrist/hand. Credit Level: G. Credit Hrs: 4.00

**35PT847****Patient Management II: Musculoskeletal Conditions**

This course will focus on physical therapy evaluation and differential diagnosis in relationship to orthopedic problems of the lower extremity joints. Emphasis will be placed on differential diagnosis, imaging, conservative management and post surgical management of the hip, knee, and ankle. Credit Level: G. Credit Hrs: 3.00

**35PT848****Patient Management III: Musculoskeletal Conditions**

This course will focus on the physical therapy examination, evaluation, diagnosis, prognosis, intervention, reexamination, outcomes, and criteria for discharge in patients with spinal and TMJ dysfunctions. Emphasis will be placed on differential diagnosis, imaging, common conservative/postoperative management and interventions of lumbosacral, sacroiliac, thoracic, cervical and tempomandibular disorders. Spinal joint mobilization will be mastered. Primary prevention/risk factor reduction strategies for the specific patient/client diagnostic groups will also be covered. Credit Level: G. Credit Hrs: 3.00

**35PT856****Patient Management I: Neuromuscular Conditions**

Techniques of examination (history, systems review, and tests and measures) and evaluation of patients and clients with impaired motor function and sensory integrity associated with congenital, acquired, and progressive disorders of the central nervous system throughout the life span will be covered. The theoretical and research basis for treatment approaches of the above patient/client problems will also be covered. The identification of problems and their possible solutions, the implementation of the solutions, and alternative treatments will be emphasized. Credit Level: G. Credit Hrs: 4.00

**35PT857****Patient Management II: Neuromuscular Conditions**

A continuation of Neuromuscular Conditions I. Topics covered will include rehabilitation concepts and the special needs of the patient, evaluation, utilization of imaging, and treatment planning of patients with neuromuscular disorders, including TIA, CVA, TBI, Parkinsons Disease, MS, ALS as well as acute or chronic polyneuropathies including Guillian-Barre syndrome and post-polio syndrome. Credit

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Physical Therapy**35PT857****Patient Management II: Neuromuscular Conditions**

Level: G. Credit Hrs: 5.00

**35PT858****Patient Management III: Neuromuscular Conditions**

A continuation of Neuromuscular Conditions II. Topics covered will include rehabilitation concepts and the special needs of the patient, evaluation, utilization of imaging, and treatment planning of adults and children with neuromuscular disorders, including SCI, myelodysplasia and cerebral palsy. Additionally, wheelchair prescription and adaptations utilized with clients with neuromuscular dysfunction will be covered. Credit Level: G. Credit Hrs: 5.00

**35PT860****Introduction to Applied Anatomy**

This course is a two and one half week session designed as a prelude to the subsequent two quarters of Applied Anatomy. The student will be given an introduction to concepts fundamental to human anatomy including anatomical terminology, cross sectional anatomy, radiology and dissection skills. Student conducted cadaver dissections and prosections will be used to facilitate the student's understanding of structure, location and function of organs, muscles and other anatomic structures. The course will be taught using a regional approach. The regions to be covered in this session are the back, pectoral region and an introduction to the upper extremity. Case studies relating anatomy to clinical findings will be considered on a regular basis during student led discussions. Credit Level: G. Credit Hrs: 2.00

**35PT861****Applied Anatomy I**

During this course, the student will be given an introduction to concepts fundamental to human gross anatomy including anatomical terminology, cross sectional anatomy, radiology and dissection skills. Student-conducted cadaver dissections, prosections & anatomical models will be used to facilitate the student's understanding of structure, location & function of muscles, blood vessels, nerves & other anatomic structures. The course will be taught using a regional approach. The regions to be covered are vertebral column, upper extremity and thorax. Credit Level: G. Credit Hrs: 3.00

**35PT862****Applied Anatomy II**

This course follows Applied Anatomy I and continues an in-depth investigation into normal human anatomy. Student-conducted cadaver dissections, prosections and anatomical models will be used to facilitate the student's understanding of structure, location & function of muscles, blood vessels, nerves, organs & other anatomic structures. The regions to be covered in this session are the abdomen, pelvis/perineum & the lower extremity. Case studies relating anatomy to clinical findings will be considered on a regular basis during student-led discussions. Credit Level: G. Credit Hrs: 4.00

