

Department of Physiology and Pharmacology
Physiology 3120

Course outline for Fall/Winter 2021-2022 **Jan. 4th/2022**



Although this academic year might be different, Western University is committed to a **thriving campus**. We encourage you to check out the [Digital Student Experience](#) website to manage your academics and well-being. Additionally, the following link provides available resources to support students on and off campus: <https://www.uwo.ca/health/>.

1. Technical Requirements



Stable internet connection



Laptop or computer

2. Important Dates



Classes Begin	Reading Week	Classes End	Study day(s)	Exam Period
September 8	November 1–7	December 8	December 9	December 10–21

* November 30, 2021: Last day to drop a first-term full course without penalty

Classes Resume	Reading Week	Classes End	Study day(s)	Exam Period
January 10	February 19–27	April 8	April 9	April 10–30

3. Contact Information



Course Coordinator + Instructor	Contact Information
Dr. Anita Woods	Anita.woods@uwo.ca

Instructors	Contact Information
Dr. Oana Birceanu	obircean@uwo.ca
Dr. Andrew Pruszynski	Andrew.pruszynski@uwo.ca
Dr. Brandon Banaschewski	bbanasch@uwo.ca
Dr. Ruud Veldhuizen	rveldhui@uwo.ca
Dr. Dan Hardy	Dan.hardy@schulich.uwo.ca
Dr. Tim Regnault	Tim.regnault@uwo.ca

4. Course Description and Design

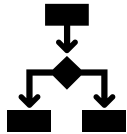
Delivery Mode: Online/in-person

Physiology 3120 is a core course in Human Physiology. Students study, in great detail, the physiological processes of nerve, muscle, central nervous system, renal, cardiovascular, respiratory, endocrine, reproductive and gastrointestinal control systems as they function in living humans. The majority of the material makes reference to human physiology and uses human examples to help explain the various physiological processes.

Timetabled Sessions

Component	Date(s)	Time
Lectures	M, W, F	10:30 AM – 11:20 AM

- Any asynchronous pre-work must be completed prior to lecture sessions
- Lectures will be recorded and posted on OWL



All course material will be posted to OWL: <http://owl.uwo.ca>. Any changes will be indicated on the OWL site and discussed with the class.

If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

[Google Chrome](#) or [Mozilla Firefox](#) are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click [here](#).

NOTE: In the event of a COVID-19 resurgence during the course that necessitates moving away from face-to-face interaction, course content will be delivered entirely online, either synchronously (i.e., at times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will not change. Any remaining assessments will also be conducted online at the discretion of the instructor.

When deemed necessary, tests and examinations in this course will be conducted using a remote proctoring service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at: <https://remoteproctoring.uwo.ca>

5. Learning Outcomes

Upon successful completion of this course, students will be able to:

- demonstrate a detailed knowledge and critical understanding of key concepts in Physiology by describing concepts, applying and integrating one's knowledge, and critically evaluating and reflecting upon major theories and practices in the field.
- demonstrate a strong knowledge of the mechanisms that make up normal body functions at the cell, tissue, organ level and body systems
- extend their knowledge in physiology to other areas of science and other disciplines.
- critically evaluate, reflect on, integrate and apply their knowledge
- extend their core knowledge in physiology to new areas and different fields.



