1 Course Details

1.1 Calendar Description

The course describes the physiological processes carried out by the major tissues and organ systems, and the regulatory mechanisms that affect tissue and organ function. Topics dealt with in the course include the following: the cellular and chemical constituents of blood, blood coagulation and haemostasis, the function of the immune system, resistance to infectious agents and the principles of immunoprophylaxis, cardiac function, cardiovascular haemodynamics, blood pressure, peripheral and regional circulation of blood, the lymph circulation, the structure and function of the mammalian nervous system and organs associated with special senses, the functions of the digestive tract, lungs and kidney thermoregulation and water, electrolyte and acid-base balance. The homostatic features and species variation of the tissue organ systems will be emphasized.

Co-Requisites: All Phase 1 courses.

1.2 Course Description

The course is also designed to promote a broad understanding of the basis for the biochemical tests that are used to evaluate physiological processes. After introducing the concepts of homeostasis, enzymology and circulating biochemical markers which are relevant to all systems, the course is presented in individual modules or learning blocks. For these sections, specific organ systems are presented, the relevant functional principles and biochemical tests are presented and the material is integrated through presentations of case material. Case examples presented in lectures and tutorials will highlight the use of normal values and biochemical abnormalities that develop when normal organ function is compromised.

1.3 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.
1.4 Final Exam
Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Jonathan LaMarre
Email: jlamarre@uoguelph.ca
Telephone: +1-519-824-4120 x54935
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Hematology

Instructor: Tarek Saleh
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Office: OVCE 2633
Nervous System, Renal Physiology, Acid Base Physiology, Respiratory Physiology

Instructor: Glen Pyle
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Cardiovascular System

Instructor: Ron Johnson
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Cardiovascular System

Instructor: Pawel Bartlewski
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Office: OVMX 1677
Endocrine System

Instructor: Byram Bridle
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Telephone: +1-519-824-4120 x54657
Office: PAHL 4834
Immunology

Instructor: Brad Hanna
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Telephone: +1-519-824-4120 x54534
Office: OVC 1646D
Digestive system
3 Learning Resources

3.1 Required Resources


3.2 Recommended Resources


Tizard, I. Veterinary Immunology, 9th edition (W.B. Saunders). (Textbook)


3.3 Additional Resources

Course Notes (Notes)
Course notes will be available at the course website in Courselink. Printed versions of the notes will not be provided.

Clinical Chemistry of Domestic Animals, 5th edition. Edited by JJ Kaneko, JW Harvey and ML Bruss (Readings)

4 Learning Outcomes

The primary objective of this course is to understand the physiological processes mediated by the different tissues and organ systems, the intrinsic and extrinsic mechanisms and factors that control their function and the changes that occur in specific measurable parameters when these systems are compromised. In order to understand the changes in function that underlie disease, one must understand normal function and how it is reflected in certain biochemical tests. During this course, frequent reference will be made to disorders and disease states, the biochemical basis behind such disorders, how they affect normal physiology and how they are assessed.

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. Explain homeostasis and how it applies to whole-animal physiology and each system studied.
2. Demonstrate knowledge and understanding of the function each normal organ system as applicable to veterinary medicine.
3. Demonstrate an understanding of the basis of enzymology and serum markers of organ function and physiology and explain specifically how these are useful diagnostic and prognostic aids in the management of disease.
4. Demonstrate knowledge of how multiple organs/systems participate in protein, carbohydrate and lipid metabolism.
5. Integrate the knowledge in different sections of the course with relevant material from other courses and begin to apply this knowledge to clinical and pathophysiological problems.

5 Teaching and Learning Activities

6 Assessments

3 midterm exams and 2 final exams comprise the evaluation for the course, as outlined below.

6.1 Assessment Details

Midterms (40%)

1. Nervous System, Hematology (15%)
2. Renal, Acid Base, Respiratory, Serum Biochemistry, Urinalysis (15%)
3. Cardiovascular, Endocrinology (10%)

Combined Final Exams (60%)
First Exam is Physiology and Biochemistry only. Second Combined Exam includes material from Anatomy, Biochemistry, Histology, and Physiology. Only the Physiology and Biochemistry questions count towards final grade in this course.

Combined Exam 1 Questions: Material from Digestive and Immunology sections (Worth 35% of final grade)

Combined Exam 2 Questions: Material from previously-tested sections in the course (Worth 25% of final grade)

7 University Statements
7.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

7.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml

Graduate Calendar - Grounds for Academic Consideration
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

7.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml

Graduate Calendar - Registration Changes
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-regchg.shtml

Associate Diploma Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml

7.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

7.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student
Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to book their exams at least 7 days in advance and not later than the 40th Class Day.

More information can be found on the SAS website
https://www.uoguelph.ca/sas

7.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students—to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University’s policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml

Graduate Calendar - Academic Misconduct
https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml

7.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

7.8 Resources

The Academic Calendars are the source of information about the University of Guelph’s procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.
Academic Calendars
https://www.uoguelph.ca/academics/calendars