**35PT863****Applied Anatomy III**

This course will cover the basic functional anatomy of the human nervous system. Emphasis will be placed on the structure and function of the major components of the central, autonomic & peripheral nervous system diseases & dysfunctions. Student-conducted cadaver dissections, prosections, brain sections & anatomical models will be used to facilitate the student's understanding of structure, location & function of organs, muscles & other anatomic structures. Credit Level: G. Credit Hrs: 4.00

**35PT865****Patient Management I: Medical Conditions (Integumentary)**

Topics covered will include rehabilitation concepts and the special needs of the patient with integumentary problems, including evaluation, documentation, and treatment planning of patients with wounds and burns. Peripheral Vascular disease examination and intervention will also be covered. Credit Level: G. Credit Hrs: 4.00

Physical Therapy**35PT866****Patient Management II: Medical Conditions (Acute Care)**

This course will cover the examination, evaluation, diagnosis, prognosis, and intervention of patients with acute medical conditions, co-morbidities, and other conditions, including the normal and abnormal function of the cardio-pulmonary system. Elements of patient management within the acute care setting will be addressed including elements of patient management with primary and secondary diagnosis involving the cardiopulmonary system. Credit Level: G. Credit Hrs: 4.00

**35PT867****Patient Management III: Medical Conditions (Rehabilitation)**

Topics covered will include rehabilitation concepts and the special needs of the patient with amputation, including evaluation, documentation, and treatment planning of this type of patient. Prosthetic management will also be covered. Credit Level: G. Credit Hrs: 3.00

**35PT869****Special Considerations in Clinical Management**

This course will cover the physical therapy management of patients: in unique clinical settings, such as the educational setting; with selected diagnoses, such as genitourinary dysfunction and other women's health issues; and affected by specific cultural, legal and health care system issues, such as end of life issues, related to patient care. Credit Level: G. Credit Hrs: 3.00

**35PT871****Professional Roles I**

This course introduces students to the profession of physical therapy. Concepts of professionalism, communication, applicable laws, ethics, and the scope of practice are discussed. Students begin the process of learning to assess themselves in and develop a plan for professional development. Credit Level: G. Credit Hrs: 2.00

**35PT872****Professional Roles II**

The student will examine & apply communication theories & theories/components of intentional change & learning styles. The dynamics of inter-personal communication will be explored as the student practices active listening, interviewing & negotiation skills with a variety of health care system stakeholders. The student will continue to reflect on & respond to the concept of "cultural competence & patient centered care." Organizational structure & behavior, public & health policies will be examined as the student discovers the role of the "PT as Consultant." Credit Level: G. Credit Hrs: 2.00

**35PT873****Professional Roles III**

This course will study administrative structures, procedures, and methods of management and leadership found in various health care settings. Managerial responsibilities of budget, billing and reimbursement, evaluation, procedure manual, program development, and outcome designs will be integrated with participation in a design project. Credit Level: G. Credit Hrs: 2.00

**35PT876****Evidence Based Physical Therapy I**

The purpose of this course is to introduce the student to research methods and concepts with special emphasis on critically analyzing evidence. The course will focus on various aspects of clinical or epidemiological research in the field of physical therapy. Students in this course will be expected to: 1) critically analyze evidence, both current cumulative evidence and individual published articles; and 2) apply this evidence to clinical cases. Specific methods and concepts that will be introduced include epidemiological terms and concepts, study design, reliability and validity, and statistics (descriptive, analytical, parametric, and nonparametric). Credit Level: G. Credit Hrs: 3.00

**35PT877****Evidence Based Physical Therapy II**

This course will focus on various aspects of clinical or epidemiological research in the field of physical therapy. This class applies topics

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Physical Therapy**35PT877****Evidence Based Physical Therapy II**

learned in EBPT I and integrates them into clinical decision making. The emphasis in EBPT II will be on interventions, tests and measures learned or are being currently learned during the Patient Management series (Neuromuscular, Acute and Integumentary). Throughout this class, you may find it useful to review the notes and textbooks you used during these classes. The goals of this class are 1) to critically analyze evidence, both current cumulative evidence and individual published articles; and 2) apply this evidence to clinical cases. Credit Level: G. Credit Hrs: 2.00

**35PT878****Evidence Based Physical Therapy III**

The goal of this class is for you to critically analyze evidence from published articles and apply it to clinical case studies. The course will focus on various aspects of clinical or epidemiological research in the field of physical therapy. Emphasis will be on diagnosis, prognosis, interventions, and tests and measures learned in previous coursework. Credit Level: G. Credit Hrs: 2.00

