1 Course Details

1.1 Calendar Description

This course will introduce students to the basic principles of pharmacology. Topics to be covered include pharmacokinetics and drug-receptor interactions as well as the mechanism of action and toxicity of drugs acting on the cardiovascular and central nervous system.

Pre-Requisites: BIOC*2580, (1 of ANSC*3080, BIOM*3200, HK*3810, HK*3940, ZOO*3200, ZOO*3600)

1.2 Course Description

This course is intended primarily for students in the BSc Honours Bio-Medical Sciences, Biomedical Toxicology, Neuroscience, Nutritional and Nutraceutical Sciences majors, Biomedical Engineering and other students who have an interest in the treatment of disease processes.

1.3 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.4 Final Exam

The time and location of the final exam are subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team
2.2 Teaching Assistants

Teaching Assistant: Jessica Ruffolo
Email: jruffolo@uoguelph.ca

Teaching Assistant: Benjamin Arceneaux
Email: barcence@uoguelph.ca

3 Learning Resources

Course WebSite:

For class information, the course outline and lecture schedule, assessments, test dates and grades please consult the CourseLink site. Instructors will aim to post learning materials on Courselink by 7 pm the evening before each scheduled learning activity.

4 Learning Outcomes

During this course students should develop knowledge and understanding of the core concepts of pharmacology and be able to relate these to the pharmacological actions, use and adverse effects of compounds in the specific drug topics covered.

4.1 Course Learning Outcomes

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

1. Describe the basic concepts of pharmacokinetics & pharmacodynamics
2. Understand the quantitative effects of drugs (concentration/dose-response relationships)
3. Describe the concepts of agonism, antagonism, partial agonism, inverse agonism, efficacy, and potency
4. Understand the targets of drug action (e.g. receptors, enzymes, ion channels, second
messengers and others)
5. Describe the mechanisms of action, uses and side effects of:

- drugs affecting the autonomic nervous system
- drugs used for the treatment of cardiovascular conditions
- drugs affecting the central nervous system
- pre-anesthetics and anesthetics

5 Teaching and Learning Activities

Class schedule:

Asynchronous (AD-A; VIRTUAL);

The lectures will follow a Monday, Wednesday Friday schedule, however they will be delivered asynchronously - you can watch the pre-recorded lectures at your convenience.

5.1 Lecture

Mon, Jan 11
Topics: Introduction to Therapeutics

Wed, Jan 13
Topics: Pharmacodynamics 1

Fri, Jan 15
Topics: Pharmacodynamics 2

Mon, Jan 18
Topics: Pharmacodynamics 3

Wed, Jan 20
Topics: Pharmacokinetics 1

Fri, Jan 22
Topics: Pharmacokinetics 2

Mon, Jan 25

Topics: Pharmacokinetics 3

Wed, Jan 27

Topics: Study Day - No Lecture Scheduled

Fri, Jan 29

Topics: Midterm 1

Pharmacodynamics and Pharmacokinetics

Mon, Mar 1

Topics: Introduction to Autonomic Pharmacology 1

Wed, Feb 3

Topics: Introduction to Autonomic Pharmacology 2

Fri, Feb 5

Topics: Cholinergic Agonists

Mon, Mar 8

Topics: Cholinergic Antagonists

Wed, Mar 10

Topics: Adrenergic Agonists

Fri, Feb 12

Topics: Adrenergic Antagonists

Mon, Feb 15 - Fri, Feb 19
Monday February 15th to Friday February 19th  Winter Break

Mon, Feb 22

Topics: Autonomic Applications

Autonomic Quiz opens

Wed, Feb 24

Topics: Antihypertensive Drugs 1

Autonomic Quiz Closes

Fri, Feb 26

Topics: Antihypertensive Drugs 2

Autonomic Unknown Assignment Due

Mon, Mar 1

Topics: Drugs Used to Treat Heart Failure

Wed, Mar 3

Topics: Drugs Used to Treat Angina

Fri, Mar 5

Topics: Drugs Used to Treat Arrhythmias

Mon, Mar 8

Topics: Study Day - No Lecture Scheduled

Wed, Mar 10

Topics: Midterm 2
Autonomic and Cardiovascular Pharmacology

Fri, Mar 12

Topics: Introduction to CNS Pharmacology

Mon, Mar 15

Topics: Parkinsonism

Wed, Mar 17

Topics: Antipsychotic Agents and Lithium

Fri, Mar 19

Topics: Antidepressants

Cardiovascular Poster Due

Mon, Mar 22

Topics: Sedative-Hypnotic and Alcohol

Wed, Mar 24

Topics: Drugs of Abuse

Fri, Mar 26

Topics: Preanesthetic Drugs and Anesthetics 1

Mon, Mar 29

Topics: Preanesthetic Drugs and Anesthetics 2

Wed, Mar 31

Topics: Preanesthetic Drugs and Anesthetics 3

Fri, Apr 2
Topics: Good Friday - No Lecture

Mon, Apr 5
Topics: Preanesthetic Drugs and Anesthetics 4

Wed, Apr 7
Topics: Preanesthetic Drugs and Anesthetics 5

Fri, Apr 9
Topics: Preanesthetic Drugs and Anesthetics 6

6 Assessments

6.1 Assessment Details

Online Quiz (2%)
One on-line quiz (Autonomic Pharmacology) worth 2% of the final grade. Details regarding quiz availability will be provided on the Courselink course website. NO EXTENSIONS for the on-line quiz will be allowed.