6. Course Content and Schedule

	Date	Lecturer	Topic
Week 1	Sept. 8 th	Woods	Homeostasis and Body Fluids
	Sept. 10 th	Woods	Membrane and Transport Mechanisms
Week 2	Sept. 13 th	Woods	Osmosis and Tonicity
	Sept. 15 th	Woods	Fluid shifts and Starling Forces
	Sept. 17 th	Woods	Lymphatics and Edema
Week 3	Sept. 20 th	Woods	Membrane Potentials
	Sept. 22 nd	Woods	Action Potential 1
	Sept. 24 th	Woods	Action Potential 2
Week 4	Sept. 27 th	Birceanu	Neuromuscular Junction
	Sept. 29 th	Birceanu	Skeletal Muscle 1
	Oct. 1 st	Birceanu	Skeletal Muscle 2
Week 5	Oct. 4 th	Birceanu	Skeletal Muscle 3
	Oct. 6 th	Pruszynski	CNS I: Brains, neurons & synapses
	Oct. 8 th	Pruszynski	CNS II: Synaptic transmission
Week 6	Oct. 11 th	THANKSGIVING	
	Oct. 13 th	Pruszynski	CNS III: Transduction of Environmental Energy
	Oct. 15 th	Pruszynski	CNS IV: Somatosensory I
Week 7	Oct. 18 th	Pruszynski	CNS V: Somatosensory II
	Oct. 20 th	Pruszynski	CNS VI: Vision
	Oct. 22 nd	Pruszynski	CNS VII: Auditory
Week 8	Oct. 25 th	Pruszynski	CNS VIII: Vestibular System
	Oct. 27 th	Pruszynski	CNS IX: Motor Systems & Receptors
	Oct. 29 th	Pruszynski	CNS X: Spinal Reflexes
Week 9	Nov. 1 st – 7 th	READING WEEK	
Week 10	Nov. 8 th	Pruszynski	CNS XI: Motor Reflexes
	Nov. 10 th	Pruszynski	CNS XII: Cerebellum
	Nov. 12 th	Pruszynski	CNS XIII: Basal Ganglia
Week 11	Nov. 15 th	Birceanu	Limbic System & Hypothalamus
	Nov. 17 th	Birceanu	Autonomic Nervous System I
	Nov. 19 th	Birceanu	Autonomic Nervous System II
Week 12	Nov. 22 nd	Banaschewski*	Cardiovascular System I
	Nov. 24 th	Banaschewski	Cardiovascular System II
	Nov. 26 th	Banaschewski	Cardiovascular System III
Week 13	Nov. 29 th	Banaschewski	Cardiovascular System IV
	Dec. 1 st	Banaschewski	Cardiovascular System V
	Dec. 3 rd	Banaschewski	Cardiovascular System VI
Week 14	Dec. 6 th	Banaschewski	Cardiovascular System VII
	Dec. 8 th	Banaschewski	Cardiovascular System VIII
Week 1	Jan. 10 th	Banaschewski	Cardiovascular System IX
	Jan. 12 th	Banaschewski	Cardiovascular System X
	Jan. 14 th	Woods	Renal I
Week 2	Jan. 17 th	Woods	Renal II
	Jan. 19 th	Woods	Renal III
	Jan. 21 st	Woods	Renal IV
	Jan. 24 th	Woods	Renal V
Week 3	Jan. 26 th	Woods	Renal VI
	Jan. 28 th	Woods	Renal VII
	Jan. 31 st	Woods	Renal VIII

	Feb. 2 nd	Woods	<i>Skeletal Phys</i>
	Feb. 4 th	Veldhuizen	<i>Resp I</i>
Week 5	Feb. 7 th	Veldhuizen	<i>Resp II</i>
	Feb. 9 th	Veldhuizen	<i>Resp III</i>
	Feb. 11 th	Veldhuizen	<i>Resp IV</i>
Week 6	Feb. 14 th	Veldhuizen	<i>Resp V</i>
	Feb. 16 th	Veldhuizen	<i>Resp VI</i>
	Feb. 18 th	Hardy	<i>Endocrine I</i>
Week 7	Feb. 19 th – 27 th	Spring Reading Week	
Week 8	Feb. 28 th	Hardy	<i>Endocrine II</i>
	Mar. 2 nd	Hardy	<i>Endocrine III</i>
	Mar. 4 th	Hardy	<i>Endocrine IV</i>
Week 9	Mar. 7 th	Hardy	<i>Endocrine V</i>
	Mar. 9 th	Hardy	<i>Endocrine VI</i>
	Mar. 11 th	Woods	<i>Gastrointestinal I</i>
Week 10	Mar. 14 th	Woods	<i>Gastrointestinal II</i>
	Mar. 16 th	Woods	<i>Gastrointestinal III</i>
	Mar. 18 th	Woods	<i>Gastrointestinal IV</i>
Week 11	Mar. 21 st	Woods	<i>Gastrointestinal V</i>
	Mar. 23 rd	Woods	<i>Gastrointestinal VI</i>
	Mar. 25 th	Woods	<i>Gastrointestinal VII</i>
Week 12	Mar. 28 th	Woods	<i>Gastrointestinal VIII</i>
	Mar. 30 th	Regnault	<i>Repro I</i>
	Apr. 1 st	Regnault	<i>Repro II</i>
Week 13	Apr. 4 th	Regnault	<i>Repro III</i>
	Apr. 6 th	Regnault	<i>Repro IV</i>
	Apr. 8 th	Regnault	<i>Repro V</i>
	Apr. 10 th – 30 th	EXAM PERIOD	

