Syllabus for Biology 242: Human Anatomy & Physiology II

Overview

BBIO 242 is the second half of a two-quarter series in human anatomy and physiology. While BBIO 241 covered the integumentary, skeletal, muscular, and nervous systems, BBIO 242 focuses on the sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems. BBIO 241 and 242 are designed for nursing students and will include clinically relevant examples when possible.

Instructor-student communication

- Course website in Canvas: https://canvas.uw.edu/courses/1056020. All important course information will be posted here!
- “Office” hours:
  - Mondays before lab: 10:30-11:30am, Discovery Hall 267 (knock on the door)
  - Tuesdays after lecture: 11:15-11:45am, Sarah Simonds Green Conservatory
  - Wednesdays after lab: 4:15-5pm, Discovery Hall 267 (knock on the door)
  - Thursdays after lecture: 11:15-11:45am, Sarah Simonds Green Conservatory
  - ... and by appointment.
- Messages: Outside of office hours, I usually communicate with students via Canvas messages and via email address crowther@uw.edu.

Basic requirements

- Prerequisite: Successful completion of BBIO 241.
- Lectures: 8:45 to 11:15 on Tuesdays and Thursdays at the Sarah Simonds Green Conservatory.
- Textbook: Biological Science (5th edition/2014) by Scott Freeman et al.
- Labs: 8:45-10:45 or 11:00-1:00 on Mondays and Wednesdays in Room 267 of Discovery Hall.
- Lab manual: Human Anatomy & Physiology Lab Manual, cat version (12th edition/2016) by Elaine N. Marieb and Lori A. Smith, plus access to the website MasteringAandP.com, which includes the PhysioEx laboratory simulations. The course ID for MasteringAandP.com is: CROWTHER2016SPRING.
- Consistent access to Canvas, the Internet, and a printer.
Skills and outcomes

By the end of this course, you should be able to:

- Identify gross and microscopic components of the sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems.
- Explain the how structures (anatomy) of these components support their functions (physiology) at the molecular, cellular, tissue, and organ/organ system levels.
- Provide examples of functional trade-offs: how specializations for performing some functions limit the performance of other functions.
- Provide examples of how the sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems maintain homeostasis via negative feedback and diverge from homeostasis via positive feedback or feedforward control.
- Explain how basic clinical techniques can detect problems in the sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems.
- Plan, perform, and analyze experiments in which the sensory, endocrine, circulatory, respiratory, digestive, urinary, and reproductive systems are perturbed.
- Infer possible anatomical and physiological problems underlying medical symptoms.

Instructor

Lectures and labs will be taught by me, Dr. Greg Crowther. I am fascinated by this material both as a scientist and as a long-distance runner. (My Ph.D. research was on energy metabolism in exercising leg muscles.) In general, the best ways to reach me are via email (crowther@uw.edu) and/or via Canvas messages. Much more information about me – more than you could ever want to know – is available at my faculty website, http://faculty.washington.edu/crowther/, which includes my A&P songs (http://faculty.washington.edu/crowther/Misc/Songs/).

Schedule

Dates of quizzes, exams, and labs will not change. Other aspects of the schedule may be adjusted as the quarter progresses.

Relevant sections of the textbook (Freeman) and lab manual (Marieb) are listed, but you are only responsible for material covered in lectures, labs, and/or homework assignments.