**35PT881****Examination I**

This course introduces students to imaging and the examination process. Students assimilate the language of health care, demonstrating appropriate documentation skills, as they begin the review of the medical record, the interview process and the review of systems. PT related imaging techniques are introduced along with the objective measurements of range of motion and manual muscle testing. Adaptation of these skills to differing populations is included. Credit Level: G. Credit Hrs: 3.00

**35PT882****Examination II**

This course expands on the examination and evaluation skills of the upper quarter. Students continue to progress interviewing skills through the collection of pertinent medical history, the viewing of applicable imaging, & the gathering of subjective information. As part of the management of patients with upper quarter symptoms, students continue to conduct appropriate systems reviews & administer appropriate tests & measures. Implications for upper quarter evaluation, diagnosis & prognosis are included. Credit Level: G. Credit Hrs: 4.00

**35PT883****Examination III**

This course expands on the examination & evaluation skills of the lower quarter. Students continue to progress interviewing skills through the collection of pertinent medical history, the viewing of applicable imaging, and the gathering of subjective information. As part of the management of patients with lower quarter symptoms, students continue to conduct appropriate systems reviews and administer appropriate tests and measures. Implications for lower quarter evaluation, diagnosis and prognosis are included. Credit Level: G. Credit Hrs: 4.00

**35PT884****Examination IV**

This course expands on the examination and evaluation skills. Emphasis is placed on patients with musculoskeletal systems involving the trunk. Students will also integrate basic examination skills related to posture, gait, spasticity, reflexes and development. Variations within populations will be presented. Credit Level: G. Credit Hrs: 4.00

**35PT885****Imaging I**

This course covers basic principles and interpretation of diagnostic imaging modalities as they apply to physical therapy. The emphasis is on plain film radiography, including the basic physics of imaging techniques, viewing, interpreting films, radiographic anatomy and clinical correlation with orthopedic patient cases. Other types of imaging, including contrast studies, MRI and CT will be examined. Credit Level: G. Credit Hrs: 1.00

Physical Therapy**35PT886****Imaging II**

This course covers basic principles and interpretation of diagnostic imaging modalities as they apply to physical therapy. The emphasis is on the basic physics of imaging techniques, viewing, interpreting films, radiographic anatomy and clinical correlation with patient cases on the chest, abdomen, genitourinary system, and the brain. Other types of imaging including contrast studies, MRI, and CT will be studied. Credit Level: G. Credit Hrs: 1.00

**35PT887****Interventions I**

An introduction to the basic skills required for physical therapists to begin progressive mobility training. Patient problems, lecture and lab will guide students through the development of good body mechanics, the spectrum of mobility training, wheelchair skills, transfers, assistive devices, positioning, draping, and active and passive ROM. Credit Level: G. Credit Hrs: 3.00

**35PT888****Interventions II**

This course will introduce students to physical therapy interventions. Patient problems, lecture & lab will guide students through the development of appropriate positioning, draping & infection control techniques needed for physical agents. Emphasis will be on the physical principles, biophysical effects & clinical indications & procedures associated with the implementation of electrical current, electromagnetic heat, cold, light & acoustic energy & massage in the prevention & treatment of dysfunction. Credit Level: G. Credit Hrs: 4.00

**35PT889****Interventions III**

Students will master the principles of exercise, strengthening, stretching, and advanced therapeutic exercise techniques. The use of basic evaluation techniques to select appropriate exercises will be covered as well as the physiological response to exercise. Theories, advantages, and indications of several approaches will be discussed. Patient problems will be utilized for students to develop exercise programs and become familiar with functional progression. Students will utilize evaluation findings and literature to justify exercises in treatment plan. Credit Level: G. Credit Hrs: 3.00

**35PT900****Introduction to Clinical Education**

Clinical education in the University of Cincinnati's Physical Therapy program makes up 42 weeks of the PT student's preparation for becoming an entry-level physical therapist. This course will prepare the student for their full-time clinical rotations through active learning experiences designed to increase the student's knowledge base in understanding the clinical expectations from the clinical instructor's viewpoint, reviewing case scenarios, successfully completing the APTA certification quiz for the PT CPTI Web, and presenting cases that will enable the student to establish a decision-making framework for clinical issues. Credit Level: G. Credit Hrs: 1.00

**35PT901****Physical Therapy Practice I**

This course will consist of a four-week full-time clinical affiliation experience. The experience is specifically designed to assist the student to begin achieving the competency necessary to work as an entry-level physical therapist; however, the focus of the clinical experience is on the application of evidence and research in the clinical setting. The affiliation will take place in facilities specifically selected by the program to allow the students orientation to evidence based practice. Credit Level: G. Credit Hrs: 4.00

