

PHSI 208.6 Class Syllabus

Human Body Systems

Land Acknowledgement

Our Saskatoon campus is situated on Treaty 6 Territory and the Homeland of the Métis.

Course Description

The official course description and prerequisites are in the U of S Course and Program Catalogue available at <http://www.usask.ca/calendar/coursecat/>

Course Learning Outcomes

By the end of this class, students should be able to:

1. Define the basic terms used in Physiology.
2. Describe the functions of the major organ systems.
3. Describe how various cellular mechanisms determine the functions of the major organs.
4. Describe how cells interact with each other and how their activities are coordinated to produce organ functions.
5. Describe the mechanisms of neural and endocrine communication.
6. Describe how organ systems interact and how their activities are coordinated.
7. Explain and apply the concept of homeostasis.
8. Describe the consequences of changes in normal physiology to selected disease states.

Class Schedule Term I

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| Week 1 <i>Introduction to physiology and homeostasis</i> Midterm I Oct 16th | Week 2 <i>Cell membrane</i> Midterm I Oct 16th | Week 3 <i>Nervous system I</i> Midterm I Oct 16th | Week 4 <i>Nervous system II</i> Midterm I Oct 16th |
| Week 5 <i>Nervous system III & Nervous system IV</i> Midterm I Oct 16th | Week 6 <i>Muscle I</i> Midterm II Dec 2 | Week 7 <i>Muscle II</i> Midterm II Dec 2 | Week 8 <i>Muscle 3</i> Midterm II Dec 2 |
| Week 9 <i>Cardiovascular I</i> Midterm II Dec 2 | Week 10 <i>Cardiovascular II</i> Midterm II Dec 2 | Week 11 <i>Cardiovascular III</i> Midterm II Dec 2 | Week 12 <i>Cardiovascular IV</i> Final exam only |

Class Schedule Term II

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| Week 1 <i>Respiratory I</i> Midterm III Feb 26th | Week 2 <i>Respiratory II</i> Midterm III Feb 26 th | Week 3 <i>Renal I</i> Midterm III Feb 26th | Week 4 <i>Renal II</i> Midterm III Feb 26th |
| Week 5 <i>Renal III</i> Midterm III Feb 26th | Week 6 <i>Digestive system I</i> Final exam | Week 7 <i>Digestive system II</i> Final exam | Week 8 <i>Digestive system III</i> Final exam |
| Week 9 <i>Reproductive system I</i> Final exam | Week 10 <i>Reproductive system II</i> Final exam | Week 11 <i>Reproductive system II</i> Final exam | |

Note: No Class Days/No Evaluation Days for this Class in:

[Term 1] [November 11-15]

[Term 2] [February 17-21]

Note: Questions concerning the material covered in the course should be directed to the course email address (phsi.208@usask.ca or gip950@mail.usask.ca). This allows both the teaching assistants and course coordinator to access student questions so that responses can occur in a timely manner.

Problems of a more general nature concerning the organization of the course, exams, grades, special needs, etc. should be taken to the **course coordinator** (landon.baillie@usask.ca). If you wish to meet with the course coordinator you are advised to make an appointment via email.

Resources

Recommended:

Silverthorn, D.U. (2019) **Human Physiology: An Integrated Approach 8th edition**. Pearson
ISBN-13: 978-0-13-460519-7

Textbooks are available from the University of Saskatchewan Bookstore: <http://www.usask.ca/bookstore/>

See the "Required Readings" section in each module in Blackboard Learn for a detailed required readings list and schedule.

This text was chosen after careful consideration of many other excellent texts in Physiology, as the most suitable in style and content for this course. It provides a relatively up-to-date review of Physiology.

Please note that the text is intended to supplement the lecture recordings, not to replace them. However, it is important that you read the sections of the text corresponding to the material discussed in the recordings. The text may provide you with different viewpoints or examples of the material and consequently give you a more in-depth knowledge and better understanding of the most important concepts.

Required:

Mastering A & P:

While the textbook is not required, access to the textbook's digital platform **Mastering A & P** is required to complete online assignments in PHSI 208.6. Students are able to purchase access to Mastering A & P without purchasing the textbook if they wish.

Module questions

The multiple-choice questions found at the end of each video recording can all be found in one convenient location for reviewing purposes. All of the questions will be made available on Top Hat, an online student response system adopted by the U of S. If you are unfamiliar with Top Hat Instructions on getting started can be found at <http://www.usask.ca/ict/services/instructional-technologies/top-hat-audience-reponse-system1/>. The join code to access the questions is 537637.