*Dr. Banaschewski's lectures will be delivered asynchronously, however he will communicate availability for either individual or group office hours during the regular scheduled class times, see OWL for upcoming details.

7. Participation and Engagement



- Students are expected to participate and engage with lecture content as much as possible
- Students can also participate by interacting in the forums with their peers and instructors

8. Evaluation

Below is the evaluation breakdown for the course. Any deviations will be communicated.

Assessment	Format	Weighting	Due Date
PeerWise* Assignment #1	Complete authoring and answering by Sept. 27 th , 11:59 PM.	1%	Author: Fri, Sept 24 th Answer: Mon, Sept 27 th
PeerWise Assignment #2	Complete authoring and answering by Oct 25 th , 11:59 PM.	1%	Author: Fri, Oct 22 nd Answer: Mon, Oct 25 th

Online Quiz #1	Online via OWL (<i>questions taken from PeerWise Assignment 1&2</i>)	3%	Opens Wed, Oct 27 th at Noon until Thurs, Oct 28 th at Noon
Midterm #1	Multiple Choice & Short Answer	25%	Friday, Nov 12 th , 7-9 PM
PeerWise Assignment #3	Complete authoring and answering by Nov. 26 th , 11:59 PM.	1%	Author: Fri, Nov. 26 th Answer: Mon, Nov. 29 th
PeerWise Assignment #4	Complete authoring and answering by Jan. 31 st at 11:59 PM	1%	Author: Fri, Jan. 28 th Answer: Mon, Jan. 31 st
Online Quiz #2	Online via OWL (<i>questions taken from PeerWise Assignment 3 & 4</i>)	3%	Opens Wed, Feb. 2 nd at Noon until Thurs, Feb. 3 rd at Noon
Midterm #2	Multiple Choice and Short Answer (non-cumulative)	25%	Feb. 11 th , 6-8 PM
PeerWise Assignment #5	Complete authoring and answering by Mar. 14 th at 11:59 PM	1%	Author: Fri, Mar. 11 th Answer: Mon, Mar. 14 th
PeerWise Assignment #6	Complete authoring and answering by Apr. 4 th at 11:59 PM	1%	Author: Fri, Apr. 1 st Answer: Mon, Apr. 4 th
Online Quiz #3	Online via OWL (questions taken from PeerWise Assignments 5 & 6)	3%	Open Wed, Apr. 6 th at Noon until Thurs, Apr. 7 th at Noon
Final Exam	Multiple Choice & Short Answer (cumulative)	35%	During the Final Exam Period: April 10 th – 30 th TBD 3 hours
Optional Bonus Assignment	3-minute video – select a disease/pathology/condition and how it is connected to physiology topic taught	2% (final exam then worth 33%)	Due April 8 th , 11:59 PM

*For PeerWise assignments, please see the PeerWise information on OWL for detailed instructions. If you do not fully complete a PeerWise assignment or chose not to complete a quiz, that value of missed assignments will automatically be moved to the next exam that the material covered.

