

DEPARTMENT OF EXERCISE & REHABILITATION SCIENCES

Eric Longsdorf, Chair and Interim Exercise Science Program Director
 Holly Eichner, Recreation Therapy Program Director
 Nicole McKenzie, Respiratory Care Program Director
 Jennifer Glassman, Speech-Language Pathology Program Director

The Department of Exercise and Rehabilitation Sciences offers undergraduate degree programs in exercise science, recreation therapy, respiratory care, and speech-language pathology. A minor in exercise science is available.

Accreditation

- The BS in Recreation Therapy degree program is accredited by Council on Accreditation of Parks, Recreation, Tourism and Related Professions (COAPRT).
- The BS in Respiratory Care degree program is accredited by the Commission on Accreditation for Respiratory Care (CoARC).

Degrees Offered

- BS in Exercise Science (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/bs-exercise-science/>)
- BA in Health Sciences (<https://catalog.utoledo.edu/undergraduate/health-human-services/population-health/ba-health-sciences/>)
- BS in Health Sciences (<https://catalog.utoledo.edu/undergraduate/health-human-services/population-health/bs-health-sciences/>)
- BS in Recreation Therapy (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/bs-recreation-therapy/>)
- BS in Registered Respiratory Therapy (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/bs-registered-respiratory-therapy/>)
- BS in Respiratory Care (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/bs-respiratory-care/>)
- BS in Speech-Language Pathology (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/bs-speech-language-pathology/>)
- Minor in Exercise Science (<https://catalog.utoledo.edu/undergraduate/health-human-services/exercise-rehabilitation-sciences/minor-exercise-science/>)

EXSC 1460 Fundamentals of Anatomy and Physiology Lab

[1 credit hour]

Laboratory sessions designed to provide the fundamentals of anatomy and physiology of the cell, tissues, and major organ systems of the human body using a systemic approach. Topics include scientific method, anatomical terminology, the cell, the four tissue types, and the eleven organ systems of the human body.

Corequisites: EXSC 1560

Term Offered: Spring, Summer, Fall

Core Natural Sciences

EXSC 1560 Fundamentals of Anatomy and Physiology

[3 credit hours]

This course describes the fundamentals of anatomy and physiology of the cell, tissues, and major organ systems of the human body using a systemic approach. Topics include anatomical terminology, homeostasis, the cell, the four tissue types, and the eleven organ systems of the human body.

Corequisites: EXSC 1460

Term Offered: Spring, Summer, Fall

Core Natural Sciences

EXSC 1700 Intro to Exercise Science

[2 credit hours]

An introduction to the professions involving exercise science, sports science, athletic training and rehabilitation therapy. Emphasis is on basic concepts of anatomical, neurological, physiological, biomechanical and psychological function in human movement.

Term Offered: Spring, Fall

EXSC 2460 Human Anatomy And Physiology I Lab

[1 credit hour]

Laboratory exercise in anatomical terminology, cell division and transport, histology, and dissection, identification, and physiology of the skeletal system, skeletal muscle system, and nervous system; including the eye and ear.

Corequisites: EXSC 2560

Term Offered: Spring, Summer, Fall

Core Natural Sciences

EXSC 2470 Human Anatomy And Physiology II Lab

[1 credit hour]

Laboratory exercises in endocrine, cardiovascular, respiratory, digestive, lymphatic, urinary, and reproductive anatomy, histology, physiology, including computer assisted experiments.

Corequisites: EXSC 2570

Term Offered: Spring, Summer, Fall

EXSC 2510 Human Anatomy

[3 credit hours]

An integrated study of both regional anatomy and musculoskeletal, cardiovascular, lymphatic, respiratory, neurologic, digestive, renal, endocrine and reproductive systems. Required for students in exercise science and allied health professional programs.

Prerequisites: KINE 1700 with a minimum grade of C or EXSC 1700 with a minimum grade of C

Corequisites: EXSC 2520

Term Offered: Spring, Summer, Fall

Core Natural Sciences

EXSC 2520 Human Anatomy Lab

[1 credit hour]

Laboratory exercises in musculoskeletal, neurological, cardiovascular and respiratory anatomy.

Corequisites: EXSC 2510

Term Offered: Spring, Summer, Fall

Core Natural Sciences

EXSC 2530 Human Physiology

[3 credit hours]

This course provides foundational information on human physiology. Emphasis is placed on cell physiology, metabolism, as well as the musculoskeletal, cardiovascular, respiratory, endocrine, and immune systems in the maintenance of normal body function.

Prerequisites: (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C) or (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C)

Term Offered: Spring, Summer, Fall

EXSC 2540 Human Physiology Lab

[1 credit hour]

Laboratory exercises in musculoskeletal, neurological, cardiovascular and respiratory physiology.

Corequisites: EXSC 2530

Term Offered: Spring, Summer, Fall

EXSC 2560 Anatomy and Physiology I

[3 credit hours]

Anatomy and physiology of the human body. Study of cells, tissues, special senses, and the skeletal, muscle, and nervous systems.

Corequisites: EXSC 2460

Term Offered: Spring, Summer, Fall

Core Natural Sciences, OT36 Natural Science

EXSC 2570 Human Anatomy and Physiol II

[3 credit hours]

Anatomy and physiology of human endocrine, blood, cardiovascular, lymphatic, respiratory, digestive, urinary and electrolyte, and reproductive systems.

