

BIO 3200 – HUMAN PHYSIOLOGY

COURSE SYLLABUS – SPRING/SUMMER 2021



WAYNE STATE
UNIVERSITY

Department of Biological Sciences
College of Liberal Arts and Sciences

Safety Considerations Due to COVID-19

The large enrollment of this course makes it impossible to have face-to-face meetings while social distancing, which is essential to prevent the spread of the SARS-CoV-2 virus. Therefore, all of our course activities will be conducted online and remotely via a combination of Canvas and Zoom. If you are on campus for other reasons, it is imperative that you strictly comply with WSU's safety guidelines (<https://wayne.edu/coronavirus/health-safety-guidelines>) to keep yourself and the rest of our Warrior community safe.

Instructor Information

Professor: Dr. Martin D. Spranger, Ph.D. —he/him/his—

Teaching Portfolio: <http://mds.msu.domains>

Biology Office: (313) 577-2873(4) (leave message with office personnel)

Office Hours: M & W 4:00 PM — 4:30 PM (see *Zoom*, pg. 10)

Email: mds@msu.edu

Primary Teaching Assistants (TAs)

TA: Huda Rabbani

Email: huda.rabbani@wayne.edu

CRS: TBD

TA: Laura Lica

Email: laura.lica@wayne.edu

CRS: TBD

Teaching Assistant (TA) Information

There will be two primary TAs (see pg. 1) and several additional TAs working with me this semester. The TAs are former students that have earned an "A" in this course and have a strong desire to pay-it-forward and help you make the most of your learning experience. The TAs will be helping with be running (via Zoom) Content Review Sessions (CRS – see pg. 7) and Study Skills Help Sessions (SSHS – see pg. 7). CRS and SSHS session dates/times will be posted on Canvas in an Excel spreadsheet once scheduled.

Tutor Information

It is my professional opinion, from over 16 years of teaching experience, that a tutor is not a necessary resource to succeed in this course. However, if you are committed to obtaining a tutor, please contact me and I will try to connect you with a former student that has earned an "A" in this course. Please note that I am not required to find you a tutor, tutors are typically for hire, and that and I am not party to any contractual agreement that you may set up with a tutor.

Lines of Communication

- ✓ Always feel free to contact me (**your prof**) with any questions you have
- ✓ Contact any of your **TAs** for questions about content and/or study skills
- ✓ Post/answer questions in **Canvas Chat**
- ✓ To communicate/collaborate with your colleagues, post in the **Facebook Group**

Important announcements will be posted in Canvas (and in the Facebook Group). Be sure to check these daily for any potential important updates. It is your responsibility to be aware of all course announcements posted in Canvas.

Questions about course content should first be posted in the Facebook Group. This allows other students to benefit from your questions and the answers to those questions. Ideally, your colleagues will try to answer your questions as well. The TAs and I will moderate the discussions on the Facebook Group and chime in as need be. The last time we will reliably check the Facebook Group before an exam will be the day before the exam at 5:00 pm (however, it is very likely we will be available beyond that deadline). Please be professional and respectful in the Facebook Group.

Course Information

Section/Credits: 001/3

Modality: Online/synchronous. I will be giving “live” lectures via Zoom during our regularly scheduled class periods. Attendance for the lectures is required. However, I will not police this. That is, as I will not be taking attendance, you will not be penalized if you do not attend. My PPT lecture slides will be posted in Canvas in advance of the lectures. I will record my Zoom lectures and post them to Canvas immediately following each lecture. However, due to the vagaries of technology, I cannot guarantee that every lecture will be recorded and posted. While I do not foresee there being an issue, there is a potential risk. I do not read from my lecture slides, and therefore I cover a lot more information than is physically on them. With that said, if you choose not to attend a lecture, you accept the risk associated with that choice. As this course is synchronous, your course examinations will be held during our regularly scheduled class periods, and there will be no exceptions made for this. As you are likely aware of by now, certain adjustments need to be made to succeed in an online course. You need to plan, be organized, be diligent and, most importantly, keep on pace. My TAs and I are here to help you succeed, but the most important factor for your success is your plan and your level of motivation.

