Instructor Information:
Kurt W. Kornatz, PhD
Silcox 225
843-953-9216
kornatzkw@cofc.edu

Office Hours: 2:00-4:00P, TTR, and by appointment

Course Description: A course designed to cover and supplement a variety of topics not otherwise offered in the list of directed electives in exercise science. Topics of interest to students and faculty will be offered on a rotating random basis according to interest.

Topic: Multi-disciplinary seminar exploring topics regarding the human nervous system’s control of movement.

Prerequisite: Junior standing

Course Objectives: Competencies within the course should prepare the student to:
1. **identify** the anatomical structures involved in the production and control of movement.
2. **describe** the neuromuscular physiology of movement
3. **compare and contrast** the contributions of different sensory systems to neuromuscular control
4. **understand** selected electrophysiological techniques for assessing neuromuscular function.
5. **differentiate** between “normal” and “non-normal” sensorimotor control
6. **appreciate** differences in theories put forth to describe movement control in humans.

Student Learning Outcomes: Upon completion of the course, students will be able to:
1. propose the physiological mechanisms that account for differences in movement patterns between individuals. This will be determined during class discussion and evaluated through a daily participation grade.
2. demonstrate expertise in neuromuscular anatomy and physiology through written examination and oral presentations. Their capabilities will be evaluated through tests (4X) and rubric, respectively.

It is important to note that none of the SLOs above simply require students to memorize material. Of course, as in many content areas, there will be some memorization. **More important**, however, is your ability to apply and use the information. Reading, thinking and articulating the information in this course is critical to your learning!
Topics Covered:
- Overview of the nervous system
- Synaptic transmission and electrical signaling
- Somatosensory system
- Motor system: Motor units and muscle action
- Principles of electromyography/ evoked potentials
- Voluntary movements
- Spinal reflexes
- Posture & balance
- Visual system & control of eye movements
- Pain
- Aging/Neuropathology
- Movement Theory

Teaching Strategies: This course will use a combination of face-to-face lecture sessions, article critiques, class discussion, and student presentations.

Evaluation:
- Quizzes/ Class participation: 20%
- Weekly Article Presentations: 30%
- Exam 1: 10%
- Exam 2: 10%
- Exam 3: 10%
- Final Exam: 20%

*NOTE: more information about course policy can be found on EXSC320 Intro to course on OAKS.

Grading Scale: The grading scale is as follows:

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<tr>
<th>Grade</th>
<th>Percentage</th>
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<tr>
<td>*A</td>
<td>92% and above</td>
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<tr>
<td>A-</td>
<td>90 – 91.99%</td>
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<td>B+</td>
<td>88 – 89.99%</td>
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<td>B</td>
<td>82 – 87.99%</td>
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<td>B-</td>
<td>80 – 81.99%</td>
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<td>C+</td>
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<td>F</td>
<td>&lt; 60%</td>
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Texts/Readings/References:


All other course materials (including lecture slides and weekly readings) will be available on OAKS. All handouts must be downloaded from OAKS. No materials will be distributed in class. Come prepared!
You will be responsible for regularly checking OAKS for announcements and updates.

**Academic Honor Code:** Each student is required understand and accept the guidelines of the College of Charleston Honor System. [http://studentaffairs.cofc.edu/honor-system/](http://studentaffairs.cofc.edu/honor-system/)

**Disability Statement:** This College abides by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act that stipulates no student shall be denied access to an education “solely by reason of a handicap.” Disabilities covered by law include, but are not limited to, learning disabilities and hearing, sight or mobility impairments. If you have a documented disability that may have some impact on your work in this class and for which you may require accommodations, please see an administrator at the Center of Disability Services, (843) 953-1431 or me so that such accommodation may be arranged.

**Assignment Policy:** All assignments are due at the beginning of class on the day they are due.

**Attendance Policy:** 2 points will be deducted from your final grade for every unexcused absence.

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Attendance will be taken for each class period! If you are late to class (you shouldn’t be!), it is your responsibility to make certain the instructor knows you were there. You are allowed no unexcused absences --2 points will be deducted from your final grade for each unexcused absence. Absences will be dealt with on a case-by-case basis--you may be required to provide written documentation!!! Two late arrivals to class will be counted as an absence. This policy will be followed, regardless of the reason for your absence!!!