Prerequisites: (KINE 2460 with a minimum grade of C and KINE 2560 with a minimum grade of C) or (EXSC 2460 with a minimum grade of C and EXSC 2560 with a minimum grade of C)

Corequisites: EXSC 2470

Term Offered: Spring, Summer, Fall

EXSC 2580 Human Pathophysiology For Health Care

[3 credit hours]

Study of pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reactions to diseases and injuries of organ systems.

Prerequisites: (KINE 2460 with a minimum grade of D- and KINE 2470 with a minimum grade of D- and KINE 2560 with a minimum grade of D- and KINE 2570 with a minimum grade of D-) or (KINE 2510 with a minimum grade of D- and KINE 2520 with a minimum grade of D-) or (EXSC 2460 with a minimum grade of D- and EXSC 2470 with a minimum grade of D- and EXSC 2560 with a minimum grade of D- and EXSC 2570 with a minimum grade of D-) or (EXSC 2510 with a minimum grade of D- and EXSC 2520 with a minimum grade of D-)

Term Offered: Spring, Fall

EXSC 2590 Microbiology and Infectious Diseases

[3 credit hours]

This course describes and differentiates basic Microbiology topics as well as covering bacterial, viral, and protozoan infections within various body systems.

Prerequisites: BIOL 2150 with a minimum grade of C or BIOL 2170 with a minimum grade of C or EEES 2150 with a minimum grade of C or KINE 2510 with a minimum grade of C or KINE 2530 with a minimum grade of C or KINE 2560 with a minimum grade of C or EXSC 2510 with a minimum grade of C or EXSC 2530 with a minimum grade of C or EXSC 2560 with a minimum grade of C

Term Offered: Spring, Summer, Fall

EXSC 3200 Advanced Human Anatomy

[3 credit hours]

An elective course that applies musculoskeletal anatomy to human movement, function, injury evaluation and rehabilitation through in cadaver observation and dissection.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C)

Term Offered: Spring, Summer, Fall

EXSC 3240 Concepts of Exercise Fitness and Health Strategies

[3 credit hours]

This focus of this course is the self-exploration of the importance of regular physical activity including cardiovascular and muscular exercise on maintaining physical fitness and wellness. Students will conduct fitness assessments. Min. grade of C for HPFP concentration.

Prerequisites: EXSC 1560 with a minimum grade of C and EXSC 1460 with a minimum grade of C or (EXSC 2560 with a minimum grade of C and EXSC 2460 with a minimum grade of C and EXSC 2570 with a minimum grade of C and EXSC 2470 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C)

Term Offered: Spring, Summer, Fall

EXSC 3520 Applied Exercise Physiology

[3 credit hours]

This course will provide information related to the physiological responses of the human organism to exercise and exercise training. Emphasis will also be placed on the role exercise plays in health and disease prevention.

Prerequisites: KINE 2530 with a minimum grade of C or KINE 2570 with a minimum grade of C or EXSC 2530 with a minimum grade of C or EXSC 2570 with a minimum grade of C

Term Offered: Spring, Summer, Fall

EXSC 3530 Applied Exercise Physiology Laboratory

[1 credit hour]

This course is the laboratory component of the applied exercise physiology course. Emphasis will be placed on the concepts learned in lecture. This will occur through hands-on activities and experiments involving various forms of exercise testing and the use of standardized equipment.

Corequisites: EXSC 3520

Term Offered: Spring, Summer, Fall

EXSC 3580 Exercise Pathophysiology

[3 credit hours]

A discovery of the pathophysiology of organ systems, concentrating on metabolic, cardiovascular, respiratory, endocrine, muscle, and gastrointestinal systems with exercise as a guiding element of discussion.

Prerequisites: EXSC 2530 with a minimum grade of C

Term Offered: Spring, Fall

EXSC 3620 Professional Responsibilities in the Fitness Industry

[3 credit hours]

This course examines the ethical, legal and professional responsibilities of working in an allied health profession as a personal trainer, fitness consultant or exercise specialist. Min. grade of C for HPFP concentrations.

Term Offered: Spring, Fall

EXSC 3650 Foundations of Sports Medicine

[3 credit hours]

A review of the foundation aspects of sports medicine, including but not limited to: prevention and wellness, emergency care, clinical examination and diagnosis, therapeutic interventions and aspects of professional practice. Specifically relates to the fields of athletic training, sports medicine, musculoskeletal rehabilitation and orthopedic medicine. Course will also include observation of sports medicine professionals in a clinical setting.

EXSC 3680 Sport and Exercise Pharmacology

[3 credit hours]

Provide the basics of pharmacology related to sport and exercise including: pharmacokinetics, indications and contradictions of various drugs and legal concerns related to using therapeutic and non-therapeutic drugs. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 2560 with a minimum grade of C and KINE 2460 with a minimum grade of C and KINE 2570 with a minimum grade of C and KINE 2470 with a minimum grade of C) or (EXSC 2560 with a minimum grade of C and EXSC 2460 with a minimum grade of C and EXSC 2570 with a minimum grade of C and EXSC 2470 with a minimum grade of C) or (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C)

Term Offered: Spring

EXSC 3830 Principles of Strength Conditioning

[3 credit hours]

This course provides students with a fundamental understanding of muscular strength conditioning principles and the application of these principles to exercise programming relevant to physical activity and athletic performance. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C) or (KINE 2560 with a minimum grade of C and KINE 2460 with a minimum grade of C and KINE 2570 with a minimum grade of C and KINE 2470 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2560 with a minimum grade of C and EXSC 2460 with a minimum grade of C and EXSC 2570 with a minimum grade of C and EXSC 2470 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C)

