BIOL 404 ST: Pathophysiology

Spring 2022

Instructor: Dr. James J. Nagler
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Office hours: By appointment.

Course Overview: This course will cover the physiological basis for altered human health, the study of the structural and functional changes in the body leading to disease states. Case studies will be presented and discussed in class to apply and understand the material learned.

Eligibility: Any student may take BIOL 404 provided they have the necessary pre-(BIOL 115, BIOL 115L, BIOL 227) and co-requisite courses (BIOL 228).

Credits: 3

Lectures: The class will meet as indicated in the Spring 2022 Class Schedule: MWF, 1:30-2:20 pm in TLC 146. Lectures topics will generally follow the weekly plan outlined below. Information will be presented primarily using PowerPoint although other media formats may be utilized (e.g., video) and all is fair game for examination purposes. Lectures will be recorded and posted on Microsoft Stream. Students are encouraged to ask questions about any course material they do not understand. Students that miss a class are responsible for learning the material missed on their own time.


Exams and Grading:

Exams- There will be three (3) in-class exams (Exam I-11/02/22; Exam 2-11/03/22; Exam 3-13/04/22) and a final exam (Wed., May 11, 2022: 12:45-2:45 pm). It is department policy that there are no early final exams. While exams will not be cumulative, the nature of this course is such that all material learned will be utilized as the course progresses.

Students are required to inform the instructor in advance of an exam absence. A legitimate medical or personal reason will be necessary before a make-up exam can be scheduled. The make-up exam will be taken within a week of the exam date at a time agreed upon by the student and instructor.
**Grading** - The final numerical grade in this course will be determined as follows:

- In class exams: 3 x 50 points each = 150 points
- Final exam: = 50 points
- TOTAL = 200 points

Letter grades will be assigned as follows, based on the total points accumulated:

- A = 180-200 points
- B = 160-179 points
- C = 140-169 points
- D = 120-139 points
- F = 119 points or less

**Course Learning Outcomes:**

- **Learn & Integrate**: Students will apply their previous and gained knowledge of human anatomy and physiology to gain an understanding of the physiological mechanisms causing disease states.
- **Think & Create**: Students will be expected to apply the concepts and approaches learned here to describe the pathophysiology of human disease states.
- **Communicate**: Students will be expected to improve their communication with others about the basics of human pathophysiology.
- **Clarify Purpose & Perspective**: It is expected that all students will gain important insights into the study of pathophysiological mechanisms in the human.
- **Practice Citizenship**: It is every student’s responsibility to share with others their knowledge and understanding of pathophysiological disease relationships in the human body.

**Student Conduct:**

This course and the instructor will comply with all Federal (i.e., FERPA), State, and University laws, rules, and policies. These include, but are not limited to the following:

- **Academic Integrity**: Cheating, in any form, will not be tolerated in this course. Any student caught cheating will be dismissed from the course.
- **Students with Disabilities**: Reasonable accommodations are available for students who have documented temporary or permanent disabilities through the Center for Disability and Academic Resources (CDAR). All accommodations must be approved by CDAR to notify the instructor regarding any accommodation(s) needed for the course.
Discrimination- No form of discrimination will be permitted in this course.

Classroom Civility- In any environment in which people gather to learn, it is essential that all members feel as free and safe as possible in their participation. To this end, it is expected that everyone in this course will be treated with mutual respect and civility, with an understanding that all of us (students, instructors, and guests) will be respectful and civil to one another in discussion, in action, in teaching, and in learning. Additional resources for expression of concern or to request support include the Dean of Students office and staff (5-6757), the UI Counseling & Testing Center’s confidential services (5-6716), or the UI Office of Human Rights, Access, & Inclusion (5-4285). Students are expected to adhere to the University of Idaho Student Code of Conduct. If you have any questions or concerns regarding these topics, please contact the administrative offices of the University of Idaho found at http://www.uidaho.edu/about/administration.

Weekly Lecture Topics Plan:

<table>
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<tr>
<th>Week</th>
<th>Dates</th>
<th>Lecture Topics (textbook chapter)</th>
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<tbody>
<tr>
<td>1.</td>
<td>12,14/01</td>
<td>Course introduction, Altered cellular and tissue biology I (Ch. 2)</td>
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<td>2.</td>
<td>19,21/01</td>
<td>Altered cellular and tissue biology II (Ch. 2), Cancer biology I (Ch. 12)</td>
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<td>3.</td>
<td>24,26,28/01</td>
<td>Cancer biology II (Ch. 12), Case Studies 1, Alterations in water and electrolyte balance (Ch. 3)</td>
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<td>4.</td>
<td>31,02,04/02</td>
<td>Alterations in electrolyte balance (Ch. 3), Alterations in acid-base balance I and II (Ch. 3)</td>
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<td>5.</td>
<td>07,09,11/02</td>
<td>Endocrine system disorders I and II (Ch. 22), <strong>EXAM 1</strong></td>
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<td>6.</td>
<td>14,16,18/02</td>
<td>Diabetes Mellitus (Ch. 22), Innate immunity (Ch. 7), Inflammation (Ch. 7)</td>
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<td>7.</td>
<td>23,25/02</td>
<td>Adaptive Immunity (Ch. 8), Case Studies 2</td>
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<td>8.</td>
<td>28/02; 02,04/03</td>
<td>Immune System Disorders (Ch. 9), Infection I and II (Ch. 10)</td>
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<td>9.</td>
<td>07,09,11/03</td>
<td>Hematological Dysfunction I and II (Ch. 29), <strong>EXAM 2</strong></td>
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<td>10.</td>
<td><strong>Spring Recess- no classes week March 14-18</strong></td>
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<td>11.</td>
<td>21,23,25/03</td>
<td>Lymphatic Dysfunction (Ch. 30), Cardiovascular Disorders I and II (Ch. 33)</td>
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12. 28,30/03;01/04: Cardiovascular Disorders III (Ch. 33), Case Studies 3, Pulmonary Disorders I (Ch. 36)

13. 04,06,08/04: Pulmonary Disorders II (Ch. 36), Neurologic System Disorders I and II (Ch. 17, 18)

14. 11,13,15/04: Neurologic System Disorders III (Ch. 18), EXAM 3, Digestive System Disorders I (Ch. 42)

15. 18,20,22/04: Digestive System Disorders II (Ch. 42), Female and male reproductive disorders (Ch. 25, 26)

16. 25,27,29/04: Case Studies 4, Renal System Disorders I and II (Ch. 39)

17. 02,04,06/05: Integumentary Disorders (Ch. 47), Musculoskeletal Disorders I and II (Ch. 45)