1. Course Information

### Course Information

**Course name:** Clinical Pharmacology  
**Course number:** Pharmacology 4350a  
**Year:** Fall Term 2019

Clinical pharmacology is a scientific and medical discipline dedicated to the bench-to-bedside study of drug action through an in-depth knowledge of human pharmacology and therapeutics. This is an introductory course in clinical pharmacology that focuses on fundamental concepts highlighted with examples from clinical cases, therapeutic applications and relevance to drug discovery and development.

#### Lectures

Wednesday 12:30-2:30 MSB282

#### Requisites

Prerequisite(s): Pharmacology 3620 or permission from the Department

**Senate regulation regarding the student’s responsibility regarding requisites:**

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

#### Accessibility Statement

Please contact the course instructor if you require material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x 82147 for any specific question regarding an accommodation.

2. Instructor Information

#### Course Co-ordinator

Dr. Rommel Tirona  
Email: rommel.tirona@schulich.uwo.ca  
Office: University Hospital, Room C9-100D  
Meetings by appointment, please email.

#### Lecturers

Rommel Tirona, PhD (rommel.tirona@schulich.uwo.ca)  
Ute Schwarz, MD, PhD (Ute.Schwarz@lhsc.on.ca)  
Edna Choo, PhD (choo.edna@gene.com) - Genentech  
Michael Rieder, MD, PhD (mrieder@uwo.ca)  
Doreen Matsui, MD (Doreen.Matsui@lhsc.on.ca)  
George Dresser, MD, PhD (George.Dresser@lhsc.on.ca)
OWL:  [https://owl.uwo.ca/portal](https://owl.uwo.ca/portal)
Students with OWL issues should see: [https://owlhelp.uwo.ca](https://owlhelp.uwo.ca)

### 3. Course Syllabus

#### Course Objectives
1. Explain pharmacokinetic and pharmacodynamic factors that alter drug response in specific populations including children, elderly, pregnancy and liver/kidney disease.
2. Describe hereditary factors that affect drug response and how this knowledge is applied to drug development and pharmacotherapy.
3. Critique the primary clinical pharmacology and clinical drug trials literature on the basis of specific evaluation criteria through oral presentation.

#### Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Lecturer</th>
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</thead>
<tbody>
<tr>
<td>September 11</td>
<td>12:30 Clinical pharmacokinetics and pharmacodynamics 1</td>
<td>Tirona</td>
</tr>
<tr>
<td></td>
<td>1:30 Clinical pharmacokinetics and pharmacodynamics 1</td>
<td>Tirona</td>
</tr>
<tr>
<td>September 18</td>
<td>12:30 Clinical pharmacokinetics and pharmacodynamics 2</td>
<td>Tirona</td>
</tr>
<tr>
<td></td>
<td>1:30 Clinical pharmacokinetics and pharmacodynamics 2</td>
<td>Tirona</td>
</tr>
<tr>
<td>September 25</td>
<td>12:30 Drug-drug and food-drug interactions</td>
<td>Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30 Critical Appraisal of Drug Literature</td>
<td>Schwarz</td>
</tr>
<tr>
<td>October 2</td>
<td>12:30 Drug Development</td>
<td>Dresser</td>
</tr>
<tr>
<td></td>
<td>1:30 Ethical Considerations in Clinical Research</td>
<td>Matsui</td>
</tr>
<tr>
<td>October 9</td>
<td>12:30 Midterm Exam</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td>October 16</td>
<td>12:30 Student Presentations</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td>October 23</td>
<td>12:30 Student Presentations</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td>October 30</td>
<td>12:30 Student Presentations</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td>November 6</td>
<td>12:30 Reading Week – no class</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30</td>
<td>Tirona/Schwarz</td>
</tr>
<tr>
<td>November 13</td>
<td>12:30 Drug therapy in special populations: Children</td>
<td>Rieder</td>
</tr>
<tr>
<td></td>
<td>1:30 Drug therapy in special populations: Gender/Pregnancy/Race</td>
<td>Matsui</td>
</tr>
<tr>
<td>November 20</td>
<td>12:30 Drug therapy in special populations: Elderly</td>
<td>Dresser</td>
</tr>
<tr>
<td></td>
<td>1:30 Drug Discovery</td>
<td>Choo</td>
</tr>
<tr>
<td>November 27</td>
<td>12:30 Adverse Drug Reactions</td>
<td>Rieder</td>
</tr>
<tr>
<td></td>
<td>1:30 Drug therapy in special populations: Liver and Kidney Disease</td>
<td>Schwarz</td>
</tr>
<tr>
<td>December 4</td>
<td>12:30 Pharmacogenetics and personalized medicine</td>
<td>Schwarz</td>
</tr>
<tr>
<td></td>
<td>1:30 Pharmacogenetics and personalized medicine</td>
<td>Schwarz</td>
</tr>
</tbody>
</table>
4. Course Materials
Papers and scientific articles provided by instructors.

