

## Syllabus: BIOL& 232 Human Physiology – 36818/36819

[unofficial; the official version is in SimpleSyllabus format]

### Course Information

- Term and year: Fall 2024
- Modality: in person (on campus)
- Meeting times and locations:
  - Lectures: Tuesdays, Thursdays, and Fridays, 10:00-11:50am, Shuksan 141
  - Labs: Wednesdays, 10:00-11:50am, Shuksan 144
- Course credits: 5
- Prerequisites:
  - BIOL& 211 (or BIOL& 221 and BIOL& 222) with a grade of C or higher
  - BIOL& 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
  - If you have not yet met all prerequisites, but you believe that this course may be right for you, please consult me as soon as possible (if you have not already done so).

### Instructor Information

- Instructor name: Gregory J. Crowther, Ph.D. (“Crowther” rhymes with “NOW, sir!”)
  - Please call me “Professor Crowther” or “Doctor Crowther” or “Doctor C”
  - My pronouns: he/him/his
- Contact information:
  - Email: [gcrowther@everettcc.edu](mailto:gcrowther@everettcc.edu) (Canvas messages work too)
    - You can expect a response from me within 24 hours.
  - [My faculty website](#)
  - Office: Shuksan 118
- Office hours
  - Mondays, Tuesdays, Wednesdays, and Thursdays, 7:30-7:50am, Shuksan 118
  - Tuesdays, Wednesdays, Thursdays, and Fridays, 11:55am-12:20pm, Shuksan 118
  - The evening before each test, 9:00-10:00pm, in Zoom ([meeting ID 536 606 5089](#))
  - Additional times by appointment
    - in person (Shuksan 118) OR in Zoom ([meeting ID 536 606 5089](#))
    - send me a quick email or Canvas message indicating availability and topic(s)

## Course Description\*

[\*Asterisks indicate information and language that are standardized for Everett Community College and/or this course; they are not specific to this instructor or this quarter.]

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.

## Course Learning Objectives and Outcomes\*

- Upon successful completion of this course, students will be able to:
  - 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).
  - Describe the integration of and interrelationships between these bodily systems for topics such as homeostasis and acid-base balance.
  - Clinically apply understanding of human physiology to factual scenarios, case problems, and/or pathologic conditions altering normal physiology.
  - Use evidence-based learning techniques and technologies to explore core concepts in the biological sciences.
- The following Program Learning Outcomes (PLOs) are assessed in this course:
  - PLO 1: Apply quantitative analysis to solve problems.
  - PLO 2: Apply the scientific method.
  - PLO 3: Effectively communicate scientific processes.
- The following EvCC Core Learning Outcomes (CLOs) are assessed in this course:
  - CLO 1: Analytical Thinking
  - CLO 2: Effective Communication

## Required Resources

- *A personal schedule that includes at least 20 hours per week set aside for this course.* Some students report spending much more time than that. Please do not take this course unless it fits into your current life!
- *Regular, reliable access to a computer (something better than a phone) and the Internet.* The Library Media Center loans Chromebooks, netbooks, wifi hotspots, and calculators to currently enrolled students. Contact the Circulation desk for availability and check-out procedures: [circulation@everettcc.edu](mailto:circulation@everettcc.edu).
- *Regular, reliable transportation to and from campus.* If possible, pre-arrange for a backup option in case your usual transportation is unavailable at some point.
- *Electronic textbook: Marieb Human Anatomy & Physiology, 12<sup>th</sup> edition, by Hoehn, Haynes, and Abbott.* You will access this e-text by setting up an account associated with course ID **crowther81085** at [Pearson My Lab And Mastering](#). You should NOT obtain this through the EvCC

bookstore; instead you should buy access directly from Pearson My Lab And Mastering. There are some different pricing options:

