College of Charleston  
*EXSC 340L-01: Exercise Physiology Lab*  
Fall 2016

**Course Meeting Location and Time:**

Physical Education Center 115  
Section 01: Monday, 11:00a-2:00p

**Instructor:** David Thomas MS, EP-C; ddthomas@cofc.edu

**Office Hours:** Thurs 2:30-3:30pm – or by appointment, Physical Education Center 150A

**Co-requisite:** EXSC 340

**Lab Manual:** Exercise Physiology Laboratory Manual, 7th edition, Beam & Adams

**Course Description:** This course will reinforce principles and theories covered in EXSC 340 Lecture and provide a hands-on opportunity to apply principles and theories related to exercise physiology.

**Student Learning Objectives:**

1. Through participation in this course, students will learn and demonstrate knowledge and skills necessary for measuring and interpreting Systolic and Diastolic Blood Pressures at rest and during exercise.
2. Through participation in this course, students will be able to identify and lead appropriate exercise testing for various populations encountered in the field.
3. Through participation in this course, students will be fluent in metabolic and power calculations involved in aerobic and anaerobic exercise testing.

**Course Objectives:**

1. This course will provide hands-on experience of aerobic and anaerobic exercise testing protocols.
2. This course will examine differences in populations that may benefit from exercise testing with safety being a primary objective for students and their future clients.
3. This course will provide students with hands-on experience using the tools required for aerobic and anaerobic testing.

**Grade:** Lab accounts for 25% of your overall EXSC 340 grade. Your grade will be calculated based on 12 weekly lab assignments with discussion questions, and a lab practical which acts as a final exam. The 12 lab assignments are weighted equally and count for 85%, while the practical counts for 15% of your lab grade.
Lab Attendance and Participation: You are required to attend every lab class, while wearing appropriate clothing (i.e. exercise clothing & athletic shoes). Showing up for lab without appropriate clothing or not participating in that day’s activities will result in you losing 50% of the total points for that lab’s respective write up. Missing a lab class, without setting up prior arrangements with your lab’s instructor, will result in you receiving a zero on that lab’s respective write-up. See your instructor prior to the start of this course if you participate in an activity that may cause a problem with attendance (e.g. representing the College in varsity sports, conference presentation) or participation (documented medical condition which limits physical activity) so proper arrangements can be made. If for personal or medical reasons any classes are missed, the instructor should be informed of the reason BEFORE the lab is missed. Your full participation in all labs is expected as optimal learning occurs through participation (medical conditions will be accommodated with proper notification). Medical or any other types of appointments are not an acceptable reason to miss class since you have the ability to reschedule your appointment following this notice.

Lab Assignments:

Lab assignments must be uploaded as a PDF to the appropriate OAKS dropbox, double spaced, and in National Library of Medicine (NLM) scientific journal format (for examples of this format see Medicine and Science in Sports and Exercise or Journal of Strength and Conditioning Research copies of these journals are in the student lounge and the library).

Lab Assignments are due prior to the specified lab class. Late lab assignments will not be accepted.

Post Lab Discussion Questions –Following certain labs each student will be given a set of questions to answer and submit the following week. Each answer must be typed, doubled spaced, and will require the use of appropriate references to support your answer. Where possible students should provide an example to support their answer. It is acceptable to use your class and lab text books as your references but as with any reference, you must include a citation (number of specific reference) within the body of your answer, as well as the bibliographic information of the source (authors, title, date of publication, book or journal, volume or edition, and page numbers) at the very end of your assignment. To receive maximal points (A-level work) additional references are required beyond class text books. Be sure to number all references after listing them in alphabetic order by first author’s last name and follow the National Library of Medicine (NLM) reference format style. A lab assignment grading rubric will be posted on OAKS.

Lab Extras:

Each member of the lab is expected to fully participate in data collection for every lab. Exceptions will require appropriate medical documentation.

It is highly recommended that you complete all assignments in a timely manner so that you can go back to proof read and edit as necessary to improve the overall quality of the assignments. Points will be deducted from all assignments for grammar and spelling mistakes.
EXSC 340 Lab - Tentative Lab Schedule:

9/5/2016 Lab 1 – Blood Pressure & Heart Rate Response, Risk Stratification: chapters 16, 17

9/12/2016 Lab 2 – Metabolic Calculations: supplemental
   (Lab assignment #1 due prior to lab)

9/19/2016 Lab 3 – Blood Chemistry: supplemental
   (Lab assignment #2 due prior to lab)

9/26/2016 Lab 4 – Body Composition: chapters 23-26
   (Lab assignment #3 due prior to lab)

10/03/2016 Lab 5 – Aerobic Field Tests: chapters 12, 13
   (Lab assignment #4 due prior to lab)

10/10/2016 Lab 6 – Submaximal Field Tests: chapter 14
   (Lab assignment #5 due prior to lab)

10/17/2016 Lab 7 – Max and Peak VO₂: chapter 15
   (Lab assignment #6 due prior to lab)

10/24/2016 Lab 8 – Lactate Threshold: chapter 21
   (Lab assignment #7 due prior to lab)

10/31/2016 Lab 9 – Muscular Strength: chapters 4, 5
   (Lab assignment #8 due prior to lab)

11/07/2016 FALL BREAK – Go vote tomorrow!

11/14/2016 Lab 10 – Anaerobic Field Tests: chapters 7, 8, 10
   (Lab assignment #9 due prior to lab)

11/21/2016 Lab 11 – Wingate Test: chapter 9
   (Lab assignment #10 due prior to lab)

11/28/2016 Lab 12 – Data analysis and visualization: supplemental
   (Lab assignment #11 due prior to lab)

12/05/2016 Lab 13 – Final Exam/Practical: Labs 6-12

Disability Statement: The College will make reasonable accommodations for persons with documented disabilities. Students should apply for services at the Center for Disability Services/SNAP located on the first floor of the Lightsey Center, Suite 104. Students approved for accommodations are
responsible for notifying me as soon as possible and for contacting me one week before accommodation is needed.

**Honor Statement:** In the educational context any dishonesty violates freedom and trust, which are essential for effective learning. Lying, cheating, attempted cheating, and plagiarism are violations of our Honor Code. Dishonesty limits a student’s ability to reach his or her potential. It is in a student’s own best interest not to be dishonest, as this would compromise the student’s preparation for future work. It is required of each student to take exams without consulting course materials or study aids including another person, the lesson pages, printed materials, or the internet. Students can find the complete Honor Code and all related processes in the Student Handbook at: http://studentaffairs.cofc.edu/honorsystem/studenthandbook/index.php