Credit Hours: 3
Room: Tykeson Hall 209
Schedule: MWF 9:00am – 9:50am

Course instructor: Dr. Timothy Burnett
Office Location: Tykeson Hall 305
Office Phone: 541-322-2032
E-mail: timothy.burnett@osucascades.edu
Office Hours: MW 10-11pm

COURSE DESCRIPTION
Skeletal muscle structure, function, and metabolism; applications to muscle fatigue, exercise training, inactivity, and aging.

Prerequisites: KIN 324
Co-requisites: None

LEARNING RESOURCES
- Access to the Canvas site
- The free Canvas mobile app
- Me (hopefully the most useful)

STUDENT LEARNING OUTCOMES
After successfully completing this course, students will be able to:
1. Describe the basic processes of human nerve/muscle interaction
2. Describe the principles of skeletal, cardiac and smooth muscle mechanics, physiology, and bioenergetics
3. Describe the principles of muscle fiber mechanics, protein turnover and molecular adaptations
4. Integrate the principles in #2 & 3 into an understanding of physiological response during exercise and adaptations to training.
5. Utilize advanced muscle terminology to precisely describe the underpinnings of fatigue and muscular disease states.

PROGRAM COMPETENCIES IN KINESIOLOGY
Upon satisfactory completion of the KIN degree, the student will have met the KIN program competencies, which can be found at: http://health.oregonstate.edu/degrees/competencies.
COURSE CONTENT
1. Muscle/nerve interaction
2. Skeletal muscle mechanics
3. Cardiac physiology
4. Smooth muscle and cross-bridging mechanics
5. Muscle bioenergetics
6. Muscle fiber type and single muscle fiber mechanics
7. Molecular aspects of muscle
8. Muscle protein turnover
9. Muscle disease states

*See accompanying table*

EVALUATION OF STUDENT PERFORMANCE

<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quizzes (4)</td>
<td>100pts</td>
</tr>
<tr>
<td>Reading Quizzes (4)</td>
<td>100pts</td>
</tr>
<tr>
<td>Term Paper</td>
<td>100pts</td>
</tr>
<tr>
<td>Exams (2)</td>
<td>400pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>700pts</td>
</tr>
</tbody>
</table>

A  93-100%
A-  90-92%
B+  87-89%
B   83-86%
B-  80-82%
C+  77-79%
C   73-76%
C-  70-72%
D+  67-69%
D   63-66%
D-  60-62%
F   0-59%

Policy on absences, late work or missed quizzes
- You are responsible for any information missed due to an absence, so make friends.
- If you will be absent for a quiz or exam you can schedule a time to submit it early.
- Unexcused absence for a quiz or exam will be handled case-by-case.

DIVERSITY STATEMENT
The College of Public Health and Human Sciences strives to create an affirming climate for all students including underrepresented and marginalized individuals and groups. Diversity encompasses differences in age, color, ethnicity, national origin, gender, physical or mental ability, religion, socioeconomic background, veteran status, sexual orientation, and marginalized groups. We believe diversity is the synergy, connection, acceptance, and mutual learning fostered by the interaction of different human characteristics.
STUDENT EXPECTATIONS
The Student Conduct Code establishes community standards and procedures necessary to maintain and protect an environment conducive to learning, in keeping with the educational objectives of Oregon State University. This code is based on the assumption that all persons must treat one another with dignity and respect in order for scholarship to thrive. For the full Student Conduct Code see http://oregonstate.edu/studentconduct/

Academic or Scholarly Dishonesty is prohibited and considered a serious violation of the Student Conduct Code. It is defined as an act of deception in which a Student seeks to claim credit for the work or effort of another person, or uses unauthorized materials or fabricated information in any academic work or research, either through the Student's own efforts or the efforts of another. For specifics related to offenses proscribed by the University see: http://oregonstate.edu/studentconduct/offenses-0

RELIGIOUS HOLIDAY STATEMENT
Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please see me immediately so that we can make alternative arrangements.

STUDENTS WITH DOCUMENTED DISABILITIES
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations.

OSU-CASCADES ETHOS STATEMENT
The guiding vision of OSU-Cascades is to contribute significantly to intellectual, cultural, ecological, social and economic vitality. To achieve that goal, the OSU-Cascades community will strive to model principles and practices of a thriving, equitable and sustainable society. A culture of learning and exploration provides significant rewards to its members; those rewards are best achieved when all community members (faculty, staff, administrators, students and Board of Advisors) strive to honor the following principles:
1. Respect the dignity and uniqueness of individuals. This principle applies to a diversity of cultures, belief systems, academic ranks and academic/professional disciplines.
2. Aspire to excellence and integrity in every endeavor.
3. Consider current and future generations in every deliberation.
4. Demonstrate leadership in service to community.

NEED SOMEONE TO TALK TO?
Individual and group counseling is available at no additional cost for OSU-Cascades students. To schedule an appointment call 541-322-3162 or email kathy.lawrence@osucascades.edu. Counseling appointments are confidential and are not part of students’ educational records. Students seek services for a variety of issues ranging from stress to relational issues to down mood. Seeking support early is encouraged. For more information visit http://osucascades.edu/student-wellness.

KIN 434, Spring 2017, Burnett
IMPORTANT NOTES FROM DR. BURNETT
You are paying me to educate you. I am here to help you get the most out of this course, this institution, and your education. I try to be vigilant, but can't always tell when someone is struggling. Please, don't hesitate to ask for help. Send me an e-mail, give me a call, stop by during office hours, make an appointment, send me a telegram… Whatever is the most comfortable for you.

Also, in this class you are an adult, and I will treat you as such. Please behave as such.

COURSE SCHEDULE
Subject to change at the discretion of the instructor. Check Canvas regularly (like it's your job… because it sort of IS your job). Assignment due dates not listed.

Week 1          Review Syllabus
                Muscle nerve interaction

Week 2          Skeletal muscle mechanics
                Reading quiz 1
                Quiz 1

Week 3          Cardiac physiology

Week 4          Smooth muscle and cross-bridging
                Reading quiz 2
                Quiz 2

Week 5          Exam Review
                Midterm

Week 6          Muscle bioenergetics

Week 7          Muscle fiber type and single muscle fiber mechanics
                Reading quiz 3
                Quiz 3

Week 8          Molecular aspects of muscle

Week 9          Muscle protein turnover
                Reading quiz 4
                Quiz 4

Week 10         Muscle disease states, Review

Finals week     Final Exam (TBD)

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