Location: This course is hosted online via Canvas. All course content can be found in our Bio 3200 course in Canvas. My lectures, office hours (see pg. 1), CRS (see pg. 7) and SSHS (see pg. 7) will be held via Zoom (see *Zoom*, pg. 10).

Days/Times: M & W — 4:30 - 6:00 PM

Course Website: canvas.wayne.edu (see pg. 11 for details)

Facebook Group: www.facebook.com/groups/260787005780747 (see pp. 7-8)

Course Description: This is an intensive course that thoroughly covers the fundamental concepts and principles of human physiology. Physiology of the entire human body will be covered in this 3-credit, 13-week course. Aside from discussing all organ systems by investigating their functionality at the cellular, tissue and organ levels of organization, the overlying theme of the course will be that of *systems integration*. We will first study how individual organ systems work as stand-alone functional units. As the semester progresses, we will integrate our understanding of these systems so to build a picture of the organism level of organization (i.e., you). It will be assumed that you already possess a solid understanding of the fundamental concepts in biology.

Required Materials:

- 1) Human Physiology, D.U. Silverthorn, 8th ed. (2019)
- 2) Top Hat and Proctorio subscription (\$36 fee) (see *Top Hat Syllabus*)

- 3) Wi-Fi device (e.g., laptop, tablet, iPad, iPhone, Droid, etc.)
- 4) Zoom application (<https://zoom.us/download>)
- 5) Google Chrome (web browser)

Recommended Resources:

- 1) Wikibooks - Human Physiology online book
(https://en.wikibooks.org/wiki/Human_Physiology)
- 2) Khan Academy - Biology & Physiology lessons and practice
(<https://www.khanacademy.org/science>)
- 3) CrashCourse - Anatomy & Physiology YouTube videos
(https://www.youtube.com/playlist?list=PL8dPuuaLjXtOAKed_MxxWBNaPno5h3Zs8)
- 4) GetBodySmart - Anatomy & Physiology animations and quizzes
(<https://www.getbodysmart.com>)

Technical Requirements:

- 1) Computer - ≤ 3 years old with speakers or headphones, and microphone
- 2) Internet - stable, high-speed connection (25 Mbps is recommended)
- 3) Microsoft Office - Word and PowerPoint (or freeware equivalents)
- 4) Adobe - Acrobat Reader
- 5) Web browser - Google Chrome

Student Information

There are approximately 100 students in this course. Virtually every major is represented. There is also a rich social, cultural, and ethnic diversity here at WSU. Take advantage of this! Meet, talk, study and hang-out with your classmates (virtually of course). As the student/professor ratio is $\sim 100:1$, it is impossible for me to reach out and develop a rapport with each and every one of you. However, you can easily develop a rapport with me, as there is only one of me. So, ask questions during office hours, email me, and be active on the Facebook Group.

Importance of Diversity and Professionalism

WSU welcomes a full spectrum of experiences, viewpoints, and intellectual approaches because they enrich the conversation, even as they challenge us to think differently and grow. However, we believe that expressions and actions that demean individuals or groups compromise the environment for intellectual growth and undermine the social fabric on which the community is based. To encourage a productive learning experience for all, please practice professionalism, accountability, and transparency with myself and your fellow classmates.

Learning Outcomes

If you perform very well in this course, you will not only possess a solid understanding of human physiology, you will also have developed and strong collegiate work ethic. And, with these skills, you will be fully capable of...

