

Biology 232: Human Physiology – Syllabus for Winter 2020

(1) Course Information

- Sections: A/2082 (labs on Mondays) and B/2083 (labs on Wednesdays)
- Year and quarter: Winter 2020
- Schedule:
 - Lectures:
 - Tuesdays and Thursdays, 10:00-11:50am, Whitehorse 110
 - Fridays, 10:00-10:50am, Whitehorse 105
 - Labs in Shuksan 144:
 - Section A/2082: Mondays, 10:00-11:50am
 - Section B/2083: Wednesdays, 10:00-11:50am
 - Final exam in Whitehorse 105 on Tuesday, March 17, 10:00-11:50am

(2) Instructor Information

- Instructor name: Gregory J. Crowther, Ph.D.
 - Please call me “Doctor Crowther” or “Professor Crowther” or “Dr. C”
 - My pronouns: he/him/his
- Contact information:
 - Email: gcrowther@everettcc.edu (Canvas messages work too)
 - Office phone number: 425-388-9480 (note: I do not check voice-mail often)
 - Faculty website: faculty.washington.edu/crowther/
- Office location: Shuksan 118
- Office hours for this quarter:
 - Monday through Friday, 9:15-9:45am
 - Monday through Thursday, 2:25-2:55pm
 - Canvas Chat the night before exams, 8:30-9:30pm
 - And by appointment

(3) Course Description*

Detailed study of the functioning, integration and interrelationships of the following organ systems of the human body: Integumentary, Skeletal, Muscular, Neurologic (including Autonomic and Special Senses), Endocrine, Hematologic, Cardiovascular, Lymphatic/Immune, Respiratory, Digestive, Urinary, and Reproductive (including Development). Lectures and laboratory exercises emphasize both cellular and systems-level functions. For allied health professional majors.

(4) Learning Objectives and Core Learning Outcomes*

Upon successful completion of this course, students will be able to meet these Learning Objectives:

- 1. Explain in detail the functioning of the following organ systems: Integumentary, Skeletal, Muscular, Neurologic (including Autonomic and Special Senses), Endocrine, Hematologic, Cardiovascular, Immune, Respiratory, Digestive, Urinary, and Reproductive (including Development).
- 2. Describe the integration of and interrelationships between these bodily systems for topics such as homeostasis and acid-base balance.
- 3. Clinically apply understanding of human physiology to factual scenarios, case problems, and/or pathologic conditions altering normal physiology.
- 4. Use evidence-based learning techniques and technologies to explore core concepts in the biological sciences.

Two of EvCC's three Core Learning Outcomes are also assessed in this course:

- *Analytical Thinking*. Students will apply previous knowledge to novel problems, e.g., predicting clinical outcomes from physiological symptoms.
- *Effective Communication*. Students will communicate the results of their laboratory experiments in written reports and narratives.

(5) Required Resources

- General comment: The easiest way to get the required materials is to buy the bookstore bundle. However, you might be able to save a little money by buying the components separately.
- Textbook: *Human Anatomy & Physiology* (11th edition/2019) by Elaine N. Marieb & Katja Hoehn, published by Pearson.
 - You are welcome to buy or rent this textbook, either as a physical copy or an online version (via PearsonMyLabAndMastering.com; see below), whatever works best for you. (Personally, I prefer to own a physical copy that I can write in and keep for future reference.)
 - When I refer to page numbers, section numbers, figure numbers, and problem numbers, I will use those of the current edition. If you use an older edition, it is your responsibility to notice and overcome discrepancies between editions. That is, if you use an older edition, you should make sure that you also have easy access to a current edition so that you can easily compare the two.
- Lab manual: none! Weekly lab handouts will be posted to Canvas (address below).
- Websites
 - Canvas website: everettcc.instructure.com/courses/1867285. Please check this site every day or adjust your Canvas settings so that you are notified of all new announcements, assignments, etc. There is no additional charge for using this website.
 - Pearson Mastering website: www.pearsonmylabandmastering.com. Your course ID is crowther79831.
 - At a minimum, you will need to access the following parts of this website: Learning Catalytics (for "clicker" questions), the PhysioEx and Practice Tests and Quizzes parts of the Study Area, and the e-textbook if you don't have a physical book.

- You are welcome to use any of the other online resources that are included.
- With the exception of Learning Catalytics (“clicker” questions), you will not be submitting any to-be-graded work to the Mastering website. Instead, you will submit assignments in Canvas or in person.
- Use of this website requires a subscription that is included in your bookstore bundle, but that may also be purchased separately.
 - If you are currently awaiting financial aid or have some other temporary financial constraint, you can register for a 14-day free trial, after which you will need to pay for continuing access.

