Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.
EXSC 510
ADVANCED EXERCISE PHYSIOLOGY

COURSE DESCRIPTION
Advanced study of physiological adaptations to acute and chronic exercise.

RATIONALE
The purpose of this course is to allow the student the opportunity to further understand the responses and adaptations of the cardiovascular and pulmonary systems as well as skeletal muscles to exercise and training. Furthermore, the student will be exposed to the primary physiological factors that determine anaerobic and endurance performance in athletes. This will provide the student with the necessary background information for the majority of his/her cognate classes in the human performance, clinical, nutrition, and community physical activity cognate areas. This critical core course emphasizes both acute and chronic physiological adaptations associated with human physical activity and their influence upon performance.

I. PREREQUISITE
For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE
Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING
A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended)
C. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES
Upon successful completion of this course, the student will be able to:
A. Describe the responses that occur during exercise in the body’s various physiological systems.
B. Describe physiological changes that occur as a result of aging and explain how these changes affect performance.
C. Explain how gender differences affect performance.
D. Describe how the environment (heat, cold, and altitude) affects the exercise
response.

E. Demonstrate the ability to critically review current research and connect findings to topics presented in Discussion Board Forums and written assignments.

V. **COURSE REQUIREMENTS AND ASSIGNMENTS**

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

   After reading the Course Syllabus and **Student Expectations**, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (2)

   Discussion boards are collaborative learning experiences. Therefore, the student is required to create a thread in response to the provided prompt for each of the 2 assigned forums. Each thread must be 350 words and demonstrate course-related knowledge and include 1 citation in current APA format. In addition to the thread, the student is required to reply to 2 other classmates’ threads. Each reply must be 200 words and include 1 citation in current APA format.

D. Case Study Essay Questions (8)

   Each student will be responsible for the completion of 8 Case Study Essay Questions. The response for each Case Study Essay Question must be at least 2 pages. Also, the response to each question can be no more than 4 pages.

E. Journal Article Review

   The student will complete an article review based on a search of several journal articles with a strong association to the field of exercise physiology. The article must be no less than 3 and no more than 5 pages, discuss the study’s background (e.g., reasons for study, subjects utilized, brief methods, etc.), summarize the significance of the student’s findings, and write 1–2 paragraphs detailing how this article is related to exercise physiology.

VI. **COURSE GRADING AND POLICIES**

A. Points

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
</tr>
<tr>
<td>Discussion Board Forums (2 at 50 pts ea)</td>
<td>100</td>
</tr>
<tr>
<td>Case Study Essay Questions (8 at 100 pts ea)</td>
<td>800</td>
</tr>
<tr>
<td>Journal Article Review</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1010</strong></td>
</tr>
</tbody>
</table>

B. Scale

   D- = 680–699 F = 0–679

C. Late Assignment Policy
If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1. Late assignments submitted within one week of the due date will receive a 10% deduction.
2. Assignments submitted more than one week late will receive a 20% deduction.
3. Assignments submitted two weeks late or after the final date of the course will not be accepted.
4. Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.
## Course Schedule

**EXSC 510**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>PTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Powers &amp; Howley: chs. 1, 3–4, 2 presentations</td>
<td>Course Requirements Checklist, Class Introductions, DB Forum 1</td>
<td>10, 0, 50</td>
</tr>
<tr>
<td>2</td>
<td>Powers &amp; Howley: chs. 4, 9–10, 13, 4 presentations</td>
<td>Case Study Essay Question 1</td>
<td>100</td>
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<tr>
<td>3</td>
<td>Powers &amp; Howley: chs. 9, 12–13, 24, 2 presentations</td>
<td>Case Study Essay Question 2</td>
<td>100</td>
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<td>4</td>
<td>Powers &amp; Howley: chs. 8, 13, 3 presentations</td>
<td>Case Study Essay Question 3, Case Study Essay Question 4</td>
<td>100, 100</td>
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<tr>
<td>5</td>
<td>Powers &amp; Howley: chs. 1, 8–9, 13, 19–21, 4 presentations</td>
<td>DB Forum 2</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>Powers &amp; Howley: chs. 7–8, 2 presentations</td>
<td>Case Study Essay Question 5, Case Study Essay Question 6</td>
<td>100, 100</td>
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<tr>
<td>7</td>
<td>Powers &amp; Howley: chs. 21–22, 2 presentations</td>
<td>Journal Article Review</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Powers &amp; Howley: chs. 17, 22, 2 presentations</td>
<td>Case Study Essay Question 7, Case Study Essay Question 8</td>
<td>100, 100</td>
</tr>
</tbody>
</table>

**Total** 1010

*DB = Discussion Board*

**NOTE:** Each course module/week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on Friday.