- If you are not yet sure that you will be taking this course with me, or if you are experiencing temporary financial issues, you can register for free 14-day access.
- If you do not anticipate needing the e-text any more after this quarter, then you can buy 18 weeks of access for \$89.99.
- If it is likely that you will retake Biology 231 or 232 in the near future, consider buying 24 months of access for \$149.99, since (as of Fall 2024) Biology 231 and Biology 232 use the same textbook (Hoehn et al.). Pearson, the publisher, has promised us that this 24-month access will smoothly transfer from one course/instructor to another.
- [Course website in Canvas](#). **Canvas is your “home base” for the course.** All assignments will be listed in Canvas, and you will turn in everything in Canvas except for Learning Catalytics answers (which you will submit via Pearson My Lab and Mastering) and in-person tests. Please check Canvas every day and/or adjust your Canvas settings (Account → Notifications) so that you are notified of all new announcements, assignments, etc.

### Optional Resources and Access to Technology

- A physical copy of our textbook (listed above).
  - Your access to PearsonMyLabAndMastering.com, which includes the eText, will let you purchase a loose-leaf hole-punched version of the textbook for an additional \$45-50. You might want to get a hard copy of the textbook (either this way or some other way) so that you can consult it independently of the Internet, underline things, write notes in the margin, etc.
- See the EvCC [Technology Resources](#) page for how to access free versions of Microsoft Office 365 and for discounts on other hardware and software.

### Attendance and Participation

Consistent attendance and participation are critical for success! However, you should also deal with emergencies and illnesses appropriately. How can we balance these competing priorities?

- The grading system (described below) is somewhat flexible to make sure that missing 1-2 labs, lectures, or tests will not ruin your grade.
- For unusual long-lasting individual circumstances beyond your control (e.g., you or your kid is sick at home for 10 days), contact me to discuss your options, which may include [taking a temporary grade of Incomplete](#) and making up missing work after the quarter ends. (Once all work is turned in, your Incomplete is replaced with whatever your grade turned out to be.)
- Aside from personal or family illnesses or emergencies, you should plan to come on time to all lectures, labs, and exams. I will do my best to make the in-person sessions useful and interesting. Even students who faithfully watch the video lectures at home benefit greatly from the additional practice and reinforcement provided by on-campus activities.
- Aside from the usual lecture and lab sessions, I urge you to take advantage of opportunities to interact with me and/or your classmates via office hours, Canvas discussions, study groups, etc.

### Lab Safety Summary

- Wear closed-toed shoes and clothes that cover your legs. Make sure long hair is under control.
- 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).
- We provide gloves. A lab coat is optional.
- 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.
- No eating or drinking in lab at any time. Please leave drinks and water bottles outside.
- For additional information, consult the [full EvCC biology lab safety guide](#).

### Other Tips for Success in This Course

- *Actively participate in everything.* Take notes on video lectures. Ask questions. Answer questions, even if you have to guess. 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” (Kimberly D. Tanner, *CBE Life Sciences Education* **11**: [113-120](#), 2012).
- *Aim for a growth mindset and an internal locus of control.* People with a growth mindset believe that they can get better at anything via careful, well-targeted practice, whereas people with a fixed mindset believe that success depends most on people’s degree of innate talent. People with an internal locus of control believe that they can control their educational outcomes, whereas people with an external locus of control believe that the outcomes are largely beyond their control (Dhiraj Nallapothula et al., *Journal of Microbiology and Biology Education* **21**: [1987](#), 2020).
- *Work together.* This can be done online in various ways: Canvas Discussions and Chats, Zoom sessions, etc. 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 (concerning the material itself, study habits, interactions with classmates, or whatever) before they become big problems. Office hours and labs are especially good times to check in with me.

