ESC 320: Exercise Testing and Prescription  
4 credits  
Spring 2017

Instructor: Tim Suchomel, PhD, CSCS*D, USAW-SPC  
Email: tsuchome@carrollu.edu  
Twitter: @DrTSuchomel  
Office: Charles House 108  
Phone: 262-524-7441  
Office Hours: TTh 9-10am or by appointment

Prerequisites: ESC 280 (Exercise Physiology)

Meeting Times and Locations:
• Lecture: Tuesdays & Thursdays 10-11:50am, Main 206 (A)  
  Tuesdays & Thursdays 12-1:50pm, Main 206 (B)
• Lab Sections: (A) Tuesday 12-1:50pm, Ganfield Gymnasium 008 – Matthew Hermes  
  (B) Thursday 12-1:50pm, Ganfield Gymnasium 008 – Christopher Adrian  
  (C) Tuesday 2-3:50pm, Ganfield Gymnasium 008 – Jason Roe  
  (D) Thursday 2-3:50pm, Ganfield Gymnasium 008 – Dr. Suchomel  
  (E) Tuesday 10-11:50am, Ganfield Gymnasium 008 – Matthew Hermes

Required Texts:
• Primary Text (required)  
• Supplemental Text (recommended)  

Course Description:  
This course provides students with the knowledge, skills, and abilities (KSA's) to appropriately select, perform and interpret pre-participation screenings, pre-exercise evaluations, commonly used field and laboratory exercise tests, basics of exercise prescription, and metabolic assessment for apparently healthy populations across the lifespan.
Course Outcomes: Upon completion of this course, a student should be able to:

1. Demonstrate the ability to obtain appropriate medical history, informed consent, and other pertinent information prior to exercise testing.
2. Demonstrate the ability to instruct participants in the use of equipment and test procedures.
3. Discuss and demonstrate various submaximal and maximal cardiorespiratory fitness tests using various modes of exercise and interpret and critique the information obtained from the various tests.
4. Demonstrate the ability to accurately use metabolic equations to estimate VO₂ for walking, running, leg ergometer, and stepping.
5. Demonstrate the ability to accurately measure heart rate, blood pressure, and rating of perceived exertion at rest and during exercise according to established guidelines.
6. Identify appropriate criteria for discontinuing a fitness test and demonstrate proper procedures to be followed after discontinuing such a test.
7. Discuss and demonstrate various methods of determining body composition according to established guidelines and interpret and critique the information obtained from the various tests.
8. Discuss and demonstrate various methods of determining muscular fitness (strength, endurance, and flexibility) according to established guidelines and interpret and critique the information obtained from the various tests.
9. Design, implement, and evaluate individualized and group exercise programs based on health history and physical fitness assessments.
10. Define exercise testing and prescription guidelines for apparently healthy, higher risk and clients with controlled disease.
11. Demonstrate the use of frequency, intensity, time, and type of exercise in designing cardiorespiratory and resistance training for individuals of different fitness levels.
12. Demonstrate an understanding for the components incorporated into an exercise session and their proper sequence.

Course Requirements:

- **Assigned Readings**
  Assigned readings and laboratory materials should be reviewed prior to class or laboratory. It is important to be prepared for each topic in class so that you can add to the discussion with questions and comments.

- **Dress**
  For laboratories students must dress appropriate to perform physical activity.

- **Lab Reports**
  Lab groups will consist of two or more students. Students must rotate lab partners to ensure that they are exposed to different people and personalities.
  
    - The lab reports will be written INDIVIDUALLY using data obtained in class.
    - The 8 lab reports are worth 25% of your final grade.
    - Each lab report will be due one week after the day of the lab.
Grading Opportunities:

<table>
<thead>
<tr>
<th>Grading Opportunity</th>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Reports</td>
<td>25%</td>
<td>A</td>
</tr>
<tr>
<td>Cardio Case Study</td>
<td>10%</td>
<td>AB</td>
</tr>
<tr>
<td>Anaerobic Presentations</td>
<td>10%</td>
<td>B</td>
</tr>
<tr>
<td>Research Presentation</td>
<td>5%</td>
<td>BC</td>
</tr>
<tr>
<td>Exam I</td>
<td>10%</td>
<td>C</td>
</tr>
<tr>
<td>Exam II</td>
<td>10%</td>
<td>D</td>
</tr>
<tr>
<td>Exam III</td>
<td>10%</td>
<td>F</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
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</tbody>
</table>

Grading Scale:

- A: 92 - 100
- AB: 89 - 91
- B: 82 - 88
- BC: 79 - 81
- C: 70 - 78
- D: 60 – 69
- F: < 60

**Grades will be rounded at the end of the semester from one digit after the decimal point and no further. Example: 91.5% rounds to 92% = A, while 91.4 rounds to 91.0 = AB.**

Attendance Policy:
Lecture attendance is expected but not required. Individuals are responsible for obtaining information presented in a missed class session. Make-up exams will not be allowed. Laboratory attendance is mandatory – you may not make up a missed lab.