Term Offered: Fall

EXSC 3850 Cardiac Dysrhythmia Interpretation

[3 credit hours]

This course examines cardiac anatomy, electrophysiology and basic cardiac rhythms with an emphasis on the recognition and interpretation of cardiac dysrhythmias. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C)

Corequisites: EXSC 3860

Term Offered: Fall

EXSC 3860 Cardiac Dysrhythmia Lab

[1 credit hour]

This course is the practical application of the techniques required to administer a 12 lead EKG at rest and during exercise. Students will record multiple EKG's and interpret the rhythm. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C)

Corequisites: EXSC 3850

Term Offered: Fall

EXSC 3950 Research Design in Exercise Science

[3 credit hours]

This course emphasizes the design, analysis and interpretation of qualitative and quantitative research methods in the areas of athletic training, exercise science and other health-related fields. Min. grade of C or better for HPFP concentration.

Prerequisites: MATH 2600 with a minimum grade of D- or RESM 4100 with a minimum grade of D-

Term Offered: Spring, Fall

EXSC 4140 Fitness Internship I

[4 credit hours]

Students will actively engage and participate in the day-to-day functions including operational, managerial and client assessments in a health, wellness or fitness facility (16 hours/week). Min. grade of C for HPFP concentration.

Prerequisites: (KINE 3850 with a minimum grade of C and KINE 3860 with a minimum grade of C and KINE 4850 with a minimum grade of C and KINE 4860 with a minimum grade of C) or (EXSC 3850 with a minimum grade of C and EXSC 3860 with a minimum grade of C and EXSC 4850 with a minimum grade of C and EXSC 4860 with a minimum grade of C)

Term Offered: Fall

EXSC 4210 Exercise Facility Management

[3 credit hours]

Students will develop an understanding of the skills necessary for marketing, promoting and managing various fitness, wellness and rehabilitation facilities. Min. grade of C for HPFP concentration.

Term Offered: Spring

EXSC 4250 Readings in Exercise Biology

[3 credit hours]

Faculty and student directed readings of original research in Exercise Biology, along with laboratory demonstrations. Readings will focus on how changes in physical activity influence the biology of skeletal muscle.

Term Offered: Spring, Fall

EXSC 4540 Applied Biomechanics

[3 credit hours]

This course focuses on the application of biomechanics concepts to the acquisition and refinement of fundamental movement patterns, basic functional skills and sport activities. Such topics as locomotion, balance and the biomechanical basis of injury are examined.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2530 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2530 with a minimum grade of C)

Term Offered: Spring, Fall

EXSC 4550 Applied Biomechanics Lab

[1 credit hour]

This course is the laboratory component of the applied biomechanics course. Emphasis will be placed on the application of the concepts learned in lecture to rehabilitation, sports in jury, exercise, and sport situations. This will occur through hands-on activities and experiments involving contemporary forms of biomechanical instrumentation.

Corequisites: EXSC 4540

Term Offered: Spring, Fall

EXSC 4640 Neurological And Pathological Foundations Of Rehabilitation

[3 credit hours]

Study of neurological control of normal movement and the implications of various medical pathologies for rehabilitation. Emphasis on inflammatory processes, metabolic and vascular disturbances, traumatic injuries, nutritional deficiencies, neoplasms, degenerative conditions and congenital disorders.

Prerequisites: (KINE 2510 with a minimum grade of C or KINE 2560 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C or EXSC 2560 with a minimum grade of C)

Term Offered: Spring, Summer, Fall

EXSC 4830 Principles of Endurance Conditioning

[3 credit hours]

This course is intended to prepare students with a fundamental understanding of endurance conditioning principles and the application of these principles to exercise programming relevant to physical activity and athletic performance.

Prerequisites: (KINE 2510 with a minimum grade of C and KINE 2520 with a minimum grade of C and KINE 2530 with a minimum grade of C and KINE 2540 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2510 with a minimum grade of C and EXSC 2520 with a minimum grade of C and EXSC 2530 with a minimum grade of C and EXSC 2540 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C) or (KINE 2560 with a minimum grade of C and KINE 2460 with a minimum grade of C and KINE 2570 with a minimum grade of C and KINE 2470 with a minimum grade of C and KINE 3520 with a minimum grade of C and KINE 3530 with a minimum grade of C) or (EXSC 2560 with a minimum grade of C and EXSC 2460 with a minimum grade of C and EXSC 2570 with a minimum grade of C and EXSC 2470 with a minimum grade of C and EXSC 3520 with a minimum grade of C and EXSC 3530 with a minimum grade of C)

Term Offered: Fall

EXSC 4840 Fitness Internship II

[4 credit hours]

Students will actively engage and participate in the day-to-day functions including operational, managerial and client assessments in a health, wellness or fitness facility (16 hours/week). Min. grade of C for HPFP concentration.

Prerequisites: KINE 4140 with a minimum grade of D- or EXSC 4140 with a minimum grade of D-

Term Offered: Spring

EXSC 4850 Clinical Exercise Testing

[3 credit hours]

The purpose of this course is to provide students with an understanding of the relationship between exercise and chronic disease, an understanding of the mechanisms and adaptations by which exercise influences the disease process, and an understanding of the role and importance of exercise testing and training in the prevention, evaluation and treatment of these chronic diseases. Min. grade of C for HPFP concentration.

