Course Title
ANS 6705 Muscle Physiology

Course Instructor
Stephanie Wohlgemuth, Ph.D.
Office: Animal Science - Bldg 459, Room 202C
Phone: (352) 392-7563
Email: steffiw@ufl.edu

Office hours
By appointment. Please call or email me with your questions and concerns, and/or to schedule an appointment. In most cases I will respond within 24 h.

Course Description
Overview of morphological, physiological, cellular, and molecular factors affecting muscle structure and function, with special emphasis on mammalian skeletal muscle.

Course Objectives
At the end of the course the student will be able to:

✓ Appreciate the role of muscle morphology and physiology for muscle function in health and disease
✓ Read, interpret, discuss and evaluate scientific publications related to muscle biology

Time and Location
MW 3:00 – 4:55, F 3:00 – 3:50, Animal Science Building 459, Room: TBA
This class is a one-credit course and meets for a period of three weeks: from Jan 11th – Feb 1st 2016.

Supporting texts
There is no required textbook. Reading assignments and suggestions will be provided and will come from research and popular press articles, online resources, and book chapters. Below are some references which the student may wish to consult:

✓ General Biology textbooks – muscle tissue and function sections.
✓ General Histology textbooks
Course Website on CANVAS

Our course Canvas website, to be found through login to Canvas (http://elearning.ufl.edu), will be the conversation, communication and information hub for this course. All email communications should happen through the course website. Syllabus, resources such as assigned and recommended readings, and lesson material, provided as PowerPoint and pdf files, will be posted in Canvas. The lesson material (“the slides” as well as readings and other related material) will be organized by topic within modules.

If you have not made yourself familiar with Canvas yet, please take a look at the Canvas Student Quickstart Guide. An important first step to make sure you are not missing any announcement or email is that you set your Canvas settings to receive emails and announcements related to this class as soon as possible. In order to change settings to accommodate this requirement, please:

Go to your general Canvas Settings (upper right corner within CANVAS) > Notifications (left menu bar) > Notification Preferences: here set to “ASAP” (at least) the following activities: Announcements and Conversations (all three subcategories).

In case you need a general introduction to Canvas or additional help, the e-learning site and the Canvas site provide links to more help options.

Assessments, Grades and Policy regarding Absences and Makeup exam

Your performance and knowledge and Final grades are based upon daily preparedness and in-class participation (participation scoring sheet) (15%), on exam score (85%), and on attendance (see below*). More than one excused and any unexcused absence will result in subtraction of a half grade. The class will finish with a one-hour comprehensive exam on the last day of class. Make-up exam will be administered only upon documented excuse (for definition of excused absence see link above).

For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx.

* Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

Grades are assigned as follows:

- 90-100 A*
- 85-89 B+
- 80-84 B
- 75-79 C+
- 70-74 C
- 60-69 D
- ≤ 59 E

*: please note that no minus grades will be used.
Scoring Details

Participation Rubrics

Criteria:  
- Preparedness – presentation of assigned reading
- Preparedness – interpretation of results and findings
- Asked and answered questions
- Subjective quality of participation

Scores for each criterion: exceeded expectations (2.5 for each rubric = 10 pts), met expectations (1.5 for each rubric = 6 pts), below expectations (0 pts)

Exam

The exam will consist of an abbreviated paper discussion similar to the discussions conducted in class, in addition to some questions about the topics learned and discussed in class.

Course topics

(Please note that the syllabus is an evolving animal. Contents and topics listed in the syllabus may therefore be subject to slight modifications.)

<table>
<thead>
<tr>
<th>Topic of the week</th>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Muscle structure and function</td>
<td>01-11</td>
<td>Introduction</td>
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<tr>
<td></td>
<td></td>
<td>Muscle structure</td>
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<td>01-13</td>
<td>Muscle development</td>
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<td>01-15</td>
<td>Muscle pathologies</td>
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<td>Muscle metabolism</td>
<td>01-20</td>
<td>Muscle fiber types</td>
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<td>01-22</td>
<td>Energy metabolism</td>
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<td></td>
<td>01-25</td>
<td>Exercise</td>
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<tr>
<td>Muscle gain and loss</td>
<td>01-27</td>
<td>Muscle gain</td>
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<td></td>
<td>01-29</td>
<td>Muscle aging</td>
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<td></td>
<td>02-01</td>
<td>Exam</td>
</tr>
</tbody>
</table>
Background Literature

Changes to the reading list will be announced before the class starts and during class. The discussion papers will be chosen in the course of the class.

Muscle structure, function and development

**Skeletal muscle structure**
- Please consult textbooks listed above, or general Biology/Physiology textbooks of your choice for an overview of skeletal muscle structural proteins and muscle cell anatomy.

**Excitation-Contraction coupling**
- Please consult textbooks

**The neuromuscular junction**
- Please consult textbooks

**Muscular Disorders**

**Muscle energy metabolism**

**Muscle fiber types:**

**Exercise and oxidative stress:**

**Muscle metabolism:**

**Muscle gain and loss**

**Regulation of skeletal muscle mass:**
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Sarcopenia – loss of muscle mass and function with age:

General information

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

0001 Reid Hall, 352-392-8565, www.dso.ufl.edu/drc/

Online course evaluation process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent
with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university’s counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- **University Counseling & Wellness Center**, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
  - Counseling Services
  - Groups and Workshops
  - Outreach and Consultation
  - Self-Help Library
  - Wellness Coaching

- **U Matter We Care**, www.umatter.ufl.edu/

- **Career Resource Center**, First Floor JWRU, 392-1602, www.crc.ufl.edu/