- 1) Explaining the molecular and cellular mechanisms that underlie the normal physiological processes of all human organ systems.
- 2) Understanding the pathology of disease states without formal coursework in pathophysiology. You learned many disease states in this course, and with your strong command of normal physiology, you have the capacity to evaluate diseases and propose mechanistic bases for the pathology. Moreover, with your understanding of molecular and cellular mechanisms, you can scientifically rationalize drug therapies employed to treat these conditions.
- 3) Confidently communicating, both written and verbally, with proper terminology and pronunciation, all aspects of normal human physiology with your peers, your physician, your pharmacist, and your future professors.
- 4) Employing the study skills and work ethic you developed in this course to perform very well in any, and all, of your courses throughout your entire academic career.
- 5) Excelling on biology/physiology sections on pre-health, professional school exams (e.g., PCAT, MCAT, etc.).

Professor's Mission

My primary mission is to provide you a quality education. You will be provided an educational opportunity that can benefit you, and the society in which you live, regardless of your career path. I will encourage you to develop strong study skills. I will constantly challenge you to think on a higher level. **I will expect your best.** And, most importantly, I hope to inspire you and get you excited about physiology!

If you accept my challenge, I offer you a guarantee that is inherent in my design of this course. If you perform very well in this course, you will move forward with an exceptional and enduring working-knowledge of human physiology. You will have also acquired the analytical thinking, reasoning and study skills required to succeed at the highest level in the next phase of your academic studies. In other words, you will leave this class a legitimate academic – a student with all the tools necessary to achieve whatever academic goals you set your mind to.

Course Examinations

There will be **4 unit exams** as scheduled in the lecture outline (see pg. 12). Each exam will be worth 60 points and consist of 60 multiple-choice and true/false type questions. The exams are not cumulative in the strict sense of the word. However, important concepts from previous exams, that tie into concepts in subsequent lectures, will naturally find their way into subsequent exams. I will emphasize these important concepts during lecture throughout the semester - so stay tuned! Unit 4 Exam is the Final Exam but is not cumulative. I will automatically replace the lowest score of your first 3 exams with the average score of all 4 of your exams **IF** your exam 4 score is greater than the average score of your first 3 exam scores: **(EX 4 > (EX 1 + EX 2 + EX 3)/3)**. You will have 1 hour and 30 minutes to complete each exam.

Exam Logistics: Your examinations will be administered to you online, remotely, and securely via your Top Hat application utilizing Top Hat Test & Proctorio. See the ***Top Hat Test & Proctorio*** document (posted in Canvas) for details regarding Top Hat Test and additional exam logistics. As with typical in-person exams, you are to take your exams on your own, without help from any notes, book, internet sources or other human beings. With this remote/online format, no questions can be asked/answered during the exams. Exams will be scored in Top Hat and your scores will be posted in the Canvas Gradebook usually within 48 hours of the exam. Exams will not be posted online for review. If you would like to appeal a question(s), or simply see the mistake(s) that you made, please contact me by email and we will set up a Zoom meeting. Any exam concern must be resolved prior to the date of the following exam to be considered for a potential grade correction.

Final Exam Schedule: Monday, August 2 @ 4:30 PM - 6:00 PM.

Final Exam Conflict Policy: Per University policy, no student is required to take 3 final exams scheduled on the same calendar day or take 2 final exams scheduled at the same time. If you have a Final Exam scheduling issue, please contact me immediately. Any potential Final Exam concern must be resolved by **05/17/21**.

Make-Up Exam Policy: No make-up exams will be offered except for University excused absences, such as a legitimate health emergency (i.e., not a cold) causing hospitalization or death of an immediate family member. Documentation of the emergency must be provided by a physician on their letterhead, with their signature and contact information.

Top Hat (Quiz Points)

Top Hat (TH) is a classroom response system. **Quiz (Q) Points** offered via TH, outside of the Zoom sessions, will be worth 14% of your overall course grade. I will post the numerical points you earn for **Qs** following each examination period. The above percentage will only be calculated at the end of the semester.

