

## Biology 232: Human Physiology – Syllabus for Fall 2021

### (1) Course Information

- Sections: 2080/HYA and 2082/HYB
- Year and quarter: Fall 2021
- Schedule
  - Section 2080/HYA only
    - Lectures: Tuesday and Thursday, 9:30-11:30am, Shuksan 141
    - Labs: Monday, 9:30-11:30am, Shuksan 144
    - Final exam: Tuesday, December 7, 8:00-9:50am, Shuksan 141
  - Section 2082/HYB only
    - Lectures: Wednesday and Friday, 9:30-11:30am, Shuksan 144
    - Labs: Friday, 12:30-2:30pm, Shuksan 144
    - Final exam: Wednesday, December 8, 8:00-9:50am, Shuksan 144
  - Optional office hours for both sections (2080/HYA and 2082/HYB)
    - Monday through Friday, 11:35am-12 noon, Shuksan 118 (no appointment needed)
    - The night before each test, 8:00-9:00pm, in Zoom ([meeting ID 536 606 5089](#); no passcode needed)
    - Other office hours by appointment
      - in person (Shuksan 118) OR in Zoom ([meeting ID 536 606 5089](#); no passcode needed)
      - send me a quick message indicating availability and topic(s)

### (2) Instructor Information

- Instructor name: Gregory J. Crowther, Ph.D.
  - Please call me “Professor Crowther” or “Doctor Crowther” or “Doctor C”
  - My pronouns: he/him/his
- Contact information:
  - My email address: [gcrowther@everettcc.edu](mailto:gcrowther@everettcc.edu) (Canvas messages work too)
  - My cell phone number: 206-290-8826 (please use sparingly!)
  - [My faculty website](#)
  - Expect responses from me within 24 hours.
- Office on campus: Shuksan 118

### (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 completing this course, students will be able to meet the following Learning Objectives (LOs):

- 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.

Two of EvCC's three Core Learning Outcomes (CLOs) are 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

- A personal schedule that allows you time and energy adequate for this course. I aim to make the course doable on 20 hours per week, but 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). If possible, pre-arrange for a backup option in case your usual device is unavailable at some point.
- Regular, reliable Internet access. If possible, pre-arrange for a backup option in case your usual Internet access is unavailable at some point.
- 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.
- An account associated with the appropriate course ID at [Pearson My Lab And Mastering](#).
  - Course ID for section 2080/HYA: **crowther91026**
  - Course ID for section 2082/HYB: **crowther95931**
  - You may purchase an access code via the EvCC bookstore, or you may buy access directly from Pearson My Lab And Mastering (prices were \$70-120 the last time I

checked). 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 temporary (14-day) access. Your access must include the following:

- the e-Text, i.e., the electronic version of our textbook: *Human Anatomy & Physiology* (11<sup>th</sup> edition/2019) by Elaine N. Marieb & Katja Hoehn, published by Pearson (ISBN 13: 978-0-13-458099-9; ISBN 10: 0-13-458099-0)
- textbook-specific practice tests and quizzes
  - Study Area → Practice Tests & Quizzes
- PhysioEx laboratory simulations
  - Study Area → PhysioEx
- Learning Catalytics (for “clicker” questions)
  - Course Home → Learning Catalytics
- Course website in Canvas ([section 2080/HYA](#); [section 2082/HYB](#))
  - 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 your Learning Catalytics answers, which you will submit via Pearson My Lab And Mastering.
  - Please check Canvas every day or adjust your Canvas settings (Account → Notifications) so that you are notified of all new announcements, assignments, etc.
  - There is no additional charge for using this website.
- There is no lab manual. Weekly lab handouts will be posted to Canvas (see link above).
- OPTIONAL: A physical copy of our textbook (listed above). Your access to Pearson My Lab And Mastering, which includes the e-Text, will let you purchase a loose-leaf hole-punched version of the textbook for an additional \$44.99. Getting a hard copy of the textbook (either this way or some other way) allows you to use it when offline, underline things, write notes in the margin, etc.

## (6) Other Requirements and Expectations

### (6.1) Prerequisites

- BIOL& 211 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

Anyone who has not yet met all 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! However, you should stay home when ill (or when a family member has COVID, etc.). How can we balance these two priorities?

- The grading system (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., your kid is quarantined at home for 14 days), contact me and we will work something out.
- 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 a lot 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.

### (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. There will be an assignment due before each lecture to help keep you moving along through the material. There will also be numerous homework assignments, plus several tests. These different assignments will be graded in different ways:

- Short daily assignments will be graded for completeness (did you do the whole thing?) and timeliness (did you turn it in on time?). (Answer keys will be provided so that you can check the correctness of your answers.)
- Tests will be graded for quality (were your answers good?). Tests will consist of short-answer and multiple-choice questions.
- Lab worksheets will be graded for a combination of 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	15 (none dropped)	2-4 points	46 points
Pre-lab homework	5 (none dropped)	2 points	10 points
Discussion board	7 (none dropped)	2 points	14 points
Lab check-ins	5 (lowest 1 dropped)	5 points	20 points
Lab worksheets	10 (lowest 1 dropped)	10 points	90 points
Tests	6 (lowest 1 dropped)	150 points	750 points
<b>Approximate total</b>			<b>930 points</b>

There will 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 (most of) the tests.