## Assignments

We learn through regular, focused, thoughtful practice. This course will give you many opportunities to practice working with and processing the material. There will be an assignment due before each lecture and each lab to help keep you moving along through the material. There will also be numerous in-class and in-lab activities, plus several tests. These different assignments will be graded in different ways:

- Pre-lecture and pre-lab assignments will be graded only for completeness (did you do the whole thing?) and timeliness (did you turn it in on time?).
- Tests will be graded for quality (were your answers good?). Tests will include about 15 short-answer questions (8 points each) and about 15 multiple-choice questions (2 points each). All short-answer questions will be based directly on [Test Question Templates](#) (TQTs).
- Post-lab answers 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>Approximate points per assignment</i> | <i>Total points in this category</i> |
|--|-------------------------------------|--|--------------------------------------|
| Video Lecture Questions (VLQs -- pre-lecture homework) | 24                                  | 2 points                                 | 48 points                            |
| Discussion board                                       | 6                                   | 2 points                                 | 12 points                            |
| Pre-lab homework                                       | 9                                   | 2 points                                 | 18 points                            |
| Lab check-ins  | 9 (lowest 1 dropped)                | 4 points                                 | 32 points                            |
| Lab worksheets   | 10 (lowest 1 dropped)               | 10 points                                | 90 points                            |
| Tests  | 6                                   | 150 points                               | 900 points                           |
| <b>Approximate total</b>                               |                                     |  | <b>1100 points</b>                   |

There may also be one or two small extra-credit opportunities.

Notice that, despite the large number of assignments, most of the points are earned on the tests. Thus, if your goal is to achieve a certain grade, you should aim to score near that level on the tests. As the quarter progresses, do not worry too much about Canvas's calculation of your grade so far; instead, trust that if you are turning in assignments on time and scoring near your goal grade for most tests, your final grade should be about what you want it to be.

## Grading Scale

Final letter grades (and corresponding numbers on the 4-point scale) are based on the percentage of total points earned, according to the chart below. For maximum transparency and fairness, no "curving" is applied at the stage of awarding final grades.

|   |   |
|---|---|
| 92.50% to 100% = <b>A (4.0)</b>         | 72.50% to 76.49% = <b>C (2.0)</b>       |
| 89.50% to 92.49% = <b>A-minus (3.7)</b> | 69.50% to 72.49% = <b>C-minus (1.7)</b> |

|   |  |
|---|--|
| 86.50% to 89.49% = <b>B-plus (3.3)</b>  | 66.50% to 69.49% = <b>D-plus (1.3)</b> |
| 82.50% to 86.49% = <b>B (3.0)</b>       | 59.50% to 66.49% = <b>D (1.0)</b>      |
| 79.50% to 82.49% = <b>B-minus (2.7)</b> | 0% to 59.49% = <b>F (0.0)</b>          |
| 76.50% to 79.49% = <b>C-plus (2.3)</b>  |  |

### Late Work

Deadlines help keep you moving through this fast-paced course! To help you stay on track, I do enforce assignment deadlines. Late assignments are accepted for half credit (e.g., 2.5 points for a 5-point assignment) up until the test to which that assignment applies, after which time no credit is available. (Thus, no credit will be given for work submitted after the final exam.) My exceptions to this policy are:

- Assignments due during the first week of class – i.e., while you are learning how to turn in which assignments when – will be accepted late without penalty.
- Late penalties will also be waived if you have a reasonable excuse that you post as a Canvas comment on each specific assignment that is late (not as a Canvas message – see example below). If you have an excuse that applies to multiple assignments, please add a comment on each affected assignment. *Posting excuses as Canvas comments on the affected assignments ensures that I see the excuse when I am grading the assignment.* Reasonable excuses include family illnesses, day-care closures, temporary work conflicts, close-friend crises, etc. You do not need to disclose sensitive personal details (though I reserve the right to request documentation of exceptional circumstances that last for weeks).

Comments for this Attempt

0

Submitted late because of a family medical situation yesterday.



Submit

An assignment you have not turned in may be given a score of 0 shortly after the due date. *This should not discourage you from submitting the assignment late for partial credit (or full credit with a valid excuse), but should serve as a reminder that you will get a 0 unless you turn something in.*

Tests may not be taken late; however, each student may take up to three optional makeups/retakes (on the specific dates shown below), whether or not they missed the first offering of the test. Each makeup/retake will be similar to the original test in content coverage and difficulty, but the specific questions will be different from those of the original test.