Prerequisites: (KINE 3850 with a minimum grade of C and KINE 3860 with a minimum grade of C) or (EXSC 3850 with a minimum grade of C and EXSC 3860 with a minimum grade of C)

Term Offered: Spring

EXSC 4860 Clinical Exercise Testing Lab

[1 credit hour]

The purpose of this course is to provide students with the skills needed to perform a 12 lead electrocardiogram stress test on their own. Min. grade of C for HPFP concentration.

Prerequisites: EXSC 3520 with a minimum grade of C- and EXSC 3530 with a minimum grade of C-

Corequisites: EXSC 4850

Term Offered: Spring

EXSC 4900 Human Performance Seminar

[1-3 credit hours]

Classroom and laboratory analysis of current research in varied topic areas.

Term Offered: Spring, Fall

EXSC 4940 Internship-Practicum

[2-15 credit hours]

Clinical experience in locations both inside and outside the university setting. Placement depends on area of study.

Term Offered: Summer

EXSC 4990 Independent Study In Exercise Science

[1-3 credit hours]

Directed individual study. Specialty title, seminar sheet and permission of instructor required.

Term Offered: Spring, Summer, Fall

OCCT 1000 Toledo Transition (T2) - Postsecondary Program Seminar

[1-5 credit hours]

Addresses topics on independent living, self-determination & student development, academics, and employment.

Term Offered: Spring, Summer, Fall

OCCT 2550 PURPOSEFUL LIVING ROLE OF OCCUPATIONAL THERAPY

[3 credit hours]

Introduces the occupational therapy profession and occupational therapy's role in maintaining functional daily living. Explore your daily occupations through self-reflection and develop strategies for personal growth.

Term Offered: Spring, Fall

OCCT 3990 Independent Study in Occupational Therapy

[0-3 credit hours]

A course designed to provide educational opportunities related to occupational therapy under the direct supervision of a faculty member. Requires an agreement between the student and instructor/advisor.

Term Offered: Spring, Summer, Fall

RCBS 3010 Respiratory Care Fundamentals

[4 credit hours]

A study of the anatomy and physiology of the respiratory and cardiovascular systems, including the physics of gas exchange, ventilation, and blood flow.

Corequisites: RCBS 3020

Term Offered: Summer

RCBS 3020 Respiratory Care Practice I

[4 credit hours]

An introductory experience in the basic assessment and care of the patient with cardiopulmonary disease. Ethical issues, interpersonal communication, and infection control in the healthcare setting will also be covered.

Corequisites: RCBS 3010

Term Offered: Summer

RCBS 3110 Respiratory Care Therapeutics I

[4 credit hours]

Etiology, pathophysiology, clinical manifestations, and treatment of selected diseases of pulmonary and cardiovascular systems with emphasis on pharmacologic principles and agents used in the treatment of those diseases.

Prerequisites: (RCBS 3010 with a minimum grade of D- and RCBS 3020 with a minimum grade of D-)

Term Offered: Fall

RCBS 3120 Respiratory Care Practice II

[7 credit hours]

Didactic, laboratory, and introductory clinical experiences with a variety of equipment and procedures that are used to establish and maintain a patent airway, and to monitor and treat patients with cardiopulmonary diseases.

Prerequisites: (RCBS 3010 with a minimum grade of D- and RCBS 3020 with a minimum grade of D-)

Term Offered: Fall

RCBS 3130 Cardiopulmonary Diagnostics I

[4 credit hours]

Discussion of the theory and selected techniques used in cardiopulmonary diagnostics, including analysis of blood gases, cardiac rhythms, hemodynamic monitoring values, spirometry results, and chest x-rays.

Prerequisites: (RCBS 3010 with a minimum grade of D- and RCBS 3020 with a minimum grade of D-)

Term Offered: Fall

RCBS 3200 Introduction to Critical Care

[1 credit hour]

An introductory experience in the theory, initiation and practice of providing non-invasive and mechanical ventilation in a critical care setting.

Prerequisites: RCBS 3110 with a minimum grade of C and RCBS 3120 with a minimum grade of C and RCBS 3130 with a minimum grade of C

Term Offered: Spring

RCBS 3210 Respiratory Care Therapeutics II

[4 credit hours]

Continuation of RCBS 3110 with consideration of disease states of the pulmonary and cardiovascular systems not previously considered. Emphasis on analysis of assessment, diagnosis and treatment of individual patients by students.

Prerequisites: (RCBS 3110 with a minimum grade of D- and RCBS 3120 with a minimum grade of D- and RCBS 3130 with a minimum grade of D-)

Term Offered: Spring

RCBS 3220 Respiratory Care Practice III

[7 credit hours]

Theoretical principles involved in the initiation, maintenance, and discontinuance of mechanical ventilation. Laboratory experiences with a variety of adult mechanical ventilators. Clinical experiences providing respiratory care for patients requiring mechanical ventilation.

Prerequisites: (RCBS 3110 with a minimum grade of D- and RCBS 3120 with a minimum grade of D- and RCBS 3130 with a minimum grade of D-)

Term Offered: Spring

RCBS 3230 Cardiopulmonary Diagnostics II

[2 credit hours]

Classroom and field experiences in the theory and practice of selected cardiopulmonary diagnostic procedures including measures of pulmonary volumes, flows, gas distribution, and gas diffusion. Capnography, exercise testing, and specialized test regimens will also be covered.

Prerequisites: (RCBS 3110 with a minimum grade of C and RCBS 3120 with a minimum grade of C and RCBS 3130 with a minimum grade of C)

Term Offered: Spring, Fall

RCBS 3300 Advanced Cardiac Life Support

[1 credit hour]

American Heart Association Advanced Cardiac Life Support course designed to aid in the management of cardiopulmonary emergencies. Students must have previous knowledge of cardiac pharmacology and rhythms, and current CPR certification.

