KNES-206 – Introduction to Exercise Physiology

Health and Human Services

Effective Term & Year: Fall 2026
Course Outline Review Date: 2031-04-01

Program Area: Health

Description:

This course is an introduction to acute and chronic effects of exercise on the human body. It will further look at the basic concepts of cardiovascular, respiratory, muscular and neuromuscular responses to physical activity.

Program Information:

This course is required in both Kinesiology Diploma Programs (Exercise Science Stream and the Health and Human Performance Stream) and may be used as an elective in other programs.

Delivery Methods: On-campus (Face-to-Face)

Credit Type: College of the Rockies Credits

Credits: 3

Course type/s: Sciences, Social Sciences, Lab Sciences, Kinesiology

Instructional Activity and Hours:

Activity	Hours
Classroom, Directed Studies or Online Instruction	45
Seminar/Tutorials	
Laboratory/Studio	30

Practicum/Field Experience	
Co-op/Work Experience	
Other	
Total	75

Course Requisites:

- Complete all of the following
  - Completed at least 1 of the following:
    - KNES190 – Human Anatomy (3)
    - KNES200 – Functional Anatomy & Physiology 1 (3)
  - Completed the following:
    - KNES110 – Foundations of Exercise and Physical Fitness (3)

Prior Learning and Recognition: Yes

Students are able to request formal recognition of their prior learning or experience outside the classroom. Challenge examination, portfolio-assisted assessment, work-based assessment or a combination of assessments that is appropriate to identify, assess, and recognize prior skills, competencies, and knowledge to achieve course credit. Tuition fees apply, refer to Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR) or contact an education advisor for more information.

Course Transfer Credit:

For information about receiving transfer credit for courses taken at either British Columbia or Alberta institutions, please see https://www.bctransferguide.ca/ or https://transferalberta.alberta.ca . For more transfer credit information, please visit https://www.cotr.bc.ca/Transfer

All requests for course transfer credit from institutions in British Columba or elsewhere should go to the College of the Rockies Enrolment Services office.

Textbook Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Wilmore, J., & Costell, D. (2016). *Physiology of sport and exercise* (6th ed.) Human Kinetics, Champaign, IL.

Lavery, S.L., & Vogell, J.E. (2008). Lab Manual.

Please see the instructor's syllabus or check COTR's online text calculator https://textbook.cotr.bc.ca/ *for a complete list of the currently required textbooks.*

Learning Outcomes:

Upon the successful completion of this course, students will be able to

- explain exercise physiology of physical activity and athletic performance including:
    1. structure and function of the musculoskeletal systems during acute and chronic exercise
    2. structure and function of the neurological control for physical activity
    3. structure and function of the cardiovascular and respiratory systems during acute and chronic exercise
    4. energy production and utilization energy balance, hormone regulation and body composition in relation to physical activity;
- explain how environmental influences affect performance;
- explain the metabolic adaptations to performance and training;
- explain the components that optimize performance; and
- demonstrate the relationship of physical activity and health and fitness to disease prevention.

Course Topics:

- **Essentials of Movement**
    - Muscles and how they move
    - Neurological Control of Human Movement
    - Neuromuscular Adaptations to Resistance Training
- **Energy for Movement**
    - Metabolism, Energy, and the Basic Energy Systems
    - Hormonal Regulation of Exercise
    - Metabolic Adaptations to Training
- **Important Performance Variables**
- **Cardiovascular and Respiratory Function and Performance**
    - Cardiovascular Control During Exercise
    - Respiratory Regulation During Exercise
    - Cardiovascular and Respiratory Adaptations to Training
- **Environmental Influences on Performance**
- Exercise in Hot and Cold Environments: Thermoregulation
- Exercise in Hypobaric & Hyperbaric Environments

- **Optimizing Performance in Sport**
  - Training in Sport
  - Nutrition and Sport
  - Body Weight, Body Composition and Sport
  - Ergogenic Aids in Sport
- **Physical Activity for Health and Fitness**
  - Prescription of Exercise for Health and Fitness
  - Cardiovascular Disease and Physical Activity
  - Obesity, Diabetes and Physical Activity

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

Evaluation and Assessments

Assessment Type: On-Campus (face-to-face)

Assessment Type	% of Total Grade
Unit I Exam	20%
Unit II Exam	20%
Lab Reports	20%
Lab Exam	15%
Final Exam	25%
Total	100%

Grade Scheme

A+	A	A-	B+	B	B-	C+	C	C-	D	F
>=90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	<50

Pass requirements:

An overall average of D (50%) or higher is required to pass this course.

Evaluation Notes: A grade of D (50%) grants credit but may not be sufficient as a prerequisite for sequential courses and/or for transfer to other institutions.

Exam Attendance:

Students must attend all scheduled exams at the appointed time and place. Instructors may approve an alternate exam to accommodate an illness or personal crisis. Department heads will consider other written requests. Any student who misses a scheduled exam without prior approval will receive a "0" on the exam.

Academic Policies:

College of the Rockies policies related to courses can be found at https://cotr.bc.ca/about-us/college-policies/ and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Equivalent Course(s) and Course Code Changes

Prior Course Code: HKIN 206 >> KNES 206

Date changed: September 2012

Course Changes:

The College of the Rockies updates course outlines regularly to meet changing educational, employment and marketing needs. The instructor will notify students in writing of any updates to this outline during the semester. The instructor reserves the right to revise, add or delete material while meeting the learning outcomes of this course outline.