Course Descriptions

BOUVÉ COLLEGE OF HEALTH SCIENCES

CES U202 Basic Clinical Skills 3 SH
Provides student with basic life support, blood pressure and pulse assessment, EKG preparation, medical history assessment, and personal-care skills. Students also develop skills in patient record keeping, patient transport, basic oxygen therapy administration, medical asepsis, oxygen supply systems, and use of patient monitoring systems. Upon satisfactory completion of the course, students are issued American Heart Association basic life support health-care provider cards.

CES U300 Cardiopulmonary Physiology 4 SH
Focuses on in-depth integrated physiology of the cardiovascular and respiratory systems. Physiological dynamics and control mechanisms of the events of circulation and respiration comprise a major portion of the course. Applications of cardiopulmonary physiology, dynamics, and control are made to both normal function and the disease process of common cardiopulmonary disease states. Prereq. 64 SH toward CES degree.

CES U301 Cardiopulmonary Assessment 4 SH
Emphasizes the assessment of the cardiovascular and pulmonary systems. Covers the application to practice of clinical laboratory, pulmonary function testing, sleep laboratory, chest radiography, and basic electrocardiography including arrhythmia recognition. Assessment techniques used for patients of varying age, from neonatal to geriatric, are discussed. Physical assessment techniques for acute and chronically ill patients are compared and contrasted. Prereq. 64 SH toward CES degree.

CES U400 Statistics and Research Design 4 SH
Examines descriptive statistics, probability, correlation, and the fundamentals of statistical inference using t-tests and one-way analysis of variance. Introduces students to concepts related to evidence-based clinical practice. Topics include empirical and qualitative research methods and ethical issues in research. Offers students the opportunity to read and evaluate scientific literature and perform basic statistical analyses using computer-based statistical software. Prereq. 64 SH toward CES degree.

CES U500 Exercise Physiology 4 SH
Introduces exercise physiology. Covers the muscular, neuromuscular, cardiovascular, ventilatory, endocrine, and metabolic responses to acute exercise and the physiological adaptations to chronic exercise and physical activity. Basic concepts related to physical fitness, body composition, weight control, and training principles are discussed. Coreq. CES U501. Prereq. Junior or senior standing in CES.

CES U500 Lab for CES U500 1 SH
Accompanies CES U500. Offers experiments in the exercise physiology laboratory that introduce concepts related to the lecture content of the course and include techniques such as strength testing, ergometry, graded exercise testing, indirect calorimetry, and body composition assessment. Coreq. CES U500. Prereq. Junior or senior standing in CES.

CES U502 Exercise Testing and Prescription 4 SH
Focuses on skills needed to perform cardiopulmonary graded exercise tests, body composition, and musculoskeletal fitness evaluations for healthy adults. Concentrates on the design, implementation, and evaluation of individual exercise prescriptions and fitness programs. Assists in preparation for professional certification examinations. Prereq. CES U500, CES U501, and CES U504 or taken concurrently and junior or senior standing in CES.

CES U504 Clinical Kinesiology 4 SH
Focuses on the principles and practices of health promotion and program planning. Concentrates on the design, implementation, and evaluation of health promotion programs. Prereq. CES U500, CES U502, and CES U504.

CES U505 Lab for CES U504 1 SH
Accompanies CES U504. Covers topics from the course through various experiments. Coreq. CES U504. Prereq. Junior or senior standing in CES.

CES U506 Health Promotion and Program Planning 4 SH
Focuses on the principles and practices of health promotion planning and development of health promotion and counseling skills necessary to work with clients effectively to evoke behavioral change. Concentrates on the design and evaluation of health promotion programs. Prereq. CES U500, CES U502, and CES U504.

CES U508 Echocardiography 4 SH
Covers the use of echocardiography to diagnosis cardiovascular disorders and disease. Standards of care for obtaining echocardiographic images and interpretation of echocardiograms are emphasized. Electrophysiology studies are also covered. Laboratory experiences covering basic clinical skills are integrated into the course. Coreq. CES U509. Prereq. Senior standing in CES.

CES U509 Lab for CES U508 1 SH
Accompanies CES U508. Covers topics from the course through various experiments. Coreq. CES U508. Prereq. Senior standing in CES.
CES U520 Exercise Physiology 2 3 SH
Continues CES U500. Covers the advanced study of concepts, principles, and research in the field of exercise physiology. Advanced concepts are discussed in the areas of muscular/neuromuscular, cardiovascular, ventilatory, endocrine, and metabolic responses to exercise and exercise training. Addresses specific study of the physiological control mechanisms regulating these systems during periods of rest, acute exercise, and following chronic exercise training. Prereq. CES U504, CES U502, and CES U500.

CES U600 Fundamentals of Respiratory Therapy 4 SH
Focuses on the theory and application of medical gas administration, humidity/aerosol therapy, and basic modalities of respiratory care. Reviews basic microbiology, medical asepsis, and introduces mechanical ventilation. Coreq. CES U601. Prereq. Junior or senior standing in respiratory therapy.