(6) Other Requirements and Expectations

(6.1) Prerequisites

- BIOL& 211 and 231 (or BIOL& 221 and 222 and 223) with a grade of C or higher
- CHEM& 121 (or CHEM& 161 and CHEM&162) with a grade of C or higher

Any student who has not yet met both prerequisites but wants to take this course should consult me as soon as possible (if you have not already done so).

(6.2) Attendance and Participation

Consistent attendance and participation are critical for success!

- You really should come on time to all labs and exams. In cases of unavoidable scheduling conflicts or personal emergencies, contact me as early as possible and explain the situation in enough detail for me to grasp its seriousness; I will try to work something out with you. Arriving late to an exam does not entitle you to extra time unless you have an exceptionally good excuse. Arriving late to a lab inconveniences both your lab partner (who has to start without you) and your instructor (who has to re-explain things once you arrive).
- I urge you to attend all lectures as well. Please take advantage of the presence of your classmates and instructor, rather than figuring everything out on your own outside of class! I will do my best to make lectures engaging, interactive, and relevant to the exams. We will explore the material through think-pair-share discussions, clicker questions, worksheets, and even content-rich songs. Lectures will generally be recorded via Panopto, but recordings should be used as a supplement to (not a replacement for) participation in lectures. If you simply cannot get to a particular lecture, please notify me (in advance, if possible) so that I can help you stay on top of the material.

(6.3) Assignments

We learn through regular, focused, thoughtful practice. This course will give you many opportunities to practice working with and processing the material. In general, there will be assignments due before each lecture and lab to ensure that you are prepared for the day’s work. There will also be numerous in-class and in-lab assignments, plus several lecture exams. These different assignments will be graded in different ways:

- Daily assignments will be graded for completeness (did you do the whole thing?) and timeliness (did you turn it in on time?).
- Exams will be graded for quality (were your answers good?). Exams will consist mostly of multiple-choice and short-answer questions.
- Lab worksheets will be graded for completeness, timeliness, and quality. In general, only a few answers will be checked for quality.

<i>Assignment category</i>	<i>Approximate # of assignments</i>	<i>Points per assignment</i>	<i>Total points in this category</i>
Pre-lecture homework	24 (none dropped)	2	48
In-lecture assignments	45 (lowest 7 dropped)	2	76
Pre-lab homework	8 (none dropped)	2	16
Lab worksheets	8 (lowest 1 dropped)	12	84
Lab check-ins	8 (lowest 1 dropped)	2	14
Tests	6 (lowest 1 dropped)	100	500
Approximate total			738

There will also be a few small extra-credit opportunities.

(6.4) Final Grades

Final grades will be based on the percentage of total points earned, according to the chart below. No “curving” will be applied at the stage of awarding final grades.

0.00-59.49%: F	59.50-66.49%: D	66.50-69.49%: D+	69.50-72.49%: C-	72.50-76.49%: C	76.50-79.49%: C+
79.50-82.49%: B-	82.50-86.49%: B	86.50-89.49%: B+	89.50-92.49%: A-	92.50% and up: A	

(6.5) Late Work

In general, late work is accepted but penalized 20% per day, up to a maximum penalty of 60%. For example, a 10-point assignment would receive a 2-point penalty if submitted 0.1 to 24 hours late, a 4-point penalty if submitted 24.1 to 48 hours late, and a 6-point penalty if submitted more than 48 hours late. To minimize late penalties, post a scanned or photographed copy to the corresponding assignment listing in Canvas as soon as possible. If you have a good excuse for being late (e.g., a sudden illness or family emergency), please post your excuse and documentation (doctor’s note, prescription, photo of open wound...) to the corresponding assignment listing in Canvas and I’ll consider waiving the penalty.

(6.6) Academic Integrity – Cheating and Plagiarism

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

Accidental or intentional use of someone else's work, ideas, research, or writing without attribution of the source may result in a failing grade on the assignment or a failing grade in the course, depending on the details of the situation. Any incidents of this type will be reported to the Dean of Student Development as a violation of the Student Conduct Code, which is described in the [Student Rights and Responsibilities Handbook](#).