**(6.4) Final Grades**

Final letter grades (and corresponding numbers on the 4-point scale) 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.

92.50% to 100% = <b>A (4.0)</b>	72.50% to 72.49% = <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>	

**(6.5) Late Work**

Tests may not be taken late, except that each person is allowed one optional oral makeup test during the quarter. (A test may be made up whether or not it was taken on time.) Late assignments will be accepted for half credit (e.g., 1.5 points for a 3-point assignment) up until the test to which that assignment applies.

If you have a great excuse for being late (e.g., sudden illness or family emergency) and want me to consider waiving the late penalty, please post your excuse to each corresponding assignment in Canvas so that I'll see it when I am grading. I reserve the right to request documentation of excuses.

**(6.6) Academic Integrity – Cheating and Plagiarism**

For tests, working with other students is not allowed. For all other assignments, working together is encouraged.

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 closed-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 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” (K.D. Tanner, *CBE Life Sciences Education* **11**: 113-120, 2012).
- *Work together.* This can be done online in various ways: Canvas Discussion posts 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 are especially good times to check in with me.

### **(7) Approximate Class Schedule**

An approximate schedule is posted below. Please note the following general information:

- I reserve the right to make adjustments for unexpected events such as natural disasters.
- We will cover about 1.5 textbook chapters per lecture session.
- We will cover textbook chapters in the following order: 1-5, 11-15, 9, 16-19, 21-22, 25-26, 23-24, 27-28. (We will skip chapters 6-8, 10, 20, and 29.)
- Labs will include both on-campus labs (1a, 2a, 3a, 4a, 5a) and additional exercises to be completed at home (not listed below: 1b, 2b, 3b, 4b, 5b).

## Section 2080/HYA:

<b>Week # (Dates)</b>	<b>2080/HYA Lab (Mon., 9:30, SHK 144)</b>	<b>2080/HYA Lecture 1 (Tues., 9:30, SHK 141)</b>	<b>2080/HYA Lecture 2 (Thurs., 9:30, SHK 141)</b>
1 (Sept. 20-24)	No lab	Ch. 1 (introduction), Ch. 2 (chemistry)	Ch. 2 (chemistry), Ch. 3 (cells)
2 (Sept. 27-Oct. 1)	Lab 1a: senses/reflexes	Ch. 4 (tissues), Ch. 5 (integument)	Ch. 5 (integument), Ch. 11 (nervous)
3 (Oct. 4-8)		Ch. 12 (CNS), Ch. 13 (PNS/reflexes)	<b>Test 1 (Ch. 1-4)</b>
4 (Oct. 11-15)	Lab 2a: muscles	Ch. 13 (PNS/reflexes), Ch. 14 (autonomic NS)	Ch. 15 (special senses), Ch. 9 (muscles)
5 (Oct. 18-22)		Ch. 9 (muscles), Ch. 16 (endocrine)	<b>Test 2 (Ch. 5, 11-13)</b>
6 (Oct. 25-29)	Lab 3a: blood	Ch. 17 (blood), Ch. 18 (heart)	Ch. 18 (heart), Ch. 19 (vessels)
7 (Nov. 1-5)		Ch. 21 (immunity), Ch. 22 (respiration)	<b>Test 3 (Ch. 9, 14-15)</b>
8 (Nov. 8-12)	Lab 4a: cardiovascular	Ch. 22 (respiration), Ch. 25 (urinary)	<b>No class (Veterans Day)</b>
9 (Nov. 15-19)		Ch. 26 (ECF balance), Ch. 23 (digestion)	<b>Test 4 (Ch. 16-19)</b>
10 (Nov. 22-26)	Lab 5a: respiration/urinary	Ch. 23 (digestion), Ch. 24 (metabolism)	<b>No class (Thanksgiving)</b>
11 (Nov. 29-Dec. 3)		Ch. 27 (reproduction), Ch. 28 (pregnancy)	<b>Test 5 (Ch. 21-22, 25-26)</b>
12 (Dec. 6-10)	<b>No lab (finals week)</b>	<b>Test 6 (Ch. 23-24, 27-28), 8:00-9:50am</b>	<b>No class (finals week)</b>