Evaluation and Grading Scheme

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|--------------|-------------|
| Assignments | 10% |
| Midterm I | 16.67% |
| Midterm II | 16.67% |
| Midterm III | 16.67% |
| Final Exam | 40% |
| Total | 100% |

Mid-term and Final Exam(s)

Invigilated Exams

Your mid-term and final exams will be in Saskatoon **UNLESS** you reside more than 110 KM from Saskatoon. For those students that reside more than 110 KM from Saskatoon you will need to complete the *Application for Mid-term and/or Final Examination* form (<https://students.usask.ca/academics/exams.php#Distanceclasses>)

1st midterm exam: Wednesday, October 16, 2019; 8:30 - 9:20 a.m.

The first exam will constitute **16.67%** of your final grade. It will consist of material covered in module 1 up to and including module 6. This exam will consist of 40 "multiple choice" & "True or False" questions.

2nd midterm exam: Monday, December 2, 2019; 8:30 - 9:20 a.m.

The second exam will constitute **16.67%** of your final grade. It will consist of material covered in module 7 up to and including module 12. This exam will consist of 40 "multiple choice" & "True or False" questions.

3rd midterm exam: Friday, February 26, 2020; 8:30 - 9:20 a.m.

The third exam will constitute **16.67%** of your final grade. It will consist of material covered in module 14 up to and including module 18. This exam will consist of 40 "multiple choice" & "True or False" questions.

Final Exam: April 2020. Date and location TBA by the University

The final exam will constitute **40%** of your final grade. It is cumulative and will consist of material covered in all 24 modules with a greater emphasis on modules 19-24. This exam will consist of 120 "multiple choice" & "True or False" questions.

Please note that module 13 will only be examined on in the final exam.

Regulations:

You can be exempted from a midterm exam for medical or compassionate reasons. If you wish to be exempted from a midterm exam you **MUST** fill out a declaration of absence form found here:

<https://students.usask.ca/documents/registrarial/declaration-of-absence.pdf>

Declaration of absence forms should be sent to the **course coordinator via email** and must describe fully the reasons for the request. Declaration of absence forms will be forwarded to the college office. If exempted from a term test, the weight of the missed exam will be applied to the **final exam**. We do not provide deferred examinations for missed midterm exams. If a student has not written a term test and a

declaration of absence form has not been submitted to the course coordinator within one week of missing the exam the student may receive a zero on the exam.

Viewing exams: If you wish to view your midterm exam you must do so **within 4 weeks** of receiving exam results. Appointments can be set up with a TA by contacting the course email address (phsi.208@usask.ca or gip950@mail.usask.ca) or with the course coordinator if preferred.

Assignments

Online assignments have been created for PHSI 208.6 and are accessible on the textbook's digital learning platform, **Mastering A & P**. Students may purchase access to Mastering A & P without purchasing the textbook if they wish. Mastering A & P is linked to the course on PAWS and instructions on registering and accessing Mastering A & P are posted. Assignments consist of dynamic study modules and short quizzes containing a variety of multiple choice, matching and diagram labelling questions. The weight of each assignment will be included in the course introduction and made available on PAWS.

Assignment Schedule:

| <u>Title</u> | <u>Category</u> | <u>Due Date</u> |
|---|-----------------|---------------------------|
| Introduction to Physiology Homeostasis | DSM | Friday September 20, 2019 |
| Cells and Tissues Fluid Compartments & Membrane Structure | DSM | Friday September 20, 2019 |
| Membrane Transport Active and Vesicular Transport | DSM | Friday September 20, 2019 |
| Membrane Transport Passive Transport | DSM | Friday September 20, 2019 |
| Introduction and Cell Membranes | Homework | Friday September 20, 2019 |

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| Nervous System Organization and Signaling Neurotransmitters - Synapses - Integration | DSM | Friday October 18, 2019 |
| Nervous System Organization and Signaling Organization - Electrical Potentials - Signalling | DSM | Friday October 18, 2019 |
| Nervous System I | Homework | Friday October 18, 2019 |
| Nervous System II | Homework | Friday October 18, 2019 |

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| Muscle Physiology Skeletal Muscle Properties: Structure and Function | DSM | Friday November 8, 2019 |
| Muscle Physiology Introduction to Cardiac and Smooth Muscle | DSM | Friday November 8, 2019 |
| Muscle I | Homework | Friday November 8, 2019 |

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| Cardiovascular System: Blood Flow and Pressure Blood Flow Physics - Vessel Overview - Pressure | DSM | Wednesday December 4, 2019 |
| Cardiovascular System: Blood Flow and Pressure Dynamics of Blood Flow and Regulation of Pressure | DSM | Wednesday December 4, 2019 |
| Cardiovascular System: The Heart Heart Anatomy - Blood Flow - Conduction System | DSM | Wednesday December 4, 2019 |
| Cardiovascular System: The Heart Cardiac Cycle and Regulation of Cardiac Output | DSM | Wednesday December 4, 2019 |
| Cardiovascular I | Homework | Wednesday December 4, 2019 |
| Cardiovascular II | Homework | Wednesday December 4, 2019 |