Term Offered: Spring, Fall

RCBS 4140 Integrated Clinical Practice I

[4 credit hours]

Clinical experiences in the acute care setting that requires the application of theory related to the diagnosis, treatment and management of adult, neonatal and pediatric patients with cardiopulmonary disease.

Prerequisites: (RCBS 3210 with a minimum grade of D- and RCBS 3220 with a minimum grade of D- and RCBS 3230 with a minimum grade of D-)

Term Offered: Summer, Fall

RCBS 4150 Neonatal/Pediatric Respiratory Care

[4 credit hours]

A discussion of the etiology, pathophysiology and treatment of neonatal and pediatric disorders. Laboratory exercises designed to familiarize student with neonatal and pediatric resuscitation and ventilation.

Prerequisites: (RCBS 3210 with a minimum grade of D- and RCBS 3220 with a minimum grade of D- and RCBS 3230 with a minimum grade of D-)

Term Offered: Spring, Fall

RCBS 4160 Clinical Assessment

[3 credit hours]

This course will provide the students with knowledge and enhance their critical thinking skills related to patient assessment and the development and modification of patient respiratory care plans.

Prerequisites: (RCBS 3210 with a minimum grade of D- and RCBS 3220 with a minimum grade of D- and RCBS 3230 with a minimum grade of D-)

Term Offered: Spring, Fall

RCBS 4240 Integrated Clinical Practice II

[3 credit hours]

Clinical experiences with a primary focus on advanced skills used in the management of cardiopulmonary patients of all ages in the acute and subacute care settings.

Prerequisites: (RCBS 4150 with a minimum grade of D- and RCBS 4140 with a minimum grade of D-)

Term Offered: Spring

RCBS 4510 Respiratory Care in Alternate Sites

[3 credit hours]

The delivery of care to cardiopulmonary patients outside of the acute care facility will be discussed. Standards of care in addition to the funding of this care will be investigated. Special procedures in respiratory care will be presented.

Term Offered: Spring, Fall

RCBS 4700 Research Analysis In Respiratory Care

[3 credit hours]

Review of appropriate statistical knowledge required to analyze applied/clinical and basic published research. Includes a review of the elements of basic research design, reliability and validity, and critical review of cardiopulmonary research literature.

Term Offered: Spring, Fall

RCBS 4800 Issues In Professional Practice

[3 credit hours]

A capstone course designed to prepare the senior student for professional practice. Decision-making skills in complex clinical situations are developed through the use of clinical simulations and student case presentations.

Prerequisites: (RCBS 4140 with a minimum grade of D- and RCBS 4150 with a minimum grade of D- and RCBS 4160 with a minimum grade of D- and RCBS 4700 with a minimum grade of D-)

Term Offered: Spring, Fall

RCBS 4810 Preparation For Professional Practice

[1 credit hour]

This laboratory course is designed to complement the corequisite RCBS 4800 lecture course. Emphasis on enhancing the students' ability to integrate complex cognitive and psychomotor skills in preparation for professional practice.

Term Offered: Spring

RCBS 4990 Independent Study

[1-4 credit hours]

Independent study of specific topics and issues under the supervision of a faculty member of the department of health promotion and human performance. The student will participate in independent reading, clinical/laboratory research, field experience and other similar activities. Independent study course must have a specialty; seminar sheet required.

Term Offered: Spring

RCRT 1300 Introduction To Recreation And Leisure Studies

[3 credit hours]

An introductory course which gives an overview of recreation and leisure in educational, governmental, institutional and professional settings. Explores historical, social and economic implications from personal and professional perspectives. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 1310 Introduction to Recreational Therapy Programming

[3 credit hours]

An introductory course that presents theories and principles of programming, program planning, practical experiences in implementation, and facilitation of recreational therapy programs. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 3310 Inclusion and Recreational Therapy Services

[3 credit hours]

An introductory course which defines the principals of inclusion and major legislation that impacts the provision and delivery of recreational therapy services for individuals with disabilities. Thirty hour volunteer component required. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 3710 Outdoor and Adaptive Sports Program Delivery in Recreational Therapy Practice

[3 credit hours]

An introduction to theory and techniques related to risk management, leadership, and administration of outdoor pursuits in RT practice as it applies to working with individuals in clinical and non-clinical settings. Students will also gain an understanding of adapted sports, modification of equipment, adapted sports competition for persons with disabilities and the classification system governing adapted sports competition for veterans. Minimum "C" required for RCRT majors. Prerequisite: Senior Standing and Acceptance in the Recreational Therapy program.

Term Offered: Spring, Fall

RCRT 4000 Community and Event Planning in Recreational Therapy Service

[3 credit hours]

This course introduces the principles, strategies, and risk management concerns for planning a variety of events to achieve RT treatment outcomes and community/social integration. Students gain experience planning accessible events for a variety of group sizes and diverse populations in RT service. Event critiques required. Minimum "C" required for RCRT majors.

Term Offered: Summer, Fall

RCRT 4010 Planning & Promotion of Sport

[3 credit hours]

This course focuses on the basic principles of marketing and delivery of services associated with intercollegiate athletics, professional, and multi-sport club operations, facilities and management of resources. This course also examines motivation and behavior of sports tourists.