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday lab (11:45-1:45 or 2:15-4:15)</th>
<th>Tuesday lecture (8:45-11:15)</th>
<th>Wednesday lab (11:45-1:45 or 2:15-4:15)</th>
<th>Thursday lecture (8:45-11:15)</th>
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<tbody>
<tr>
<td>6/20-6/24</td>
<td>No lab</td>
<td>Special senses (Freeman 47, Marieb 23-26)</td>
<td>Exercise 24 (Special Senses: Visual Tests and Experiments)</td>
<td>Endocrine system (Freeman 49, Marieb 27-28)</td>
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<tr>
<td>6/27-7/1</td>
<td>Exercise 25 (Special Senses: Hearing and Equilibrium)</td>
<td>Endocrine system (Freeman 49, Marieb 27-28)</td>
<td>Cat Dissection Exercise 3 (Identification of Selected Endocrine Organs of the Cat) + PhysioEx Exercise 4 (Endocrine System Physiology)</td>
<td>Quiz; Blood (Freeman 45.4, Marieb 29)</td>
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<td>Date</td>
<td>Activity</td>
<td>Reading Material</td>
<td>Assessment</td>
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<td>7/4-7/8</td>
<td>No lab! (UW holiday)</td>
<td>Heart (Freeman 45.5, Marieb 30-31)</td>
<td>Quiz; Circulatory system (Freeman 45.5, Marieb 32-33)</td>
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<td>7/11-7/15</td>
<td>Exercise 30 (Anatomy of the Heart)</td>
<td>Respiration (Freeman 45.3, Marieb 36-37)</td>
<td>Quiz; Respiration (Freeman 45.3, Marieb 36-37)</td>
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<td>7/18-7/22</td>
<td>Exercise 32 (Anatomy of Blood Vessels) + Cat Dissection Exercise 4 (Dissection of the Blood Vessels of the Cat)</td>
<td>Digestion (Freeman 44, Marieb 38-39)</td>
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<td>7/25-7/29</td>
<td>Cat Dissection Exercise 6 (Dissection of the Respiratory System of the Cat) + PhysioEx Exercise 7 (Respiratory System Mechanics)</td>
<td>Digestion (Freeman 44, Marieb 38-39)</td>
<td>Quiz; Urinary system (Freeman 43.1/43.5, Marieb 40-41)</td>
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<td>8/1-8/5</td>
<td>Cat Dissection Exercise 7 (Dissection of the Digestive System of the Cat)</td>
<td>Urinary system (Freeman 43.1/43.5, Marieb 40-41)</td>
<td>Quiz; Reproduction (Freeman 50, Marieb 42-43)</td>
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<td>8/8-8/12</td>
<td>Exercise 41 (Urinalysis)</td>
<td>Reproduction (Freeman 50, Marieb 42-43)</td>
<td>Student presentations</td>
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<td>8/15-8/19</td>
<td>Review time (no new lab)</td>
<td>Review</td>
<td>Review time (no new lab)</td>
<td>Final exam</td>
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**Diversity and disabilities**

UW-Bothell provides a supportive environment for all students, including students with disabilities. If you have a disability that affects your performance in this course, or if you think you might, please contact UW-Bothell’s office of Disability Resources for Students (DRS). In particular, if you need special accommodations for taking quizzes and tests, please set those up with DRS as soon as possible. You are also encouraged to talk to me if your performance in the course is being affected by factors other than disabilities – for example, stereotypes regarding gender, ethnicity, age, sexual orientation, etc.

**Inclement weather and suspension of classes**

Bad weather occasionally forces the campus to close. Updates on bad-weather situations are available via UW-Bothell’s home page (www.uwb.edu) and its information line (425-352-3333). You may also sign up for text-message alerts (www.uwb.edu/alert/).

**Use of animals in the laboratory**

For hundreds of years, our understanding of animal anatomy and physiology has advanced from the use of animals in dissections and experiments. Likewise, the laboratory component of this course includes such specimens as preserved cats, sheep testes, and calf hearts. If you have concerns about this, please talk with me as soon as possible.

**Assignments and grades**

As in BBIO 241, your overall grade will depend on your performance on several different types of assignments, according to the following (approximate) distribution.
Exams (2 x 100 points each) | 200 points
--- | ---
Quizzes (5 x 30 points each; lowest 1 dropped) | 120 points
Mini-Quizzes (15 x 2 points each; lowest 2 dropped) | 26 points
Lab & PhysioEx worksheets (18 x 10 points each) | 180 points
Student presentations | 60 points
*Approximate Total* | *596 points*

Because some grades will ultimately be dropped, intermediate calculations of your grade in Canvas may be misleading. If you are unsure of how you are doing, please ask me.

In general, quizzes and tests cannot be made up after being missed. If you miss a quiz, you will receive a 0 for it. However, your lowest quiz score and your lowest test score will be dropped. Do NOT plan to skip a particular quiz that you are able to complete -- save your droppable 0s for unavoidable emergency absences.