Autonomic Unknown Assignment (8%)
Due: Fri, Feb 26
This assignment is worth 8% of your final grade and involves the identification of an unknown drug and describing the effects of the drug in the body. Details of the assignment and a marking rubric will be provided on CourseLink.

Midterm Examinations (40%)
Two on-line midterm examinations, each worth 20% have been scheduled.

Midterm 1 (Friday January 29, 2021) will consist of multiple choice questions and covers Pharmacodynamics and Pharmacokinetics.

Midterm 2 (Wednesday March 10, 2021) will consist of multiple choice and short-answer questions and covers Autonomic and Cardiovascular Pharmacology.

A remote invigilation tool such as Respondus will be used for both midterm examinations.

Cardiovascular Poster (10%)
Due: Fri, Mar 19
Involves students working in groups of four or five to prepare a poster on an assigned
cardiovascular topic. Groups will be assigned randomly and assignment details and rubric will be posted on CourseLink.

Final Examination (40%)
The final examination has been scheduled by the Registrar’s Office for March 20, 2021, beginning at 11:30 AM. The final examination will consist of multiple choice and short answer questions and covers the topics of CNS pharmacology & anesthetics and pre-anesthetics.

A remote invigilation tool such as Respondus will be used for the final examination.

7 Course Statements

7.1 Course Website
For course information, learning materials, assessment dates, and grades, please consult the course website (accessible via Courselink).

Instructors will aim to post learning materials on Courselink by 7 pm the evening before each scheduled learning activity.

7.2 Communication with Instructors
Due to the pandemic, we will not have opportunities to answer questions in person. If all questions are handled by e-mail, the volume of messages could become overwhelming at times (some faculty are teaching in several courses with hundreds of students). To minimize the chances of that occurring, we ask that you check Courselink Discussion Boards when you have a content-related question, to see if it has been answered, and post your question there if it has not.

7.3 Netiquette

Online Behaviour
Inappropriate online behaviour will be referred to the office of the Associate Dean (Students and Academic) for investigation. The range of possible penalties is listed in the Undergraduate Calendar, Section VIII: Undergraduate Degree Regulations and Procedures, Academic Misconduct, Penalties, Part A: Range of Penalties That May Be Assessed, which includes loss of marks, loss of university scholarships or bursaries, suspension or expulsion from the university, and other penalties, depending on the offence.

Examples of inappropriate online behaviour include:

· Posting inflammatory messages about your instructor or fellow students

· Using obscene or offensive language online
· Copying or presenting someone else’s work as your own
· Adapting information from the Internet without using proper citations or references
· Buying or selling term papers or assignments
· Posting or selling course materials to course notes websites
· Having someone else complete your quiz or completing a quiz for/with another student
· Stating false claims about lost quiz answers or other assignment submissions
· Threatening or harassing a student or instructor online
· Discriminating against fellow students, instructors and/or TAs
· Using the course website to promote profit-driven products or services
· Attempting to compromise the security or functionality of the learning management system
· Sharing your user name and password
· Recording lectures without the permission of the instructor

7.4 Exams

A remote invigilation tool such as Respondus will be used for the midterm and final examinations.

7.5 Course Evaluation

Students will be asked to complete an online questionnaire on instructors’ teaching competence during the last two weeks of classes. This is part of the information required by the University to evaluate faculty performance for purposes of Tenure, Promotion and Selective Increases. Administered by a third party rather than the instructors, these evaluations will be delivered to the respective instructors ONLY after the final grades have been submitted to the Registrar’s Office. Note: only the numerical ratings from the form will be made available to the Chair for administrative purposes - the Chair will NOT see any comments that are written on the evaluation forms unless signed by the student.

8 University Statements

8.1 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.

8.2 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

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions  
https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml

8.3 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-reg-chg.shtml

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

8.4 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.

8.5 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.

For Guelph students, information can be found on the SAS website
https://www.uoguelph.ca/sas

For Ridgetown students, information can be found on the Ridgetown SAS website
https://www.ridgetownc.com/services/accessibilityservices.cfm

8.6 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

8.7 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.

8.8 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
8.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings and academic schedules. Any such changes will be announced via CourseLink and/or class email. All University-wide decisions will be posted on the COVID-19 website (https://news.uoguelph.ca/2019-novel-coronavirus-information/) and circulated by email.

8.10 Illness

The University will not normally require verification of illness (doctor’s notes) for fall 2020 or winter 2021 semester courses. However, requests for Academic Consideration may still require medical documentation as appropriate.