- All assignments are due at **11:59 pm EST** unless otherwise specified
- Quizzes are due at **Noon**
- PeerWise assignments will be completed on <https://peerwise.cs.auckland.ac.nz>
- PeerWise assignments will be reviewed by Dr. Woods for originality checks to ensure questions were authored by each student and not shared or taken from internet resources or previous exams. Any sharing of questions between students or taking questions from other resources will be granted a grade of zero on that assignment.
- After an assessment grade is published, students should wait 24 hours to digest feedback before contacting Dr. Woods; to ensure a timely response, students are expected to reach out within 7 days. Any grade appeals on any assignments, quizzes, or midterms must be received within 3 weeks of the grade being posted.

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Information about late or missed evaluations:



- There are **no makeup PeerWise** assignments. The weight of the missed assignment will automatically be reallocated to the next exam. No documentation for a missed assignment needs to be submitted.
- There are no makeup **quizzes**. The weight of the missed quiz will automatically be reallocated to the next exam. No documentation for a missed quiz needs to be submitted.
- A **make-up exam** will be offered to students who have received academic accommodations for approved absences or have submitted a self-reported absence, when permitted, as follows:

Monday, Nov 15 (7-9 PM): Makeup Midterm 1

Tuesday, Feb 15 (6-8 PM): Makeup Midterm 2

The makeup final exam will be scheduled by the department in May 2021. *All of these dates are tentative and subject to change.*

Only one makeup is offered for each exam. If a student's documentation covers an absence for both the regular exam and makeup exam, the weight of that exam will be added to the final exam in the course.

- Any exams, or makeup exams that are missed without a self-report or documentation approved by academic counselling will receive a grade of 0 on that evaluation.
- At least ONE midterm must be written to be permitted to write the final exam in the course.**

9. Communication



- Students should check the OWL site every 24 – 48 hours
- A weekly update will be provided on the OWL announcements
- Students should email Dr. Woods (anita.woods@uwo.ca) with questions about the course structure or assignments, but an attempt to locate that information on the syllabus or OWL should be made first
- Emails sent to Dr. Woods will be monitored during regular business hours; students will receive a response within 48 – 72 hours
- Students should post all questions related to lecture content on the discussion forum so that other students can access answers to questions
- The discussion forums will be monitored Monday-Friday by teaching assistants or instructors

10. Office Hours



- Office hours scheduling and signup for instructors will be posted on OWL

11. Resources



- See course resources tab on OWL for instructor created resources
- No textbook is required

12. Professionalism & Privacy

Western students are expected to follow the [Student Code of Conduct](#). Additionally, the following expectations and professional conduct apply to this course:



- All course materials created by the instructor(s) are copyrighted and cannot be sold/shared
- Recordings are not permitted (audio or video) without explicit permission
- Permitted recordings are not to be distributed
- Students will be expected to take an academic integrity pledge before some assessments
- All recorded sessions will remain within the course site or unlisted if streamed
- Students are expected to be kind and professional in their conduct, including in forum posts and PeerWise assignments

13. How to Be Successful in this Class

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.



1. **Invest in a day planner** to keep track of your courses and assignment deadlines. Populate all of your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
2. Make it a **daily habit to log onto OWL** to ensure you have seen everything posted to help you succeed in this class.
3. **Follow weekly checklists** created on OWL or create your own to help you stay on track.
4. **Take notes** as you go through the material. Keeping handwritten notes will help you learn more effectively than just reading or listening in lecture. *Note: typed notes work too, but literature suggests handwritten notes are a more effective learning strategy.*
5. **Connect with others.** Try forming a study group and meet on a weekly basis for studying and peer support. While tutorials are optional, but strongly encouraged, this is a great place to get to know your peers, learn good study habits, and form supportive networks that might last for years.
6. **Do not be afraid to ask questions.** If you are struggling with a topic, check the online discussion forums and post your questions there. You will be anonymous to your peers. Feel free to answer other questions posted in the discussion forum too! Your teaching assistant is also a great resource and will answer questions in tutorial sessions. Feel free to also ask questions in class!
7. **Reward yourself** for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.
8. Try to **keep a weekly routine.** Consistent wake up times, regular exercise, and building in some enjoyable activities will help break up your week to balance academics and your own personal health and wellbeing.