****** It is essential that you read the *Top Hat Syllabus* for complete details regarding TH **Qs**, grading, registration, policies, and technical information. ******

Content Review Sessions (CRS)

Your primary TA(s) will run the primary CRS for this course. These will be weekly sessions delivered via Zoom (see *Zoom*, pg. 10). There will also be a few other TAs holding CRS throughout the week as well. Your TAs will announce details about their sessions through D2L, and all other channels of communication. CRS are optional but encouraged.

Study Skills Help Sessions (SSHS)

It is extraordinarily important that you employ my Study Skills (or some legitimate variant) in this course to be successful (see the *Study Skills Video* posted in Canvas for more details). While studying hard is important, so too is studying smart. In this class, you will have to do *both* to earn an "A". Weekly SSHS will be held by TAs via Zoom. (see *Zoom*, pg. 10). SSHS are a place to learn and develop effective study skills (i.e., learn how to study smart). In addition, you may have opportunities to get your notes vetted by a TA to ensure you are doing the Study Skills properly. Your TAs will announce details about their sessions through Canvas, and all other channels of communication. SSHS are optional but strongly encouraged.

Facebook

I have created a Facebook Group (www.facebook.com/groups/260787005780747) specifically for this course. Use this Facebook Group as a discussion board. Ask questions of your peers and, more importantly, answer questions posted by your peers. When asking questions, provide some of your own understanding about the concept so that someone can help you precisely where you are stuck. Just asking for an answer (and getting it) will not be helpful to you. Answering other's questions helps reinforce your own understanding of the material. Feel free to share study

tips, notes, cool websites you have found, etc. with your classmates here. However, do not post any screen shots of course material here, such as quiz questions you may need help with. Please note that our Facebook Group is for professional use only. In other words, please do not treat this as a personal Facebook account. This group is solely for human physiology discussion to aid in your learning experience in Bio 3200. Please be professional and respectful when in the Facebook Group. Failure to do so will result in your removal from the group. Participation in the Facebook Groups is not mandatory.

Course Grading

280 points are available to be earned: 240 points for lecture exams and 40 points for Top Hat (see the *Top Hat Syllabus* for details). I may or may not adjust individual lecture exam scores. I will not adjust the overall course scores. Course grades will be determined from total point accumulation at the end of the semester.

Grading Scale and Table

The following tables can be used to approximate and input your grade throughout the semester:

Percent	Grade
93-100	A
90-92.99	A-
87-89.99	B+
83-86.99	B
80-82.99	B-
77-79.99	C+
73-76.99	C
70-72.99	C-
67-69.99	D+
63-66.99	D
60-62.99	D-
59.99 or below	F

Lecture Exam	Points
I	/60
II	/60
III	/60
IV	/60
Top Hat	/40
Total	/280

Disputes/Challenges

You will have one week after I post exam scores and Top Hat points to Canvas to challenge these grades/points. Failure to challenge within this period indicates a willingness to accept your grades/points assigned as is. I will not dispute grades/points at the end of the semester. All these issues must be resolved one week after the posting of these grades/points to Canvas.

General Policies

- ✓ Attendance is not required, and therefore will not be monitored this semester.
- ✓ I have a zero-tolerance rule for cheating. If you are caught cheating, you will, at a minimum, get a zero for that exam. I may additionally pursue further University disciplinary action.
- ✓ I am happy to write a letter of recommendation for any student that earns an "A" in my course and demonstrates strong personal characteristics. I can only determine the latter if you develop a rapport with me. Building strong, professional rappings are key to becoming a professional.
- ✓ When emailing me, address me, write without utilizing texting acronyms and shorthand, use spellcheck and sign with your name. These simple efforts go a long way, regardless of who the recipient of your email is. Please be sure to put "WSU" in the subject of the email too.

Add/Drop Policy

Adding and Dropping a course is done electronically through your Academics account. Information regarding the last day to DROP this course can be found at: <https://wayne.edu/registrar/registration/dropping-and-withdrawing/>.

