COURSE OUTLINE		
TERM: Fall 2026	**COURSE NO: KINE 375**	
INSTRUCTOR:	**COURSE TITLE: Advanced Exercise Physiology**	
OFFICE: LOCAL: **E-MAIL:** @capilanou.ca	**SECTION NO(S):**	**CREDITS: 3.0**
OFFICE HOURS:		
COURSE WEBSITE:		

Capilano University is named after Chief Joe Capilano (1854–1910), an important leader of the Sḵwx̱wú7mesh (Squamish) Nation of the Coast Salish Peoples. We respectfully acknowledge that our campuses are located on the unceded territories of the səlilwətaɬ (Tsleil-Waututh), shíshálh (Sechelt), Sḵwx̱wú7mesh (Squamish), and xʷməθkʷəy̓əm (Musqueam) Nations.

COURSE FORMAT
1.5 lecture hours and 1.5 lab hours, plus an additional hour delivered through on-line or other activities for a 15-week semester, which includes two weeks for final exams.

COURSE PREREQUISITES
60 credits of 100-level or higher coursework and HKIN/KINE 275

CALENDAR DESCRIPTION
This course builds on the student's knowledge of exercise physiology and promotes theoretical and practical investigation of advanced exercise physiology in neural, energy, cardiovascular and pulmonary systems. In addition, students will also have the opportunity to explore physiological changes of exercise in high altitude, microgravity, thermal stress, and diving.

COURSE NOTE
KINE 375 is an approved Science and Technology course for Cap Core requirements.

REQUIRED TEXTS AND/OR RESOURCES
McCardle, W.D., Katch, F.I., and V.L. Katch. (2015) 8th Edition. Exercise Physiology: Nutrition, Energy and Human Performance. Wolters Kluwer Publishing.

COURSE STUDENT LEARNING OUTCOMES
On successful completion of this course, students will be able to do the following:

1. **Integrate** and apply advanced terminology that are relevant in the Cardiovascular and Respiratory systems.
2. **Examine** detailed anatomical and physiological mechanisms that control the Cardiovascular and Respiratory systems.

3. **Describe** the functional role of these systems in healthy and pathological conditions.
4. **Identify** the role played by each of these systems in health and disease.
5. **Investigate** and define the role played by each of these systems during exercise.
6. **Formulate** comprehensive laboratory research papers.

Students who complete this Science and Technology course will be able to do the following:

1. Apply numerical and computational strategies to solve problems.
2. Evaluate scientific information (e.g., distinguish primary and secondary sources, assess credibility and validity of information).
3. Demonstrate how a problem, concept, or process can be modelled numerically, graphically, or algorithmically.
4. Participate in scientific inquiry and communicate the elements of the process, including making careful and systematic observations, developing and testing a hypothesis, analyzing evidence, and interpreting results.

COURSE CONTENT

WEEK	TOPIC (S)
	Part I: Aerobic Systems of Energy Delivery and Utilization
1	• The Cardiovascular System
2	• Cardiovascular Regulation and Integration
3	• Functional Capacity of the Cardiovascular System
4	• Pulmonary Structure and Function
5	• Gas Exchange and Transport
6	• Dynamics of Pulmonary Ventilation
7	• MIDTERM
	Part II: Energy for Physical Activity
8	• Energy Transfer in the Body
9	• Energy Transfer During Physical Activity
10	• Measurement of Human Energy Expenditure
	Part III: Exercise Performance and Environmental Stress
11	• Physical Activity at Medium and High Altitude
12	• Exercise and Thermal Stress
13	• Sport Diving
14 - 15	FINAL EXAM PERIOD

EVALUATION PROFILE

ASSESSMENT	% OF FINAL GRADE	INDIVIDUAL/GROUP
Assignments	40%*	Group
Quizzes	10%	Individual
Midterm Examination	25%	Individual
Final Examination	25%	Individual
Total	**100%**	

*No single assignment will be worth more than 35%

The assignment structure for this course is determined by the instructor in accordance with the learning outcomes outlined above. Please refer to the course syllabus and eLearn site for a detailed breakdown.

GRADING PROFILE

A+ = 90-100	B+ = 77-79	C+ = 67-69	D = 50-59
A = 85-89	B = 73-76	C = 63-66	F = 0-49
A- = 80-84	B- = 70-72	C- = 60-62	

Incomplete Grades
Grades of incomplete "I" are assigned only in exceptional circumstances when a student requests extra time to complete their coursework. Such agreements are made only at the request of the student, who is responsible to determine from the instructor the outstanding requirements of the course.

Late Assignments
Assignments are due at the beginning of the class on the due date listed. Any late assignment will be penalized 10% per day unless otherwise discussed with the instructor.

Missed Exams/Quizzes/Labs etc.
Make-up exams, quizzes and/or tests are given at the discretion of the instructor. They are generally given only in medical emergencies or severe personal crises. Some missed labs or other activities may not be able to be accommodated. Please consult with your instructor. Accommodations can be made to honour community needs and traditional practices.