In general, assignments will not be graded on a curve. If an assignment turns out to be unusually hard, I reserve the right to curve the scores upward for that assignment.

Final grades will be based on the percentage of total points earned, according to the chart below.

| 99% => 4.0 | 89% => 3.4 | 79% => 2.4 | 69% => 1.4 |
| 98% => 4.0 | 88% => 3.3 | 78% => 2.3 | 68% => 1.3 |
| 97% => 4.0 | 87% => 3.2 | 77% => 2.2 | 67% => 1.2 |
| 96% => 4.0 | 86% => 3.1 | 76% => 2.1 | 66% => 1.1 |
| 95% => 4.0 | 85% => 3.0 | 75% => 2.0 | 65% => 1.0 |
| 94% => 3.9 | 84% => 2.9 | 74% => 1.9 | 64% => 0.9 |
| 93% => 3.8 | 83% => 2.8 | 73% => 1.8 | 63% => 0.9 |
| 92% => 3.7 | 82% => 2.7 | 72% => 1.7 | 62% => 0.8 |
| 91% => 3.6 | 81% => 2.6 | 71% => 1.6 | 61% => 0.8 |
| 90% => 3.5 | 80% => 2.5 | 70% => 1.5 | 60% => 0.7 |

**Collaboration, attribution, and academic honesty**

For quizzes and exams, working with other students is NOT allowed (unless stated otherwise). For all other assignments, working together IS allowed (unless stated otherwise).

If you use a source other than the instructor or textbook – a website, classmate, library book, etc. – you must cite that source. Examples:

- You worked with a classmate on a homework assignment:
  - *Note: Phil, Jane, and I discussed questions #2, #3, and #4.*
- You quoted the exact words used by another source, using quotation marks:
  - *According to Wikipedia, “People with extensive, bilateral hippocampal damage may experience anterograde amnesia—the inability to form and retain new memories.”* (source: [http://en.wikipedia.org/wiki/Hippocampus](http://en.wikipedia.org/wiki/Hippocampus)).
- You gathered information from another source and put it in your own words:
  - *Patients with severe lesions in their hippocampus cannot create new memories* (source: [http://en.wikipedia.org/wiki/Hippocampus](http://en.wikipedia.org/wiki/Hippocampus)).
If you have any questions about appropriate attribution, please ask me.

**Tips for success**

- *Show up for everything.* While it’s possible to learn material without coming to class, it’s much harder that way! Give yourself the benefit of multiple passes through the material by studying at home AND coming to all lectures and labs.

- *Actively participate in everything.* Do all homework assignments. Take notes in class. Ask questions when you are confused. Ask questions when you are NOT confused but want to know more. Answer questions, even if you have to guess. Don’t let your lab partner do all the fun stuff. Take charge of your education!

- *Read over your notes soon after each session and “clean them up,” clarifying any confusing points.* That way, when you return to these notes when studying for a quiz or exam, you won’t have to do a lot of last-minute deciphering. (This simple strategy helped me a LOT as an undergraduate.)

- *Get help when you’re starting to struggle, not after weeks of confusion.* Let’s try to solve small problems before they become big problems. Office hours and lab sessions are especially good times to check in with me.

- *Work together.* This can be done both online (via Canvas Discussion posts and Chats) and in person. Form study groups and help each other out! Just be sure that your submitted work reflects your own understanding and cites sources appropriately (see above).

- *Practice metacognition.* Metacognition means “thinking about how you think.” Try to figure out which approaches to the material work best for you. For example, with reading assignments, should you plow straight through the text from beginning to end, look first at subject headers and vocabulary words before going back to fill in the details, focus on the figures, or adopt some other method? In class, should you take tons of notes and sort through them later, or listen more and write less? Different styles work best for different students!

- *Respect each other and me.* Respectful behavior includes: listening carefully when spoken to; giving others the space to think and to ask and answer questions; refraining from harsh or persistent criticism; avoiding language, attire, or movements that are likely to annoy or distract others; restricting conversations to those relevant to the course material; maintaining control over one’s emotions; and giving me adequate time to respond to requests.