**35PT902****Physical Therapy Practice II**

This experience is designed to assist the student in achieving the competency necessary to work as an entry-level PT. This course will consist of a ten-week full-time clinical affiliation experience in inpatient or outpatient facilities. Students will work under the supervision of an

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Physical Therapy**35PT902****Physical Therapy Practice II**

experienced PT, evaluating patients, giving input to the interpretation of evaluation findings, making progress toward the setting of appropriate functional goals, implementing an appropriate treatment plan and participating in the modification of the treatment plan through the evaluation of its effectiveness. Credit Level: G. Credit Hrs: 10.00

**35PT903****Physical Therapy Practice III**

This experience is designed to assist the student in achieving the competency necessary to work as an entry-level PT. This course will consist of a ten-week full-time clinical affiliation experience in inpatient or outpatient facilities. Specialty areas may include, but not be limited to, skilled nursing facilities, extended care facilities, home health, sports medicine clinics, pediatric settings, or freestanding rehab facilities. Students will be supervised by an experienced PT who will facilitate their skills in patient/client evaluation, interpretation of evaluation/ assessment findings, problem identification and prioritization, functional goal setting, implementation of appropriate treatment plans and modification of treatment plan/intervention via evaluation of effectiveness through ability to monitor outcomes. The student is expected to be much more comprehensive in his/her practice. The PT Practice III experience will offer an opportunity for greater integration of classroom activity with clinical practice. Credit Level: G. Credit Hrs: 10.00

**35PT904****Physical Therapy Practice IV**

This experience will be designed to assist the student in achieving the competency necessary to work as an entry-level PT. This course will consist of a nine-week full-time clinical affiliation experience in inpatient or outpatient facilities. Specialty areas may include, but not limited to, skilled nursing facilities, extended care facilities, home health, sports medicine clinics, pediatric settings or free-standing rehab facilities. Students will be supervised by an experienced PT who will facilitate their skills in patient/client evaluation, interpretation of evaluation/assessment findings, problem identification and prioritization, functional goal setting, implementation of appropriate treatment plans, and modification of treatment plan/ intervention via evaluation of effectiveness through ability to monitor outcomes. PT Practice IV will serve as a capstone experiences. Students should be comprehensive in their practice and largely entry-level in all areas. Credit Level: G. Credit Hrs: 9.00

**35PT905****Physical Therapy Practice V**

This experience will be designed to assist the student in the achievement of entry-level competence in his/her practice of all aspects of PT. This course will consist of a ten-week full-time clinical affiliation experience in inpatient or outpatient facilities. Specialty areas may include, but not be limited to, skilled nursing facilities, extended care facilities, home health, sports medicine clinics, pediatric settings, or freestanding rehab facilities. Students will be supervised by an experienced PT who will facilitate their skills in patient/client evaluation, interpretation of evaluation/ assessment findings, problem identification and prioritization, functional goal setting, implementation of appropriate treatment plans, and modification of treatment plan/intervention via evaluation of effectiveness through ability to monitor outcomes. The PT Practice V is the final capstone experience the student will have in the program. The student should be at entry-level competence in the practice of physical therapy. Credit Level: G. Credit Hrs: 10.00

**35PT910****Research I**

This course will provide an understanding of the skills required in conducting research in health related sciences with emphasis on the PT field. Students will be introduced to the basics of research: thinking processes, design approaches & statistical analysis of findings. They will also be familiarized with the rules & regulations for conducting basic

Physical Therapy**35PT910****Research I**

& clinical research. In addition, students will be introduced to guidelines for writing research protocols. Finally, they will acquire skills necessary to conduct and present their findings for publications or presentations. Credit Level: G. Credit Hrs: 3.00

**35PT911****Clinical Research I**

The goal of this class is to prepare students to conduct their research capstone project. The majority of students will conduct a case study as their capstone project. This course will review research methodology with the focus of conducting a clinical case study. Students will be introduced to scientific writing techniques. In order to prepare the students for the research capstone project, they will be assigned a simulated clinical patient (written) and be asked to design a case study for that patient including conducting a literature search. Finally, during this quarter students will be assigned a faculty advisor and begin to identify a possible capstone project. The faculty advisor will be the instructor through the Clinical Research II-V. The culmination of the Clinical Research series will be a research capstone project that the students will present (either poster or oral) at the annual College of Allied Health Sciences research day, PRaISE. In addition, the faculty advisor may request that the student submit the case study for future dissemination in a peer reviewed journal or at a conference. Credit Level: G. Credit Hrs: 1.00-3.00