Attendance
Regular class attendance, and participation in course activities and assignments, is expected and likely essential to successfully achieving the course learning outcomes. Students are responsible for any and all content and instructions communicated during scheduled classes, in course handouts,

and (if applicable) via course e-mail and websites. In cases where participation by all students is essential for conducting the planned instructional activities, attendance may be mandatory.

English Usage
Students are expected to proofread all written work for any grammatical, spelling and stylistic errors. Instructors may deduct marks for incorrect grammar and spelling in written assignments.

Electronic Devices
Students may use electronic devices during class for note-taking and research purposes only.

On-line Communication
Outside of the classroom, instructors will (if necessary) communicate with students using either their official Capilano University email or eLearn; please check both regularly. Official communication between Capilano University and students is delivered to students' Capilano University email addresses only.

UNIVERSITY OPERATIONAL DETAILS

Tools for Success
Many services are available to support student success for Capilano University students. A central navigation point for all services can be found at: https://www.capilanou.ca/student-services/

Capilano University Security: download the CapU Mobile Safety App

Policy Statement (S2009-06)
Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Academic Integrity, Academic Probation and other educational issues. These and other policies are available on the University website.

Academic Integrity (S2017-05)
Any instance of academic dishonesty or breach of the standards of academic integrity is serious and students will be held accountable for their actions, whether acting alone or in a group. See policy and procedures S2017-05 Academic Integrity for more information:
https://www.capilanou.ca/about-capu/governance/policies/

Violations of academic integrity, including dishonesty in assignments, examinations, or other academic performances, are prohibited and will be handled in accordance with the Student Academic Integrity Procedures.

Academic dishonesty is any act that breaches one or more of the principles of academic integrity. Acts of academic dishonesty may include but are not limited to the following types:

> **Cheating**: Using or providing unauthorized aids, assistance or materials while preparing or completing assessments, or when completing practical work (in clinical, practicum, or lab settings), including but not limited to the following:

- Copying or attempting to copy the work of another during an assessment;
- Communicating work to another student during an examination;
- Using unauthorized aids, notes, or electronic devices or means during an examination;
- Unauthorized possession of an assessment or answer key; and/or,
- Submitting of a substantially similar assessment by two or more students, except in the case where such submission is specifically authorized by the instructor.

Fraud: Creation or use of falsified documents.

Misuse or misrepresentation of sources: Presenting source material in such a way as to distort its original purpose or implication(s); misattributing words, ideas, etc. to someone other than the original source; misrepresenting or manipulating research findings or data; and/or suppressing aspects of findings or data in order to present conclusions in a light other than the research, taken as a whole, would support.

Plagiarism: Presenting or submitting, as one's own work, the research, words, ideas, artistic imagery, arguments, calculations, illustrations, or diagrams of another person or persons without explicit or accurate citation or credit.

Self-Plagiarism: Submitting one's own work for credit in more than one course without the permission of the instructors, or re-submitting work, in whole or in part, for which credit has already been granted without permission of the instructors.

Prohibited Conduct: The following are examples of other conduct specifically prohibited:

- Taking unauthorized possession of the work of another student (for example, intercepting and removing such work from a photocopier or printer, or collecting the graded work of another student from a stack of papers);
- Falsifying one's own and/or other students' attendance in a course;
- Impersonating or allowing the impersonation of an individual;
- Modifying a graded assessment then submitting it for re-grading; or,
- Assisting or attempting to assist another person to commit any breach of academic integrity.

Sexual Violence and Misconduct

All Members of the University Community have the right to work, teach and study in an environment that is free from all forms of sexual violence and misconduct. Policy B401 defines sexual assault as follows:

> Sexual assault is any form of sexual contact that occurs without ongoing and freely given consent, including the threat of sexual contact without consent. Sexual assault can be committed by a stranger, someone known to the survivor or an intimate partner.

Safety and security at the University are a priority and any form of sexual violence and misconduct will not be tolerated or condoned. The University expects all Students and Members of the

University Community to abide by all laws and University policies, including B.401 Sexual Violence Policy and B.401.1 Sexual Violence Procedure (found on Policy page https://www.capilanou.ca/about-capu/governance/policies/)

Emergencies: Students are expected to familiarise themselves with the emergency policies where appropriate and the emergency procedures posted on the wall of the classroom.

DEPARTMENT OR PROGRAM OPERATIONAL DETAILS

Participation:
This mark, if included as part of the assessment items by the instructor, is based on both the frequency and quality of the student's comments, questions, observations, and involvement, with the emphasis on quality. The quality is determined by, among other things, the relevance, insight and clarity of remarks. Preparing the required readings will support a student's ability to participate. The participation mark is also influenced by professionalism (as described below), attitude and punctuality.

Professional Behaviour:
Students must demonstrate a professional attitude and behaviour toward work, fellow students and their instructors. Each student should demonstrate reliability, respect for and cooperation with colleagues. A willingness to work calmly and courteously under difficult conditions as well as a determination to achieve first-class work while meeting deadlines is necessary. Students should display a constructive response to criticism. Professional behaviour include appropriate language use. Appropriate language use involves using respectful, moderate, and inclusive language at all times.

Copyright Policy:
Students are expected to familiarize themselves with and abide by the University's Copyright Policy. The University's Copyright Policy is published on the University website.