Term Offered: Fall

RCRT 4040 Recreational Therapy Services within the Veterans Administration

[3 credit hours]

The course will focus on current trends, issues, and clinical techniques specific to serving Veterans within the Veteran's Administration VA system as a Recreational Therapist. Course content will include orientation to military culture and rituals, specific diagnoses, and conditions commonly experienced by Veterans, delivery of outcome-based RT interventions and special programs, partnerships, and an in-depth look into internships and employment opportunities within the VA system.

Term Offered: Spring, Fall

RCRT 4330 Administration In Recreational Therapy

[3 credit hours]

This course focuses on the administrative functions of delivering Recreational Therapy services. Students will gain an understanding of the aspects of management principles including ethics, legislation, technology, quality management, risk management, financial and human resources, marketing, and accrediting agencies. Minimum "C" required for RCRT majors. Note: Senior Standing and Acceptance in the Recreational Therapy program.

Term Offered: Spring, Fall

RCRT 4340 Leisure, Recreation, And Aging in Recreational Therapy Practice

[3 credit hours]

This course provides a study of the impacts of aging on leisure and recreation activities during middle and later adulthood by investigating the aging process, leisure across the lifespan, and the impact of leisure and recreation on quality of life and wellness from an RT perspective. Minimum grade of "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4440 Park And Recreation Planning

[3 credit hours]

An integration of landscape architecture, facility design and location, as well as the functional aesthetic considerations of park and recreational facility planning. Emphasis will be on plan-formulation procedures.

Term Offered: Spring

RCRT 4450 Research Applications In Recreational Therapy

[3 credit hours]

This course introduces research applications utilized by Recreation Therapy practitioners. Students will learn about evidence based practice, development and implementation of survey research, and the use of experimental designs. Minimum "C" required for RCRT majors.

Term Offered: Fall

RCRT 4560 Recreational Therapy Interventions 1

[3 credit hours]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using Recreational Therapy interventions utilizing leisure education, assistive technology, and animal assisted therapy within treatment settings. Minimum "C" required for RCRT majors. Registration restriction: Acceptance into the RT professional sequence.

Term Offered: Fall

RCRT 4565 Recreational Therapy Interventions 2

[3 credit hours]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using Recreational Therapy interventions utilizing therapeutic art, horticulture, and stress management/relaxation therapy within treatment settings. Minimum "C" required for RCRT majors.

Term Offered: Spring

RCRT 4570 Recreational Therapy Interventions 3

[2 credit hours]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using Recreational Therapy interventions utilizing therapeutic fitness and aquatic therapy within treatment settings. Minimum "C" required for RCRT majors.

Term Offered: Fall

RCRT 4600 Therapeutic Arts

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using arts and crafts modalities. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4610 Rt Intervention: Horticulture Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using horticulture modalities. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4620 Animal Assisted Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using a variety of animal-assisted modalities. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4630 Therapeutic Activities

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using a variety of games, humor and play modalities. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4640 Rt Intervention: Therapeutic Groups

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using therapeutic group techniques and processes as a modality. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4660 Relaxation And Stress Management

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using relaxation and stress management techniques as a modality. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4670 Rt Intervention: Leisure Education

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using leisure education activities, including: social skills, values clarification, leisure awareness, resources and knowledge. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4680 Rt Intervention: Assistive Technology And Techniques

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes utilizing assistive technology, techniques, and resources in therapeutic settings. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4690 Rt Intervention: Aquatic Therapy

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes utilizing swimming, evidence-based aquatic programming methods, and resources. Minimum "C" required for RCRT majors.

Term Offered: Spring, Summer, Fall

RCRT 4720 Introduction To Therapeutic Recreation

[3 credit hours]

This course is designed to introduce the student to theories, models, principles, and history of therapeutic recreation service. Through lectures, discussions and self-directed learning activities, the student will examine the structure and function of therapeutic recreation processes in a variety of treatment settings. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4730 Physical and Neurological Diagnosis and Conditions in Recreational Therapy Practice

[3 credit hours]

This course is designed to provide the student with in-depth knowledge of the diagnostic criteria, etiology, and symptomology related to physical, neurological, sensory, and metabolic diagnosis and conditions across the lifespan with a focus on RT practice. RT interventions, pharmacological interventions, family involvement, risk management, and other implications impacting RT practice will also be examined.

Term Offered: Fall

RCRT 4740 Assessment And Documentation In Therapeutic Recreation

[3 credit hours]

This course introduces the student to the APIE(D) process, reviews assessment tools (standardized and self-designed) used in practice, common documentation methods and skills needed for therapeutic recreation practice including: initial assessment, treatment planning, documentation, and discharge planning. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4750 Group Dynamics In Recreational Therapy

[3 credit hours]

This course introduces students to the concepts and theories of the therapeutic group process as it applies to professional practice. Students will be introduced to and practice: facilitation skills, behavior modification techniques, and effective communication and leadership skills. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4760 Research Administrative Programming In Therapeutic Recreation

[3 credit hours]

Course will focus on current issues and techniques relating to comprehensive research program design, implementation and evaluation relating to the practice of therapeutic recreation.

Prerequisites: (RCRT 4720 with a minimum grade of D- and RCRT 4730 with a minimum grade of D- and RCRT 4740 with a minimum grade of D-)

RCRT 4770 Recreational Therapy Project Design

[1 credit hour]

In support of the recreational therapy internship, the student will design a capstone project that links practical experience with formal academic preparation. Minimum "C" required for RCRT majors. Prerequisite: Senior Standing and Acceptance in the Recreational Therapy program.

