

Special Topics Course Syllabus

Course Information

Course Prefix and Number: APPH-8803

Course Title: Human Sensorimotor Deficits

Credit Hours: 3

Instructor: Boris I. Prilutsky

Course Description

The course provides in-depth review of neurophysiological mechanisms and biomechanical consequences of common human motor disorders and current therapeutic interventions. Sensorimotor conditions reviewed in the course include limb loss and prosthetic and orthotic interventions, peripheral neuropathies and traumatic nerve injury, spinal cord injury, and deficits of cortical motor control. Students will learn about the current understanding of causes and mechanisms of each condition, how each condition affects human motion and its control, and what therapeutic interventions are available for treatment or mitigation.

Course Learning Outcomes

The goal of the course is to give students a general overview of the current state of research in mechanisms, diagnostic tools, and therapeutic options of common sensorimotor deficits in human movements. Upon successful completion of this course, students should be able to

- Explain the neurophysiological mechanisms underlying major human motor disorders.
- Describe the biomechanical consequences of common motor disorders on gait, posture, balance, and limb coordination.
- Read and understand contemporary literature related to research in human sensorimotor deficits.
- Communicate scientific and clinical concepts related to motor disorders clearly and accurately, using appropriate terminology and evidence from literature.
- Use Large Language Models to develop presentations and critically evaluate them using original sources.
- Write a literature review on the topic of sensorimotor deficits.

Required Course Materials

No textbooks or materials are required. Resources for research are determined in consultation with the instructor.

Grading Policy

A = 90-100%

B = 80-89%

C = 70-79%

D = 60-69%

F = <60%

Attendance Policy

Attendance is an integral part of the course as each student will be making presentations and discussing presentations of other students in class.

Academic and Research Honesty/Integrity Statement

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. Review the Student Code of Conduct and the Academic Honor Code, especially Appendix A: Graduate Addendum to the Academic Honor Code.

Students are expected to perform course assignments in an ethical and responsible manner. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Allegations of scientific or scholarly misconduct are handled in accordance with the procedures outlined by the Policy for Responding to Allegations of Scientific or Other Scholarly Misconduct.

Core IMPACTS

Not applicable

Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, [contact the Office of Disability Services](#) as soon as possible to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

Student-Faculty Expectations

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulates some basic expectations that you can have of me and that I have of you. Additional information for research-related work is given in The Expectations of Advisors and Advisees. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.