Academic Integrity

All forms of academic misbehavior are prohibited at WSU, as outlined in the Student Code of Conduct. Students are expected to be honest and forthright in their academic studies.

Religious Holiday Conflicts

If you have a conflict with any of the exam times due to religious reasons, you must notify me within the first week of classes. No make-up exams will be given unless I am notified by this date.

Special Considerations for Individuals with Disabilities

If you have a documented disability that requires accommodations, you will need to register with Student Disability Services for coordination of your academic accommodations. The Student Disability Services (SDS) office is located at 1600 David Adamany Undergraduate Library in the Student Academic Success Services department. SDS telephone number is 313-577-1851 or 313-577-3365 (TTY: telecommunication device for the deaf; phone for hearing impaired students only). You must notify me of your accommodation within the first week of classes.

Special Accommodations for COVID-19

If you have been sick with COVID-19 symptoms, have tested positive for COVID-19, or have been potentially exposed to someone with COVID-19, please follow CDC guidance to self-isolate or stay home (<https://www.cdc.gov/coronavirus/2019-ncov/your-health/index.html> – If You Are Sick -> When To Quarantine). I will make accommodations for any student who must miss class due to COVID-19 illness or self-isolation so that it will not harm their performance or put them at a disadvantage in the class.

Zoom Information

The TAs and I will utilize Zoom to interact with you during Office Hours, CRS and SSHS. Only authenticated users will be able to attend these sessions. That is, you will need to sign in with your WSU credentials to join and then enter a Zoom passcode for the specific session. My Zoom lecture meetings are already scheduled for the entire semester in Canvas. All you have to do is click the Zoom tab and then click to join a session. All of my Zoom lectures will be automatically recorded and uploaded to the Cloud. You can access these recordings under the Zoom tab as well. The TAs will announce details about their sessions through Canvas, and all other channels of communication. Please be professional and respectful when attending Zoom sessions.

Canvas Information

Canvas will serve as our course website. I highly encourage you to check this website daily for any potential announcements. This will be the primary means by which I communicate with you. The course syllabus, Zoom lecture videos, PPT lecture slides, and other important course documents will be located here. You can view your Exam and Top Hat scores throughout the term by clicking on the "grades" link.

Technical Assistance

Canvas/Zoom:

- ✓ Call the WSU Help Desk at 313-577-HELP (313-577-4357)

Top Hat:

- ✓ Call Top Hat Support (1-888-663-5491)
- ✓ Live chat with Top Hat support (<https://support.tophat.com/s/contact-main>)

Disclaimer

This course syllabus is subject to modification at the discretion of the instructor without prior notice. Lecture topics and/or scheduled times may be changed to accommodate class progress. Students must keep regular attendance, monitor Canvas for updates and take note of any such changes as appropriate. Any specific issue not covered by this syllabus will be resolved using University policies. Disputes that cannot be resolved following the guidelines present in this syllabus will be resolved by following the guidelines of the University "Student Due Process."

Prof's Advice

- 1) Want it!
- 2) Take this class seriously starting yesterday.
- 3) Be willing to make sacrifices.
- 4) Attend CRS, participate and ask questions. *Get engaged!*
- 5) Be proactive. Attend a SSHS before you do anything else! If you need help, contact me ASAP. I am confident that I *can* help you. I *want* to help you!
- 6) Diligently and consistently apply the study skills presented in the Study Skills Video.