Corequisites: RCRT 4940**Term Offered:** Spring, Summer**RCRT 4780 Recreational Therapy Project Evaluation**

[1 credit hour]

In support of RCRT 4770, this course requires the student to evaluate, and prepare a professional presentation of the recreation therapy internship capstone project. Minimum "C" required for RCRT majors. Prerequisite: Senior Standing and Acceptance in the Recreational Therapy program.

Term Offered: Summer**RCRT 4790 Psychological Diagnosis and Conditions in Recreational Therapy Practice**

[3 credit hours]

This course is designed to provide the student with in-depth knowledge of the diagnostic criteria, etiology, and symptomology related to psychological conditions across the lifespan with a focus on RT practice. RT interventions, pharmacological interventions, family involvement, risk management, and other implications impacting RT practice will be examined.

Prerequisites: RCRT 4730 with a minimum grade of D-**Term Offered:** Spring**RCRT 4800 Clinical: Physical Rehabilitation**

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the APIE(D) process with a physical rehabilitation population. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4730 with a minimum grade of D-**Term Offered:** Spring, Summer, Fall**RCRT 4810 Recreational Therapy Fieldwork 1**

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the Recreational Therapy APIE(D) process with a population served by a CTRS. Minimum "C" required for RCRT majors. Registration restriction: Acceptance into the RT professional sequence.

Prerequisites: RCRT 4730 with a minimum grade of C and RCRT 4790 with a minimum grade of C and RCRT 4740 with a minimum grade of C**Term Offered:** Fall**RCRT 4820 Recreational Therapy Fieldwork 2**

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the Recreational Therapy APIE(D) process with a population served by a CTRS. Minimum "C" required for RCRT majors. Registration restriction: Acceptance into the professional sequence.

Prerequisites: RCRT 4730 with a minimum grade of C and RCRT 4790 with a minimum grade of C and RCRT 4740 with a minimum grade of C**Term Offered:** Fall**RCRT 4830 Recreational Therapy Fieldwork 3**

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the Recreational Therapy APIE(D) process with a population served by a CTRS. Minimum "C" required for RCRT majors. Registration restriction: Acceptance into the professional sequence.

Prerequisites: RCRT 4730 with a minimum grade of C and RCRT 4790 with a minimum grade of C and RCRT 4740 with a minimum grade of C**Term Offered:** Spring**RCRT 4840 Recreational Therapy Fieldwork 4**

[1 credit hour]

This course requires a 50-hour practicum experience in a community agency. The practicum experience provides the student a structured environment to apply the Recreational Therapy APIE(D) process with a population served by a CTRS. Minimum "C" required for RCRT majors. Registration restriction: Acceptance into the professional sequence.

Prerequisites: RCRT 4730 with a minimum grade of C and RCRT 4790 with a minimum grade of C and RCRT 4740 with a minimum grade of C**Term Offered:** Spring**RCRT 4850 Recreational Therapy Internship Preparation**

[1 credit hour]

This course is designed to prepare the student for the recreational therapy internship process and professional employment in recreational therapy. Students will learn and practice professional skills, such as, resume writing, interviewing techniques, and professionalism. Student internship expectations and professional certifications and licensure are also addressed. Minimum "C" required for RCRT majors. Prerequisite: Senior Standing and Acceptance in the Recreational Therapy program.

Term Offered: Spring, Fall**RCRT 4860 Therapeutic Fitness**

[1 credit hour]

This course provides the student the fundamental skill development needed to implement therapeutic outcomes using therapeutic fitness modalities. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall**RCRT 4870 Comprehensive Program Planning In Recreational Therapy**

[3 credit hours]

This course requires the student to apply cumulative knowledge of the RT APIE(D) process through designing evidence-based: treatment programs, program evaluations, protocols and treatment plans in recreation therapy practice. Minimum "C" required for RCRT majors. Prerequisite: Senior Standing and Acceptance in the Recreational Therapy program.

Term Offered: Spring**RCRT 4900 Seminar In Recreation And Leisure**

[1-3 credit hours]

This course provides faculty the opportunity to develop additional curriculum in recreation therapy related academic areas not offered as part of the current curriculum. Minimum "C" required for RCRT majors.

Term Offered: Spring, Fall

RCRT 4930 Senior Internship

[4 credit hours]

An opportunity for the student to become totally involved as an intern in functionally related tasks which will help prepare for an appropriate role as a professional in the field. Not available for therapeutic recreation students. This course may be taken twice in the same semester.

Term Offered: Spring, Summer, Fall

RCRT 4940 Internship In Recreational Therapy

[5 credit hours]

In accordance with the University of Toledo and NCTRC certification requirements, this course requires 560 hours of internship experience over a minimum of 14 consecutive weeks supervised by a CTRS. The internship experience is only offered in the summer and requires faculty approval. Minimum "C" required for RCRT majors.

Prerequisites: RCRT 4950 with a minimum grade of D-

Term Offered: Summer

RCRT 4950 Recreation Therapy Internship I

[5 credit hours]

In accordance with the University of Toledo and NCTRC certification requirements, this course requires 280 hours of internship experience over a minimum of 7 consecutive weeks supervised by a CTRS. The internship experience is only offered in the summer and requires faculty approval. Minimum "C" required for RCRT majors.

RCRT 4960 Recreation Therapy Internship II

[5 credit hours]

In accordance with the University of Toledo and NCTRC certification requirements, this course requires 280 hours of internship experience over a minimum of 7 consecutive weeks supervised by a CTRS. The internship experience is only offered in the summer and requires faculty approval. Minimum "C" required for RCRT majors.