Late Assignments:
Late work is not accepted.

Modifications to the Syllabus:
The University and instructors reserve the right to change the syllabus (including requirements, scheduling, and grading policy) if necessary during the semester.

Statement of Academic Integrity:
The Carroll University Academic Integrity Policy is located in the student handbook – https://my.carrollu.edu/ICS/Departments/Student_Affairs
Please familiarize yourself with it. Carroll University emphasizes that students have an obligation to conduct their academic work with honesty and integrity. All acts of academic misconduct are serious. If you have any questions about how to appropriately use information from other sources and how to appropriately cite it, please ask.

Statement of Due Notification:
This statement indicates the precise sanctions that will be imposed if a student is found guilty of violating the academic integrity policy. “If a student is found in violation of the Carroll University Academic integrity policy, I reserve the right to impose a sanction of failure on the assignment and/or failure in the course. If you have questions, please ask.”

Accommodations for Disabilities:
Students with documented disabilities who may need accommodations, or any student considering obtaining documentation should make an appointment with Ms. Martha Bledsoe, Director of Services for Students with Disabilities, no later than the first week of class. She can be reached by calling 262-524-7335 or contacting her via email at mbledsoe@carrollu.edu
## ESC 320 Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Topics</th>
<th>Lab</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/24, 1/26</td>
<td>Course Introduction, Ch 1: Physical Activity, Health, Chronic Disease</td>
<td>No Labs</td>
</tr>
<tr>
<td>2</td>
<td>1/31, 2/2</td>
<td>Ch 2: Health Screening and Risk Classification, Ch 3: Assessment, Prescription, and Exercise Adherence</td>
<td>Pre-Screening &amp; Resting Values</td>
</tr>
<tr>
<td>3</td>
<td>2/7, 2/9</td>
<td>Ch 8 &amp; 9: Body Composition, Exam Review, Aerobic Groups</td>
<td>Body Composition</td>
</tr>
<tr>
<td>4</td>
<td>2/14, 2/16</td>
<td>Exam 1, Ch 10 &amp; 11: Flexibility</td>
<td>Flexibility</td>
</tr>
<tr>
<td>5</td>
<td>2/21, 2/23</td>
<td>Ch 4: Assessing Cardiorespiratory Fitness, Ch 5: Designing Cardiorespiratory Exercise Programs</td>
<td>Assess Athlete Body Comp</td>
</tr>
<tr>
<td>6</td>
<td>2/28, 3/2</td>
<td>No Class – Aerobic Case Study Work Day, Designing Aerobic Training Programs</td>
<td>Aerobic Lab I</td>
</tr>
<tr>
<td>7</td>
<td><strong>3/7</strong></td>
<td>Exam Review, Exam 2</td>
<td>No Labs</td>
</tr>
<tr>
<td>8</td>
<td>3/14, 3/16</td>
<td>No Class – Spring Break!</td>
<td>No Labs</td>
</tr>
<tr>
<td>9</td>
<td>3/21, 3/23</td>
<td>Ch 6: Assessing Muscular Fitness, <strong>Anaerobic Groups</strong></td>
<td>Aerobic Lab II</td>
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<tr>
<td>11</td>
<td>4/4, 4/6</td>
<td>Exam Review, Exam 3</td>
<td>Anaerobic II</td>
</tr>
<tr>
<td>12</td>
<td>4/11, 4/13</td>
<td>Designing Anaerobic Training Programs</td>
<td>Strength Assessment</td>
</tr>
<tr>
<td>13</td>
<td><strong>4/18</strong></td>
<td>Anaerobic Presentations</td>
<td><strong>Due dates of Aerobic and Anaerobic paper/presentations</strong></td>
</tr>
<tr>
<td>14</td>
<td><strong>4/20</strong></td>
<td>Anaerobic Presentations</td>
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<tr>
<td>15</td>
<td><strong>4/25</strong></td>
<td>Anaerobic Presentations, Overflow Day</td>
<td>Training Lab</td>
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<tr>
<td>16</td>
<td>5/2, 5/4</td>
<td>Final Exam Review</td>
<td>No Labs</td>
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<td></td>
<td>5/9</td>
<td>CUMULATIVE FINAL EXAM (TBA)</td>
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*Note: The schedule is subject to change by the University and the instructor*

**Due dates of Aerobic and Anaerobic paper/presentations**