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| Cardiovascular System: Blood Blood Composition and Erythrocyte Function | DSM | Friday January 10, 2020 |
| Blood | Homework | Friday January 10, 2020 |

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| Respiratory System: Mechanics of Breathing Respiratory system structure and airflow physics | DSM | Wednesday January 29, 2020 |
| Respiratory System: Mechanics of Breathing Measuring pulmonary function | DSM | Wednesday January 29, 2020 |
| Respiratory System: Gas Exchange and Regulation of Breathing Exchange and delivery of O ₂ and CO ₂ | DSM | Wednesday January 29, 2020 |
| Respiratory System: Gas Exchange and Regulation of Breathing Regulation of ventilation | DSM | Wednesday January 29, 2020 |
| Respiratory I | Homework | Wednesday January 29, 2020 |
| Respiratory II | Homework | Wednesday January 29, 2020 |

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| The Urinary System: Renal Function Basic function and anatomy of the urinary system | DSM | Friday February 28, 2020 |
| The Urinary System: Renal Function Filtration - Reabsorption - Secretion - Excretion | DSM | Friday February 28, 2020 |
| Fluid and Electrolyte Balance Ion and pH balance | DSM | Friday February 28, 2020 |
| Fluid and Electrolyte Balance Water and blood volume balance | DSM | Friday February 28, 2020 |
| Renal I | Homework | Friday February 28, 2020 |
| Renal II | Homework | Friday February 28, 2020 |

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| Digestive System Regulation of digestive functions | DSM | Friday March 20, 2020 |
| Digestive System Digestive System Structure - Function - Process | DSM | Friday March 20, 2020 |
| Digestion | Homework | Friday March 20, 2020 |

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| Reproductive System Overview of reproduction and male reproduction | DSM | Monday April 6, 2020 |
| Reproductive System Female Reproduction - Pregnancy - Parturition | DSM | Monday April 6, 2020 |
| Reproduction | Homework | Monday April 6, 2020 |

Understanding Your Grades

Information on literal descriptors for grading at the University of Saskatchewan can be found at:
<https://students.usask.ca/academics/grading/grading-system.php>

Please note: There are different literal descriptors for undergraduate and graduate students.

More information on the Academic Courses Policy on course delivery, examinations and assessment of student learning can be found at: <http://policies.usask.ca/policies/academic-affairs/academic-courses.php>

The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at:
<http://teaching.usask.ca/about/policies/learning-charter.php>

Email etiquette

It is understood that some students will require additional information or clarifications regarding course material outside of class hours. I encourage students to contact the course email address and we will answer your questions to the best of our ability. If students have substantial questions or concerns regarding material, I encourage requesting an office appointment via email. Email correspondence should be limited to issues of class business and to request information that is **not** discussed in the syllabus. Please do not send emails asking when the midterm exam is scheduled or to write a deferred midterm. This information is clearly indicated in the syllabus and may not warrant a response.

Email correspondence with the course coordinator and teaching assistants in this class should be considered formal:

- Please include the course number (PHSI 208) and **section (01 or W01)** in the subject line of the email so that we know what section you are from.
- Please be concise in your question(s) and provide your name at the end of the email (NSIDs do not necessarily provide a strong indication of who you are).
- We will try and respond to emails in a timely manner.

Integrity Defined

"Integrity is expected of all students in their academic work – class participation, examinations, assignments, research, practica – and in their non-academic interactions and activities as well." (Office of the University Secretary)

It is your responsibility to be familiar with the University of Saskatchewan policies and procedures on Academic Misconduct (<http://www.usask.ca/secretariat/student-conduct-appeals/academic-misconduct.php>) and Non-Academic Conduct (<http://www.usask.ca/secretariat/student-conduct-appeals/non-academic-misconduct.php>).

Access and Equity Services

If you are a student needing accommodations based on a diagnosed disability (learning, medical, physical, and/or mental health), religion, family status (including pregnancy), and/or gender identity, you must register with Access and Equity Services (AES) in order to access AES programs and supports. Information about AES can be found at <https://students.usask.ca/health/centres/access-equity-services.php>

For AES exam accommodations please ensure that you fill out the AES Exam Accommodation form within the applicable deadlines. (<https://students.usask.ca/health/aes/accommodations.php>)

Distance and Distributed Library Services

As a U of S student, if you are located outside of Saskatoon, you can find help accessing library resources and services at: <https://library.usask.ca/ddls/#RegisterforDDLs>.

Copyright

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