CES U601 Lab for CES U600 1 SH

CES U602 Advanced Respiratory Therapy Practice 4 SH
Focuses on advanced clinical-assessment and patient-management skills used to plan respiratory therapy for critically ill medical and surgical patients. Covers invasive and noninvasive monitoring techniques. Covers adjustment of mechanical ventilators with emphasis on understanding modes of ventilation, control interaction, and waveform analysis. Uses interactive computer clinical simulations to gain experience in physical assessment, interpretation of diagnostic tests, and selection of critical pathways for management of medical and surgical patients in intensive-care units. Also covers management of cardiovascular failure, interventional pulmonary procedures, and procedural conscious sedation. Coreq. CES U603. Prereq. CES U600, CES U601, CES U945, and senior standing in respiratory therapy.

CES U603 Lab for CES U602 1 SH

CES U604 Neonatal and Pediatric Respiratory Therapy 3 SH
Focuses on advanced assessment and management skills used to plan respiratory therapy for pediatric and neonatal patients. Covers adjustment of mechanical ventilators with emphasis on understanding modes of ventilation, control interaction, and waveform analysis. Examines care of newborns with emphasis on treatment of respiratory distress syndrome. Coreq. CES U605. Prereq. CES U945 and senior standing in respiratory therapy and permission of faculty adviser.

CES U605 Lab for CES U604 1 SH

CES U606 Advanced Cardiovascular Life Support 3 SH
Prepares students to be part of resuscitation teams. Covers the skills and knowledge found in core cases described by the American Heart Association. Emphasis is on developing competency for management of core cases, especially the first ten minutes of cardiac arrest due to ventricular fibrillation or pulseless ventricular tachycardia. Covers the resuscitation algorithms for various types of cardiopulmonary arrest. The knowledge and skills needed by each member of the resuscitation team are mastered. Prereq. Senior standing in CES.

CES U701 Senior Thesis in Exercise Physiology 1 6 SH
Offers directed study in a student’s major in which in-depth investigation of a special interest area is undertaken. Requires the student to submit a written research proposal for approval by a major faculty adviser and a minimum of one faculty consultant. Prereq. Senior standing in exercise physiology and permission of faculty adviser.

CES U702 Senior Thesis in Exercise Physiology 2 6 SH
Continues CES U701. Offers directed study in a student’s major in which in-depth investigation of a special interest area is undertaken. Requires the student to collect and analyze data and submit a written research report for approval by a major faculty adviser and a minimum of one faculty consultant. Prereq. CES U701 and senior standing in exercise physiology and permission of faculty adviser.

CES U910 Clinical Seminar in Respiratory Therapy 1 SH
Discusses clinical topics and respiratory-care issues encountered during clinical practice using case studies. Prereq. Senior standing in respiratory therapy.
CES U921 Directed Study 1 SH
Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. Prereq. Permission of instructor.

CES U922 Directed Study 2 SH

CES U923 Directed Study 3 SH

CES U924 Directed Study 4 SH

CES U940 Practicum in Exercise Physiology 1 6 SH
Provides supervised internship experiences in which students have the opportunity to practice and demonstrate competency in specific knowledge and professional skills under the direct supervision of an exercise physiologist. Rotations include areas of exercise testing, exercise prescription, and exercise leadership in a fitness and/or health promotion program. Students may also have opportunities for experience in exercise and wellness program development, administration, and health counseling. Students assume more responsibility and develop the skills necessary to function independently. Prereq. Senior standing in exercise physiology.

CES U941 Practicum in Exercise Physiology 2 6 SH
Continues CES U940. Provides supervised internship experiences in which students have the opportunity to practice and demonstrate competency in specific knowledge and professional skills under the direct supervision of an exercise physiologist. Students have the opportunity to work with individuals and groups in the areas of health programs. Students may also have opportunities for experience in exercise and wellness program development, administration, and health counseling. Students assume more patient-care responsibility and develop the skills necessary to function independently. Prereq. CES U940 and senior standing in exercise physiology.

CES U945 Practicum in Respiratory Therapy 1 4 SH
Provides clinical experience in hospitals sixteen hours/week. Focuses on respiratory care for the noncritical patient. Emphasizes infection control, medical gas administration, humidification of medical gases, aerosol therapy, chest physiotherapy, hyperinflation therapy, and the administration of aerosolized medications. Prereq. Junior or senior standing in respiratory therapy.

CES U946 Practicum in Respiratory Therapy 2 6 SH
Continues CES U945. Provides clinical experience in hospitals, diagnostic labs, and rehab/home-care settings. Emphasizes respiratory care for the pediatric and neonatal critical-care patients. Students also rotate through pulmonary function lab and rehab/home-care environment. Prereq. CES U604, CES U605, CES U946, and senior standing in respiratory therapy.

CES U970 Junior/Senior Honors Project 1 4 SH
Focuses on in-depth project in which a student conducts research or produces a product related to the student’s major field. Culminating experience in the University Honors Program. Combined with Junior/Senior Project 2 or college-defined equivalent for 8 credit honors project. Prereq. Honors program participation.

CES U971 Junior/Senior Honors Project 2 4 SH
Focuses on second semester of in-depth project in which a student conducts research or produces a product related to the student’s major field. Culminating experience in the University Honors Program. Prereq. CES U970 and honors program participation.

CES U947 Practicum in Respiratory Therapy 3 6 SH
Continues CES U946. Provides clinical experience in hospitals, diagnostic labs, and rehab/home-care settings. Emphasizes respiratory care for the pediatric and neonatal critical-care patients. Students also rotate through pulmonary function lab and rehab/home-care environment. Prereq. CES U604, CES U605, CES U946, and senior standing in respiratory therapy.