Lecture Outline

Day	Date	Topic	Chapter/Reading
M	05/10	Introduction to Physiology	1, 3, 6
W	05/12	Molecular Level of Organization	2
M	05/17	Cellular & Tissue Levels of Organization	3, 5
W	05/19	Cellular & Tissue Levels of Organization	
M	05/24	Nervous System (Cells)	8
W	05/26	Nervous System (Cells)	
M	05/31	Holiday - No class	
W	06/02	Unit 1 Exam	
F	06/04	Peripheral Nervous System (Afferent)	10
M	06/07	Peripheral Nervous System (Afferent)	
W	06/09	Peripheral Nervous System (Efferent)	11
M	06/14	Muscle Physiology	12
W	06/16	Muscle Physiology	
M	06/21	Unit 2 Exam	
W	06/23	Cardiovascular System (Heart/Vasculature)	14, 15
M	06/28	Cardiovascular System (Heart/Vasculature)	
W	06/30	Cardiovascular System (Blood)	16
M	07/05	Holiday - No Class	
W	07/07	Respiratory Physiology	17, 18
M	07/12	Unit 3 Exam	
W	07/14	Endocrine System	7
M	07/19	Endocrine System	
W	07/21	Digestive System	21
M	07/26	Digestive System	
W	07/28	Renal Physiology	19, 20
M	08/02	Unit 4 Exam	

* First day of class: 5/10/21

* Holiday (no class): 5/31/21 & 7/5/21 (Friday (6-04-21) scheduled as a Monday)

* Last day of class: 07/28/21

** This outline is tentative. Lecture topics and/or scheduled times may be changed to accommodate class progress. Students must keep regular attendance and take note of any such changes as appropriate. **

FAQs

Q1. How do I succeed in this course?

A1. Watch the Study Skills video posted in Canvas. In short:

- I.** Watch all lecture videos.
- II.** Take detailed notes on the PPT slides while watching the lectures.
- III.** After each lecture, make sense of your notes (i.e., learn).
- IV.** Rewrite your notes in your own words in a conversational manner.
- V.** Go to a SSHS and see if you are on the right track with your study process (i.e., get your notes vetted).
- VI.** Do not wait for the second exam to get serious.
- VII.** Stay on track and do not fall behind.

Q2. What information will be covered on the exams?

A2. I will only source information presented in my lecture videos.

Q3. Is the Final Exam a cumulative exam?

A3. No. The Final Exam is just Unit 4 Exam.

Q4. Can I drop my lowest exam score?

A4. No. I do not have a dropped exam policy. However, I will automatically replace the lowest score of your first 3 exams with the average score of all 4 of your exams **IF** your Final Exam score is greater than the average score of your first 3 exam scores: $(EX\ 4 > (EX\ 1 + EX\ 2 + EX\ 3)/3)$.

Q5. Will I get a copy of my exam back to review?

A5. No. Exams will not be posted online for review. If you would like to appeal a question(s), or simply see the mistake(s) that you made, please contact me by email and we will set up a Zoom meeting. Any exam concern must be resolved prior to the date of the following exam to be considered for a potential grade correction.

Q6. Can I make-up an exam if I miss it?

A6. Make-up exams are only offered for University excused absences such as hospitalization or death of an immediate family member.

Q7. What do I do if I get an email that I am not properly enrolled in TH?

A7. Follow these instructions to correct this:

****** When registering, TH asks for your "student ID." Please enter your AccessID, not your Student ID. Your AccessID is merely your WSU email minus the "@wayne.edu." For example, my WSU email is ab1791@wayne.edu. Therefore, my AccessID is ab1791. Therefore, my TH "student ID" is ab1791.******

Q8. If I end up with an 89.99% in the course, will my grade be rounded-up to a 90%?

A8. No. I may or may not adjust individual lecture exam scores, but I will not adjust overall course scores.

Q9. Can I do a project/paper to improve my grade?

A9. You cannot.

Q10. How soon will my exam scores be posted?

A10. Usually within 24-48 hours.

Q11. Do I have to print out the PPT lecture slides?

A11. No. However, I encourage that you do and bring them to class to take jot notes on. You may also download the outlines to your computer and annotate them during lecture.

Q12. Does anyone ever get an "A" in this course?

A12. Yes, plenty. Approximately 15-20% of Bio 3200 students earn "As".