### Academic Integrity\*

As part of an academic community, EvCC students are expected to submit only their own work and avoid occurrences of plagiarism. This includes submitting answers that are not your own on quizzes and

exams. The [Writing Center's Avoiding Plagiarism Guide](#) includes resources for understanding what plagiarism is and how to avoid it.

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. This decision will be dependent on the nature and extent of the use. 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](#).

### Use of Generative AI\*

Generative AI, such as Chat GPT, Dall-e, Bard, Playground, etc., may be used as tools to generate ideas and organize thoughts but it should not be used to replace student work for this class. AI is often biased, inaccurate, and is not reflective of you as a learner. You are responsible for analyzing and fact-checking AI-generated results before using them in your work. If AI is used in your work it should be used minimally and cited. Using AI as a replacement for your work, for the majority of your work, and/or not citing the use of AI will be treated as a violation of the Student Conduct Code and reported to the Dean of Student Development (see above).

### Class Schedule

Please note the following general information about the schedule:

- The schedule refers both to chapters ("Ch.") in your textbook (Hoehn et al.) and lab exercises whose details can be found in Canvas.
- I reserve the right to make adjustments for unexpected events such as natural disasters.

| <b>Week #<br/>(Dates)</b> | <b>Tuesday Lecture</b>                 | <b>Wednesday Lab</b>       | <b>Thursday Lecture</b>  | <b>Friday Lecture</b>                               |
|---------------------------|--|----------------------------|--------------------------|---|
| 1<br>(Sept. 23-27)        | Ch. 1 (introduction)                   | Lab 1 (cell transport)     | Ch. 2 (chemistry)        | Ch. 3 (cells)                                       |
| 2<br>(Sept. 30-Oct. 4)    | Ch. 4 (tissues), Ch. 5<br>(integument) | Lab 2<br>(senses/reflexes) | Ch. 11 (nervous)         | Ch. 12 (CNS)  |
| 3<br>(Oct. 7-11)          | <b>Test 1 (Ch. 1-4)</b>                | Lab 3 (special<br>senses)  | Ch. 13<br>(PNS/reflexes) | Ch. 14<br>(autonomic NS)                            |
| 4<br>(Oct. 14-18)         | Ch. 15 (special<br>senses)             | Lab 4 (muscles)            | Ch. 9-10 (muscles)       | <b>Test 2<br/>(Ch. 5, 11-13)</b>                    |
| 5<br>(Oct. 21-25)         | Ch. 16 (endocrine)                     | Lab 5 (endocrine)          | Ch. 17 (blood)           | <b>Test 1 or 2<br/>makeup/retake<br/>(optional)</b> |
| 6<br>(Oct. 28-Nov. 1)     | Ch. 18 (heart)                         | Lab 6 (blood)              | Ch. 19 (vessels)         | <b>Test 3 (Ch. 9-10,<br/>14-15)</b>                 |
| 7<br>(Nov. 4-8)           | Ch. 21 (immunity)                      | Lab 7<br>(cardiovascular)  | Ch. 22 (respiration)     | <b>Test 4 (Ch. 16-19)</b>                           |

|                               |   |  |                                      |   |
|-------------------------------|---|--|--------------------------------------|---|
| 8<br>(Nov. 11-15)             | Ch. 25 (urinary)                                    | Lab 8 (respiratory)  | Ch. 26 (ECF homeostasis)             | <b>Test 3 or 4<br/>makeup/retake<br/>(optional)</b> |
| 9<br>(Nov. 18-22)             | Ch. 23 (digestion)                                  | Lab 9 (urinary)  | Ch. 24 (metabolism)                  | <b>Test 5<br/>(Ch. 21-22, 25-26)</b>                |
| 10<br>(Nov. 25-29)            | Ch. 27<br>(reproduction), Ch.<br>28 (pregnancy)     | <b>No in-person lab<br/>(Thanksgiving);<br/>at-home Lab 10<br/>(digestive)</b> | <b>No lecture<br/>(Thanksgiving)</b> | <b>No lecture<br/>(Thanksgiving)</b>                |
| 11<br>(Dec. 2-6)              | Lab 10/Test 6<br>help/review                        | <b>Test 6<br/>(Ch. 23-24, 27-28)</b>   | Review/<br>pick up Test 6            | Wrap-up/ pick up<br>Test 6                          |
| 12/finals week<br>(Dec. 9-13) | <b>Test 5 or 6<br/>makeup/retake<br/>(optional)</b> | <b>No lab<br/>(finals week)</b>  | <b>No lecture<br/>(finals week)</b>  | <b>No lecture<br/>(finals week)</b>                 |

### Important Dates\*

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](#).