**35PT912****Clinical Research II**

The goal is to guide the student's progress toward completion of the research capstone project. The faculty advisor is the instructor for the series of Clinical Research II-V. Students have the option of choosing to complete a case study or making a contribution to the American Physical Therapy "Hooked on Evidence" site. The capstone project is the culmination of the Clinical Research course series. Completion of the capstone will require students to search the literature in a specific area of physical therapy practice, analyze and critically evaluate the literature, and apply the knowledge gained from the literature in a scientific manner to the appropriate population. Results of the capstone project will be presented in a poster or oral format at the College of Allied Health Sciences annual student PRaISE conference. In addition, the faculty advisor may request that the student submit the capstone project for future dissemination in a peer reviewed journal or at a conference. Assignment of the faculty advisor and identification of a capstone project occurs during Clinical Research I. Credit Level: G. Credit Hrs: 1.00-3.00

**35PT913****Clinical Research III**

The goal is to guide the student's progress toward completion of the research capstone project. The faculty advisor is the instructor for the series of Clinical Research II-V. Students have the option of choosing to complete a case study or making a contribution to the American Physical Therapy "Hooked on Evidence" site. The capstone project is the culmination of the Clinical Research course series. Completion of the capstone will require students to search the literature in a specific area of physical therapy practice, analyze and critically evaluate the literature, and apply the knowledge gained from the literature in a scientific manner to the appropriate population. Results of the capstone project will be presented in a poster or oral format at the College of Allied Health Sciences annual student PRaISE conference. In addition, the faculty advisor may request that the student submit the capstone project for future dissemination in a peer reviewed journal or at a conference. Assignment of the faculty advisor and identification of a capstone project occurs during Clinical Research I. Credit Level: G. Credit Hrs: 1.00-3.00

**35PT914****Clinical Research IV**

The goal is to guide the student's progress toward completion of the research capstone project. The faculty advisor is the instructor for the

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Physical Therapy**35PT914****Clinical Research IV**

series of Clinical Research II-V. Students have the option of choosing to complete a case study or making a contribution to the American Physical Therapy "Hooked on Evidence" site. The capstone project is the culmination of the Clinical Research course series. Completion of the capstone will require students to search the literature in a specific area of physical therapy practice, analyze and critically evaluate the literature, and apply the knowledge gained from the literature in a scientific manner to the appropriate population. Results of the capstone project will be presented in a poster or oral format at the College of Allied Health Sciences annual student PRAISE conference. In addition, the faculty advisor may request that the student submit the capstone project for future dissemination in a peer reviewed journal or at a conference. Assignment of the faculty advisor and identification of a capstone project occurs during Clinical Research I. Credit Level: G. Credit Hrs: 1.00-3.00

**35PT915****Clinical Research V**

The goal is to guide the student's progress toward completion of the research capstone project. The faculty advisor is the instructor for the series of Clinical Research II-V. Students have the option of choosing to complete a case study or making a contribution to the American Physical Therapy "Hooked on Evidence" site. The capstone project is the culmination of the Clinical Research course series. Completion of the capstone will require students to search the literature in a specific area of physical therapy practice, analyze and critically evaluate the literature, and apply the knowledge gained from the literature in a scientific manner to the appropriate population. Results of the capstone project will be presented in a poster or oral format at the College of Allied Health Sciences annual student PRAISE conference. In addition, the faculty advisor may request that the student submit the capstone project for future dissemination in a peer reviewed journal or at a conference. Assignment of the faculty advisor and identification of a capstone project occurs during Clinical Research I. Credit Level: G. Credit Hrs: 1.00-3.00

Physical Therapy Technology**35PTTN204****Physical Therapist Assisting Assessments**

The student will learn how to measure joint range of motion and how to perform manual muscle testing. Normal range of motion and kinesiology are emphasized. Prereq: C or better in 35-PTTN-203 BoK: NS. Credit Level: U. Credit Hrs: 6.00

**35PTTN205****Therapeutic Exercise**

In-depth study of therapeutic exercise with emphasis on anatomy, kinesiology, and neurological principles. Prereq: C or better in 35-PTTN-204. Prereq: 35PTTN204. BoK: NS. Credit Level: U. Credit Hrs: 6.00