(6.7) Lab Safety, Cleanliness, and Organization

Please observe the following guidelines:

- Wear close-toed shoes and clothes that cover your legs.
- Reassemble models and return them to their proper cupboards. If you break a model, please save the pieces so they can be repaired or submitted for an insurance claim.
- Clean all equipment with dish soap and Lysol, dry it, and put it away properly.
- Use Lysol disinfectant to wipe table tops and chairs each time you are done in the lab.
- Place all wastes in the appropriate containers (regular trash, non-biohazardous sharps, biohazardous non-sharps, and biohazardous sharps).
- Avoid plugging the sink drains with wastes such as animal parts.
- We provide gloves. A lab coat is optional.
- Safety goggles are required during dissections.
- Know the locations of the eyewash stations, first aid kits, and exits.
- If you have questions about safety, waste disposal, etc. for any particular session, just ask.
- Children are not allowed in the labs. Students are not allowed in the stockroom.
- No smoking, eating, or drinking in lab at any time.

(6.8) Other Tips for Success

- *Actively participate in everything.* Take notes in class. Ask questions. Answer questions, even if you have to guess. Don't let your lab partner do all the fun stuff. Take charge of your education!
- *Practice metacognition.* Metacognition refers to cognition about cognition, i.e., thinking about how you think. For students, this encompasses "knowing how to learn, being able to monitor their own understanding, being reflective about what they understand and do not understand, and being able to strategize about how to resolve their confusions" (K.D. Tanner, *CBE Life Sciences Education* **11**: 113-120, 2012).
- *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 credits any outside sources.
- *Respect me and your peers, and expect respect in return.* Respectful behavior includes: listening carefully when spoken to; giving people the time and space to think and to ask and answer

questions; refraining from harsh or persistent criticism; avoiding language, attire, or movements likely to be annoying or distracting; keeping conversations reasonably focused on course material; and maintaining reasonable control over one's emotions.

- *Get help when you're starting to struggle, not after weeks of problems.* Let's address small problems – regardless of whether they concern the material itself, study habits, interactions with classmates, or whatever – before they become big problems. Office hours and lab sessions are especially good times to check in with me.

(7) Approximate Class Schedule

Textbook chapters are indicated as "Ch." This schedule is subject to change; however, every effort will be made to hold the tests on the days indicated.

Week # (Dates)	Mon. lab (section A)	Tues. lecture (sections A&B)	Wed. lab (section B)	Thurs. lecture (sections A&B)	Fri. lecture (sections A&B)
1 (Jan. 6-10)	Lab 1: Crossing Membranes (Ch. 3)	Ch. 1 (orientation)	Lab 1: Crossing Membranes (Ch. 3)	Ch. 2 (chemistry)	Ch. 3 (cells)
2 (Jan. 13-17)	Lab 2: Sensation, Reflexes, Reaction Times (Ch. 11-13)	Ch. 4 (tissues)	Lab 2: Sensation, Reflexes, Reaction Times (Ch. 11-13)	Ch. 5 (integument)	Test 1 (Ch. 1-4)
3 (Jan. 20-24)	No lab (MLK Day)	Ch. 11 (nervous system)	Optional lecture review session – ALL WELCOME	Ch. 12 (CNS)	Ch. 13 (PNS/reflexes)
4 (Jan. 27-31)	Lab 3: Special Senses (Ch. 15)	Ch. 14 (autonomic NS)	Lab 3: Special Senses (Ch. 15)	Ch. 15 (special senses)	Test 2 (Ch. 5, 11-13)
5 (Feb. 3-7)	Lab 4: Muscles (Ch. 9)	Ch. 9 (muscles)	Lab 4: Muscles (Ch. 9)	Ch. 10 (muscles)	Ch. 16 (endocrinology)
6 (Feb. 10-14)	Lab 5: Blood (Ch. 17)	Ch. 17 (blood)	Lab 5: Blood (Ch. 17)	Ch. 18 (heart)	Test 3 (Ch. 9-10, 14-15)
7 (Feb. 17-21)	No lab (Presidents' Day)	Ch. 19 (blood vessels)	Optional lecture review session – ALL WELCOME	Ch. 21 (immunity)	Ch. 22 (respiration)
8 (Feb. 24-28)	Lab 6: The Heart, ECG, BP (Ch. 18-19)	Ch. 25 (urinary system)	Lab 6: The Heart, ECG, BP (Ch. 18-19)	Ch. 26 (fluid/solute balance)	Test 4 (Ch. 16-19)
9 (Mar. 2-6)	Lab 7: Respiration (Ch. 22)	Ch. 23 (digestion)	Lab 7: Respiration (Ch. 22)	Ch. 24 (metabolism)	Test 5 (Ch. 21-22, 25-26)
10 (Mar. 9-13)	Lab 8: Urinalysis (Ch. 25)	Ch. 27 (reproduction)	Lab 8: Urinalysis (Ch. 25)	Ch. 28 (pregnancy)	Catch-up/review
11 (Mar. 16-20)	Optional lecture review session – ALL WELCOME	Test 6 (Ch. 23-24, 27-28)	No lab (finals week)	No class (finals week)	No class (finals week)

(8) Support for Students: Equity and Accessibility*

Everett Community College, through its Vision, Mission, and Strategic Plan, has made an institutional commitment to establish a diverse, equitable and inclusive working and learning environment. My goal is to create a classroom environment in which everyone can participate and learn. Because of the diversity of backgrounds, experiences, and beliefs all of us bring to this class, I expect you to interact with your peers in a spirit of generosity, mutual respect, and understanding.

