



CAPILANO UNIVERSITY

COURSE OUTLINE		
TERM: Spring 2025	COURSE NO: KINE 495	
INSTRUCTOR:	COURSE TITLE: Neuro-Motor Movement Control and Rehabilitation	
OFFICE: LOCAL: E-MAIL: @capilanou.ca	SECTION NO(S):	CREDITS: 3.0
OFFICE HOURS:		
COURSE WEBSITE:		

Capilano University acknowledges with respect the Liłwat7úl (Lil'wat), x^wməθk^wəyám (Musqueam), shíshálh (Sechelt), Sk̓wx̓wú7mesh (Squamish), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) people on whose territories our campuses are located.

COURSE FORMAT

Three hours of class time, 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

45 credits of 100-level or higher coursework and KINE 230

CALENDAR DESCRIPTION

This course is designed for students who are interested in the neurological and musculoskeletal control of movement. Students will explore the origins of movement disorders associated with the motor and sensory system, and injuries related to the brain and spinal cord. This course introduces a range of interventional strategies and rehabilitation techniques that can be used to restore movement control in a rehabilitation setting.

REQUIRED TEXTS AND/OR RESOURCES

A course package may be required.

COURSE STUDENT LEARNING OUTCOMES

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

1. **Analyze** the roles of motor and sensory systems in the control of movement in typical and pathological states.
2. **Assess** gait, coordination, and balance abnormalities, relate them to pathologies of the neuromuscular system, and create rehabilitation interventions.
3. **Evaluate** the mechanisms linked to various disorders of the musculoskeletal and nervous system, and injuries related to the brain and spinal cord.
4. **Apply** advanced rehabilitation techniques that are used to restore movement control.

COURSE CONTENT

WEEK	TOPIC (S)
1	<ul style="list-style-type: none"> • Neuromuscular Anatomy Revisited • Examination of Musculoskeletal System
2	<ul style="list-style-type: none"> • Musculoskeletal Disorders • Musculoskeletal Plasticity & Rehabilitation
3	<ul style="list-style-type: none"> • Musculoskeletal - Kinesiology Case Presentations • What do Proprioceptors Signal?
4	<ul style="list-style-type: none"> • Sensory - Motor Planning & Control of Movement • MIDTERM
5	<ul style="list-style-type: none"> • Motor System: Cortex, Brainstem & Spinal Circuitry • Motor Function: Examination & Intervention Strategies
6	<ul style="list-style-type: none"> • Vascular Supply to the Brain • Stroke: Motor Learning, Neuroplasticity & Rehabilitation
7	<ul style="list-style-type: none"> • Nervous System Disorders: Multiple Sclerosis, Amyotrophic Lateral Sclerosis, Parkinson's Disease, Alzheimer's Disease • GROUP EXAM
8	<ul style="list-style-type: none"> • Basal Ganglia: Structure, Function & Disorders • Cerebellum: Structure, Function & Disorders
9	<ul style="list-style-type: none"> • Infographic Presentations • Traumatic Brain Injuries
10	<ul style="list-style-type: none"> • Traumatic Spinal Cord Injuries • Brain – Kinesiology Case Presentations
11	<ul style="list-style-type: none"> • Examining Gait, Coordination & Balance • Spinal Cord – Kinesiology Case Presentations
12	<ul style="list-style-type: none"> • Locomotor Training, Rehabilitation & Programming
13	<ul style="list-style-type: none"> • Locomotor Training, Rehabilitation & Programming
14 - 15	FINAL EXAM PERIOD

EVALUATION PROFILE

ASSESSMENT	% OF FINAL GRADE	INDIVIDUAL/GROUP
Midterm Examination	25%	Individual
Final Examination	25%	Individual
Group Examination	10%	Group
Case Presentations	15%	Group

Infographics Presentation	10%	Individual
Research Presentation**	15%	Group
Total	100%	

****This project qualifies for the CAPSTONE e-portfolio.**

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. Accommodations can be made to honour community needs and traditional practices.

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 and Misconduct Policy and B.401.1 Sexual Violence and Misconduct 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.