RCRT 4990 Independent Study In Recreation And Leisure Studies

[1-3 credit hours]

This course provides students the opportunity to develop an independent learning experience in support of academic and/or professional interests. Minimum "C" required for RCRT majors.

Term Offered: Spring, Summer, Fall

SLP 1400 Introduction to Communication Disorders

[3 credit hours]

A study of causative factors and characteristics of communicative disorders in comparison to normal speech/language/hearing processes.

Term Offered: Fall

SLP 2150 Speech and Hearing Science

[4 credit hours]

A detailed exploration of the speech and language production system, as well as the hearing mechanism with relation to the auditory environment. Information on aerodynamic and acoustic parameters of speech, the anatomy and physiology of the speech and hearing mechanisms, the neural basis of speech/language/hearing, and the speech perception system is provided during this course. The course is designed with lab experiences so students can get hands-on practice.

Term Offered: Spring

SLP 2400 Communication Disorders

[3 credit hours]

A study of causative factors and characteristics of communicative disorders in comparison to normal speech/language/hearing processes.

Term Offered: Spring, Fall

SLP 3010 Clinical Phonetics

[0-4 credit hours]

Understanding of articulatory and acoustic phonetics with emphasis on the development of transcription skills using the International Phonetic Alphabet in recording normal and disordered speech production. Laboratory required for transcription skill development.

Term Offered: Spring, Fall

SLP 3020 Anatomy And Physiology Of Communication Mechanisms

[0-4 credit hours]

The study of the anatomy and physiology of the mechanisms used for communication including oral-pharyngeal-esophageal, respiratory, and neurological systems.

Term Offered: Spring, Fall

SLP 3030 Normal Language Acquisition

[0-4 credit hours]

Presents basic theories of language acquisition and procedures to describe the developmental sequence of childhood language. Procedures and techniques for analyzing childhood language are introduced and practiced in laboratory experiences.

Term Offered: Spring, Fall

SLP 3150 Speech and Hearing Science

[0-4 credit hours]

A detailed exploration of the speech and language production system, as well as the hearing mechanism with relation to the auditory environment. Information on aerodynamic and acoustic parameters of speech, the anatomy and physiology of the speech and hearing mechanisms, the neural basis of speech/language/hearing, and the speech perception system is provided during this course. The course is designed with lab experiences so students can get hands-on practice.

Term Offered: Spring, Fall

SLP 3200 Articulation/Phonological Disorders

[0-4 credit hours]

Assessment techniques and intervention strategies for persons with disorders of the sound system of the language. Theories of phonological acquisition and etiological factors will be discussed during this course. Laboratory experience required.

Prerequisites: SLP 3010 with a minimum grade of D- and SLP 3020 with a minimum grade of D-

Term Offered: Spring, Fall

SLP 3300 Language Disorders

[0-4 credit hours]

Course includes the identification of etiologic bases and characteristics of language disorders. Assessment strategies leading to choice of intervention techniques will be discussed. Laboratory experience required.

Prerequisites: SLP 3030 with a minimum grade of C

Term Offered: Spring, Fall

SLP 3400 Clinical Audiology

[3 credit hours]

The student learns to administer and interpret the comprehensive auditory battery consisting of pure-tone air conduction and bone conduction thresholds, speech reception thresholds, speech discrimination tests and acoustic emittance test battery.

Term Offered: Spring, Fall

SLP 3800 Methods For Clinical Intervention

[3 credit hours]

Teaches methods of intervention of speech, language and hearing services in various settings. Emphasis on developing skills in observation, report writing, and structuring intervention services and their implementation. Requires 25 hours of observation. Mandatory clinic meeting, and one hour lab duty. Laboratory experience required.

Prerequisites: (SLP 3200 with a minimum grade of B- and SLP 3300 with a minimum grade of B-)

Term Offered: Spring, Fall

SLP 4000 Beginning Clinical Practicum

[2 credit hours]

Supervised participation in structured individual or group intervention leading to the accumulation of 25 clinical hours of practicum.

Prerequisites: SLP 3800 with a minimum grade of B-

Term Offered: Spring, Summer, Fall

SLP 4350 Concomitant Disorders

[3 credit hours]

This capstone course explores literature in advanced speech and language disorders as well as intervention communication disorders.

Term Offered: Spring

SLP 4440 Augmentative Communication Systems

[3 credit hours]

Technological systems available for persons with the absence of functional speech will be described. Etiological factors, assessment and intervention procedures and hands-on experience with devices will be provided.

Term Offered: Spring, Fall

SLP 4910 Directed Research In Speech-Language Pathology

[1-5 credit hours]

Directed research provides students the opportunity to explore specific topics and develop individual research with a faculty member. Current questions in the area of speech-language pathology will be the focus.

Term Offered: Spring, Summer, Fall

SLP 4920 Readings In Speech-Language Pathology

[1-5 credit hours]

Individual Readings is designed to provide students with opportunities to examine literature related to specific issues. The student works under the direction of faculty in the speech-language pathology program.

SLP 4980 Special Topics In Speech-Language Pathology

[1-5 credit hours]

An advanced course for undergraduate majors in speech-language pathology or majors in related fields covering an important area of communication disorders. Student may repeat this course under different section numbers.

Term Offered: Spring, Fall

SLP 4990 Independent Study Speech-Language Pathology

[1-5 credit hours]

Independent study provides students with opportunities to work individually on issues under the direction of the speech-language pathology program faculty. The student meets with instructor without formal classes.

Term Offered: Spring, Summer, Fall