If there are aspects of this course that prevent you from learning or that exclude you, please speak with me as soon as possible. Together we can develop strategies to meet both your needs and the requirements of this course. I am happy to talk privately after class or during my office hours.

You also have the right to request accommodation for a verified disability. For information and assistance, contact the Center for Disability Services (located in Parks 267, 425-388-9272, or cds@everettcc.edu) for help documenting specific needs you may have and determining appropriate accommodations.

Reasonable Accommodations for Faith/Conscience: Everett Community College students are entitled to two days of excused absences per academic year (summer quarter through the end of spring quarter) for reasons of faith or conscience or for organized activities conducted under the auspices of a religious denomination, church, or religious organization. Everett Community College will grant reasonable accommodation so that grades are not impacted for students who are absent for reasons of faith or conscience, or for an organized activity conducted under the auspices of a religious denomination, church, or religious organization. Such absences must be requested in writing within the first two weeks of the class or the first week for a late start class and may not incur additional fees for students. This policy and the associated procedure is posted on the [Student Rights & Responsibilities Handbook](#). Students who have concerns about approval or a grade impact may utilize the student grievance procedure for concerns not directly related to grades, or to the grade appeal process in cases impacting a final grade.

We understand that for our campus to be welcoming and safe, it must be free from all forms of discrimination. Everett Community College does not discriminate based on, but not limited to, race, religion, creed, color, national origin, age, sex, sexual orientation, gender identity or expression, pregnancy or parental status, marital status, disability, genetic information, or status as a veteran of war. If you believe that you have been subjected to discrimination or harassment based upon any of these, you should let me know or contact the college's Title IX Coordinator at TitleIXCoordinator@everettcc.edu or 425-388-9271.

Additional student support information:

- *Canvas.* Assistance with the Canvas learning management system including logging in and course access. Whitehorse 210 – 425-388-9027 or 1-866-575-9027. Canvas Help Desks are also in the library, outside the Tutoring Center and the Whitehorse lobby.
- *Counseling and Student Success.* Assistance with career counseling, academic/educational counseling, advising, and referral to community mental health resources. Parks 3rd Floor – 425-388-9263.
- *Library.* Information and services to support research and learning including books, media materials, and databases. Librarians assist students in locating information and developing research skills. Parks 1st floor – 425-388-9353 (checkout) and 425-388-9354 (reference assistance).
- *Tutoring Center.* Free academic/tutorial support with course material, study skills, time management, and preparation for exams. Rainier 119 and Baker 112 – 425-388-9356.
- *Writing Center.* Peer writing assistants offer feedback, ideas, and methods for editing and polishing work. Gray Wolf 150 – 425-388-9406.
- *Additional Support Services.* Visit the Everett Community College [Student Services website](#).

(9) General Information about EvCC Policies and Procedures*

As outlined in the [campus civility statement](#), Everett Community College is committed to providing a safe learning and working environment. The expectation is that all students will conduct themselves in a civil, respectable and appropriate manner as a responsible member of the college community. [The Student Rights and Responsibilities Handbook](#) identifies and describes college expectations, students' rights, and outlines the process for resolving disciplinary matters, including Student Code of Conduct violations. The provisions of the Student Code of Conduct apply to all students whenever they are on the college campus, in college housing, or engaged in college-sponsored activities and functions.

(9.1) Emergency Preparedness and Campus Closures*

In the event of an emergency situation adversely affecting college operations, public health, or the well-being and safety of students or employees, the college president may declare a temporary closure of any or all units of the institution. If the event of a closure, information will be posted on the opening screen of the EvCC website, emailed to students and employees at their college email address, and will also be available as a message on the college's main phone line at 425-388-9100. Students may sign up to receive an emergency alert as a text message or by personal email [through the Rave system](#). Faculty will communicate with students about adjustments in course content or requirements, including assignment deadlines that may be impacted by a closure.

(9.2) Academic Calendar*

Registration and payment dates, application and refund deadlines, the final examination schedule and all other information related to the academic year and each individual quarter is available on the [college website](#).