14. Western Academic Policies and Statements

Absence from Course Commitments

[Policy on Academic Consideration for Student Absences](#)

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a **self-reported absence** or via the **Academic Counselling** unit. Students have two self-reports to use throughout the academic year; absence from course commitments including tests, quizzes, presentations, labs, and assignments that are worth 30% or less can be self-reported. Self-reported absences cover a student for 48 hours (yesterday + today or today + tomorrow). Your instructor will receive notification of your consideration; however, you should contact your instructor immediately regarding your absence. Students are expected to submit missed work within 24 hours of the end of the 48-hour period. Please review details of the [university's policy on academic consideration for student absences](#).

If you have used both their self-reported absences or will miss more than 48 hours of course requirements, a Student Medical Certificate (SMC) should be signed by a licensed medical or mental health practitioner and you should contact academic counselling. Science and BSc students can contact academic counselling through the Help Portal: <https://www.uwo.ca/sci/counselling/>

Accommodation for Religious Holidays

The policy on Accommodation for Religious Holidays can be viewed [here](#).

15% Assessment Rule

At least three days prior to the deadline for withdrawal from a course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. For more details, refer to the link found [here](#).

Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents. To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examinations dates. These dates as well as other important information about examinations and academic standing can be found [here](#).

Academic Offences

"Scholastic offences are taken seriously, and students are directed [here](#) to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Accessible Education (AE) at 661-2111 x 82147 for any specific question regarding an accommodation or review [The policy on Accommodation for Students with Disabilities](#).

Correspondence Statement

The centrally administered **e-mail account** provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).

Discovery Credit Statement

Students are permitted to designate up to 1.0 Discovery Credit course (or equivalent) for pass/fail grading that can be counted toward the overall course credits required for their degree program. The details of this policy and the deadlines can be found [here](#).

15. BMSUE Academic Policies and Statements

Cell Phone and Electronic Device Policy (for in-person tests and exams)

The Schulich School of Medicine & Dentistry is committed to ensuring that testing and evaluation are undertaken fairly across all our departments and programs. For all tests and exams, it is the policy of the School that any electronic devices, i.e., cell phones, tablets, cameras, or iPod are strictly prohibited. These devices **MUST** be left either at home or with the student's bag/jacket at the front of the room and **MUST NOT** be at the test/exam desk or in the individual's pocket. Any student found with one of these prohibited devices will receive a grade of zero on the test or exam. Non-programmable calculators are only allowed when indicated by the instructor. The program is not responsible for stolen/lost or broken devices.

Copyright and Audio/Video Recording Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws. You must always ask permission to record another individual and you should never share or distribute recordings.

Rounding of Marks Statement

Across the Basic Medical Sciences Undergraduate Education programs, we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. **Final grades** on this course, irrespective of the number of decimal places used in marking individual assignments and tests, will be calculated to one decimal place and rounded to the nearest integer, e.g., 74.4 becomes 74, and 74.5 becomes 75. Marks **WILL NOT** be bumped to the next grade or GPA, e.g. a 79 will **NOT** be bumped up to an 80, an 84 **WILL NOT** be bumped up to an 85, etc. The mark attained is the mark you achieved, and the mark assigned; requests for mark "bumping" will be denied.

16. Support Services

The following links provide information about support services at Western University.

[Academic Counselling \(Faculty of Science\)](#)

[Academic Counselling \(Kinesiology\)](#)

[Academic Counselling \(Brescia students\)](#)

[Appeal Procedures](#)

Registrarial Services

Student Development Services

Student Health Services

Approved by Department: Anita Woods Jan. 4th, 2022
Approved by BMSUE: Brad Urquhart January 4, 2022