**35PTTN211****Physical Therapist Assisting Sports Medicine Seminar**

This course will cover treatment, care, rehabilitation and prevention of sports and common orthopedic injuries. These concepts will be presented through the use of lecture, discussion, demonstration, laboratory and visual media. Prereq: C or better in all previous Technical Core coursework. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35PTTN212****Physical Therapist Assisting Pediatric/Geriatric Seminar**

A study of the special needs of the pediatric patient, the permanently disabled, and the geriatric patient with emphasis on functions related to activities of daily living. Prereq: 35PTTN211 & C or better in all previous Technical Core coursework. Prereq: 35PTTN211. BoK: NA. Credit Level: U. Credit Hrs: 3.00

Physical Therapy Technology**35PTTN213****Physical Therapy Seminar III**

Course occurs during the Spring quarter of the technical core year. Review of content in preparation for the licensing exam occurs and information on preparing for employment is reviewed. Prereq: 35-PTTN 212 & C or better in all previous Technical Core coursework. BoK: NA. Credit Level: U. Credit Hrs: 1.00

**35PTTN273****Physical Therapist Assisting Functional Anatomy**

In-depth study of human anatomy with emphasis on muscles, ligaments, the peripheral neurological and vascular systems, and joint movement. Important kinesiological concepts are covered and correlated to the respective anatomy. Prereq: C or better in all previous Technical Core coursework. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35PTTN274****Applied Neuroanatomy**

This course will cover the basic functional anatomy of the human nervous system. Emphasis will be placed on the structure and function of the major components of the central and peripheral nervous systems. This information will enable the student to explain and understand the basis of several nervous system diseases and dysfunctions. Additionally, treatment techniques for the neurologically involved client will be reviewed and discussed. Prereq: C or better in all previous Technical Core coursework. Prereq: 35 PTTN 273 & C or better in all previous Technical Core coursework. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35PTTN277****Physical Therapist Assisting Problems-Applications**

Students will perform various exercise and rehabilitative programs in a clinical setting under the supervision of a PT. Students must have a current CPR certification in order to take this course. Prereq: C or better in all Technical Core Winter courses. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35PTTN281****Physical Therapist Assisting-Modalities**

Student will apply simple and complex modality treatments in a clinical setting under the supervision of a PT. Students must have a current CPR certification in order to take this course. Prereq: C or better in all Technical Core Winter courses. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35PTTN283****Physical Therapist Asst Problems-Therapeutic Exercise**

Student will develop and carry out exercise programs for patients in a clinical setting under the supervision of a PT. Students must have a current CPR certification in order to take this course. Prereq: C or better in all Technical Core Winter courses. BoK: NA. Credit Level: U. Credit Hrs: 3.00

**35PTTN285****Cardiopulmonary Function**

Study of the relationship among the heart, lungs, and circulatory systems. Disease processes, cardiac rehabilitation, physical fitness, exercise, and wellness are studied. Prereq: C or better in all previous Technical Core coursework. BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35PTTN287****Physical Rehabilitation**

This course will cover rehabilitation concepts and the special needs of the rehabilitation patient. Collaboration with other health care professionals using a team approach is emphasized. The rehabilitation of patients with stroke, brain injury, spinal cord injury, amputations, and total joint replacement will be included. Specific treatment approaches will be offered. Lab time and patient interaction will be provided. Prereq: C or better in all previous Technical Core coursework. BoK: NS. Credit Level: U. Credit Hrs: 3.00

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Physical Therapy Technology**35PTTN289****Clinical Integration**

This course combines knowledge of the various aspects of muscle physiology and the mechanical principles of human movement with a study of human kinesiology and those injuries and diseases which limit normal function and movement. The course will be disease oriented  
BoK: NS. Credit Level: U. Credit Hrs: 3.00

**35PTTN294****Human Behavior in Health & Sickness for Health Related Programs**

This course will discuss the various aspects of human behavior in response to illness. Emphasis will be on understanding normal versus abnormal reactions to illness, and therefore being able to apply the most effective therapy regimen. The course will consist of lectures, case studies, and observation of psychiatric evaluations. This course is available to all majors. BoK: SS. Credit Level: U. Credit Hrs: 3.00

**35PTTN298****Clinical Internship**

Student will prepare and perform PT treatments in a physical therapy facility under the supervision of a licensed physical therapist. Students must have a current CPR certification in order to take this course. Prereq: C or better in all Technical Core Winter courses. BoK: NA. Credit Level: U. Credit Hrs: 6.00