### Flexibility Statement\*

I have attempted to make this syllabus as comprehensive and accurate as possible and I may occasionally need to make small adjustments during the quarter. I will announce any changes in class or notify you in writing and in Canvas.

### Support for Students\*

Students are encouraged to read the [Student Rights and Responsibilities Handbook](#) to be aware of their full scope of rights. Here are a few policies and student support services that are useful for you to know.

### Academic Grievance Procedure\*

If a student has evidence that they have been: Unfairly treated in matters related to grading, course policies or expectations; falsely accused of cheating; or inappropriately penalized for alleged cheating; they may be said to have an academic grievance. Students can approach any member of the campus community whom they trust for guidance on following the formal and informal [academic grievance procedures](#).

### Accessibility\*

In accordance with the [Americans with Disabilities Act Policy](#), EvCC is committed to ensuring that classes are accessible to all students, including those with visible and invisible disabilities. If at any point a student is not able to access the space, content, or experience of a course they should contact the [Center for Disability Services](#) (425-388-9272, or [cds@everettcc.edu](mailto:cds@everettcc.edu)).



### Basic Needs\*

It can be challenging to do your best in class if you have trouble meeting basic needs like safe shelter, sleep, or nutrition. [EvCC's food pantry](#) is available for walk-ins and by appointment. [Student Emergency Assistance Grants](#) are also available for unexpected emergencies.

### Civility\*

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.

### Counseling\*

Everett Community College Counseling & Student Success (CSS) offers appointments for currently enrolled students with professional counselors for Academic/Educational Counseling, Career Counseling, and free short-term Personal Counseling, as well as referral to community resources to help students adjust to, cope with, and succeed in college. To make an appointment, visit Parks Student Union, 3rd Floor, call 425-388-9263, or email [counseling@everettcc.edu](mailto:counseling@everettcc.edu).

### Faith and Conscience Leave\*

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. 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.

### Help with Technology\*

For help with Canvas, Panopto, or Zoom, contact eLearning at [elarning@everettcc.edu](mailto:elarning@everettcc.edu) or visit the [eLearning website](#). For help with logins, passwords, and email, contact IT at [helpdesk@everettcc.edu](mailto:helpdesk@everettcc.edu) or visit the [IT help desk website](#).

### Non-Discrimination Statement\*

Everett Community College offers equal opportunity in education and employment. For more information, visit the [Equal Opportunity and Title IX website](#): [EverettCC.edu/EqualOpportunity](http://EverettCC.edu/EqualOpportunity)

### Pathways Coaches\*

Pathways coaches are available to help you navigate your college experience, including helping you navigate academic resources and services and build out a success plan. They are available to meet in person or over Zoom. See the [EvCC Pathways Coaches page](#) for contact information for your Pathways coach.



### Title IX Policy and Procedure\*

As outlined in EvCC's [Title IX Policy](#), the college recognizes its responsibility to investigate, resolve, implement corrective measures, and monitor the educational environment and workplace to stop, remediate, and prevent discrimination on the basis of sex, as required by Title IX of the Educational Amendments of 1972, Title VII of the Civil Rights Act of 1964, the Violence Against Women Reauthorization Act, and Washington State's Law Against Discrimination, and their implementing regulations. As outlined in the [Title IX Procedure](#), any employee, student, applicant, or visitor who believes that they have been the subject of Sexual Harassment should report the incident or incidents to Everett Community College's Title IX Coordinator: [titleixcoordinator@everettcc.edu](mailto:titleixcoordinator@everettcc.edu) or 425-388-9271.