## Section 2082/HYB:

<b>Week # (Dates)</b>	<b>2082/HYB Lecture 1 (Wed., 9:30, SHK 144)</b>	<b>2082/HYB Lecture 2 (Fri., 9:30, SHK 144)</b>	<b>2082/HYB Lab (Fri., 12:30, SHK 144)</b>
1 (Sept. 20-24)	Ch. 1 (introduction), Ch. 2 (chemistry)	Ch. 2 (chemistry), Ch. 3 (cells)	<b>No lab</b>
2 (Sept. 27-Oct. 1)	Ch. 4 (tissues), Ch. 5 (integument)	Ch. 5 (integument), Ch. 11 (nervous)	Lab 1a: senses/reflexes
3 (Oct. 4-8)	<b>Test 1 (Ch. 1-4)</b>	Ch. 12 (CNS), Ch. 13 (PNS/reflexes)	<b>No lab</b>
4 (Oct. 11-15)	Ch. 13 (PNS/reflexes), Ch. 14 (autonomic NS)	Ch. 15 (special senses), Ch. 9 (muscles)	Lab 2a: muscles
5 (Oct. 18-22)	Ch. 9 (muscles), Ch. 16 (endocrine)	<b>Test 2 (Ch. 5, 11-13)</b>	<b>No lab</b>
6 (Oct. 25-29)	Ch. 17 (blood), Ch. 18 (heart)	Ch. 18 (heart), Ch. 19 (vessels)	Lab 3a: blood
7 (Nov. 1-5)	<b>Test 3 (Ch. 9, 14-15)</b>	Ch. 21 (immunity), Ch. 22 (respiration)	Lab 4a: cardiovascular
8 (Nov. 8-12)	Ch. 22 (respiration), Ch. 25 (urinary)	Ch. 26 (ECF balance), Ch. 23 (digestion)	<b>No lab</b>
9 (Nov. 15-19)	Ch. 23 (digestion), Ch. 24 (metabolism)	<b>Test 4 (Ch. 16-19)</b>	Lab 5a: respiration/urinary
10 (Nov. 22-26)	<b>No class (Thanksgiving)</b>	<b>No class (Thanksgiving)</b>	<b>No class (Thanksgiving)</b>
11 (Nov. 29-Dec. 3)	<b>Test 5 (Ch. 21-22, 25-26)</b>	Ch. 27 (reproduction), Ch. 28 (pregnancy)	<b>No lab</b>
12 (Dec. 6-10)	<b>Test 6 (Ch. 23-24, 27-28), 8:00-9:50am</b>	<b>No class (finals week)</b>	<b>No lab (finals week)</b>

**(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 (425-388-9272, or [cds@everettcc.edu](mailto: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](mailto:TitleIXCoordinator@everettcc.edu) or 425-388-9271.

Additional student support information:

- *Canvas and eLearning.* Assistance with the Canvas learning management system (including logging in and course access).
  - EvCC's [eLearning web page](#)
  - Phone: 425-388-9027 or 1-866-575-9027
- *Counseling and Student Success.* Assistance with career counseling, academic/educational counseling, advising, and referral to community mental health resources.
  - EvCC's [Counseling & Student Success web page](#)
  - Phone: 425-388-9263
- *Library Media Center.* Information and services to support research and learning including books, media materials, and databases. Librarians assist students in locating information and developing research skills.
  - EvCC's [Library Media Center web page](#)
  - Phone: 425-388-9353 (checkout) and 425-388-9354 (reference assistance)

- *TRiO*. Eligible students benefit from services such as academic planning, transfer assistance, and small-group tutoring. Students must be a first-generation college student (neither parent graduated with a 4-year bachelor's degree), low-income (as determined by federal guidelines, verification required), or have a documented disability.
  - EvCC's [TRiO web page](#)
  - Phone: 425-388-9365 (call) or 425-382-8565 (text)
- *Tutoring Center*. Free academic/tutorial support with course material, study skills, time management, and preparation for exams.
  - EvCC's [Tutoring Center web page](#)
  - Phone: 425-388-9356
- *Writing Center*. Peer writing assistants offer feedback, ideas, and methods for editing and polishing work.
  - EvCC's [Writing Center web page](#)
  - Phone: 425-388-9406
- *Additional Support Services*.
  - EvCC's [Student Services web page](#)

## **(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](#).

### **(10) Land Acknowledgment\***

The land Everett Community College campuses reside on are the traditional and ancestral lands of the Tulalip (ta-lay-lup) Tribes, the Sauk-Suiattle (sock swa-ttle) Indian Tribe and the Stillaguamish (still-a-gwa-mish) Tribe of Indians.

The main campus is built upon the ancestral territory of the Hibulb (heebulb) Village, which once stood as a rich cultural, economic, and political center for the Snohomish (sna-hoe-mish) Tribe. After the arrival of European Americans, the Snohomish (sna-hoe-mish) people, along with several other tribal nations, negotiated the Treaty of Point Elliott and relocated to what is now the Tulalip (ta-lay-lup) Reservation.

By remembering the nations who have been here since time immemorial, we acknowledge the truth of our past and join together in building bridges of understanding and collaboration for the empowerment of indigenous students and their communities.