Copyright 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.

5. Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>% of Final Mark</th>
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<tbody>
<tr>
<td>Presentation, including participation</td>
<td>25%</td>
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<tr>
<td>Midterm (October 9, 2019)</td>
<td>35%</td>
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<tr>
<td>Final Exam</td>
<td>40%</td>
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</tbody>
</table>

A detailed and comprehensive set of regulations concerning the scheduling of tests, assignments, etc. is available at:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=5&command=showCategory&SelectedCalendar=Live&ArchiveID=

Policy on Rounding and Bumping of Grades
Across the Basic Medical Sciences Undergraduate Education programs and within the department of Physiology and Pharmacology 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 in 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.

6. Additional Information/Statements

Statement on Academic Offences
“Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following website: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in
the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

**Statement on the use of Cell Phone and Electronic Devices**

The Schulich School of Medicine and 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 and the Department of Physiology and Pharmacology that any electronic devices (e.g. cell phone, tablet, camera, watch, smart watch, ipod, ear buds, headphones) are strictly prohibited. These devices MUST be left either at home or with the students bag/jacket at the front of the room and MUST NOT be at the test/exam desk or in the individuals 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 Department of Physiology and Pharmacology is not responsible for stolen/lost or broken devices.

**Statement on Discussion of Grades**

The Department of Physiology and Pharmacology is committed to fair assessment of student work and encourages students to discuss course content and graded work with their peers in an effort to improve learning.

**For Students:** While all students have the right to question their grade should they feel it’s inaccurate, this exercise should be undertaken in a respectful manner. Professionalism and respect should be demonstrated in all interactions with instructors and peers. When discussing a grade or exam question with a professor or teaching assistant, the discussion should focus on your individual concern. Students should remember that some forms of assessment or specific questions are designed to be more challenging than others. In this situation, there may be several students that don’t receive the correct answer and this does not necessarily mean that there is a problem with the question or assessment. Concerns from one student that indicate that they are communicating on behalf of a larger group of peers (mob/crowd mentality) will not be considered. Concerns with an assessment should be communicated to the instructor and should reflect your individual concern. Threats of any sort will not be tolerated and will be considered a violation of the student code of conduct. It is a requirement that you treat your instructors with respect and you should expect the same respect returned to you by your instructor.
For Professors and Teaching Assistants: All professors and teaching assistants should keep an open mind when discussing graded work with students. Make an effort to listen to students and try and see their point of view. If there was ambiguity in a question or multiple correct answers that a student brings to your attention, you should revise the grade. If the student concern is not adequately justified, explain your reasoning. Students that have concerns regarding an exam question or graded assignment deserve to be treated with respect. Treat with them with the same respect that you expect from them. That being said, concerns from one student that indicate that they are communicating on behalf of a larger group of peers (mob/crowd mentality) should not be considered.

Statement on Appeals

The Department of Physiology and Pharmacology follows the Western University student academic appeals policy (http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#SubHeading_181). All appeals to individual graded course components must be submitted to the course instructor within 3 weeks of the grade being released. All final course grade appeals must be received by January 31 (1st term classes) or June 30 (2nd term half classes and full year classes). You must first appeal to the course manager. If this appeal is rejected, then you can appeal to the Undergraduate Chair of the Department of Physiology and Pharmacology. If this appeal is rejected, you may then appeal to the Associate Dean of the Bachelor of Medical Sciences Undergraduate Education Committee.

You must have suitable grounds for appeal which may include: 1) appeal on medical or compassionate grounds; 2) appeal based on extenuating circumstances beyond your control; 3) appeal based on bias, inaccuracy or unfairness. All appeals must be accompanied by a detailed explanation along with supporting documentation. You should submit your appeal as an e-mail with a single attachment. If you have multiple supporting documents, you should merge them into a single document.

Statement on Use of Personal Response Systems (“Clickers”)

If Personal Response Systems (“Clickers”) are used in the course, instructors should review the Guidelines for Instructors on the Use of Personal Response Systems at: http://www.uwo.ca/univsec/pdf/academic_policies/exam/courseoutlines.pdf
The course outline should include a link to the Guidelines for Students on the Use of Personal Response Systems (“Clickers”) at: http://www.uwo.ca/univsec/pdf/academic_policies/exam/courseoutlines.pdf
Absence from course commitments

Medical/Compassionate Relief Program Policy

A. Absence for medical illness or non-medical absence:

Students must familiarize themselves with the Policy on Accommodation for Medical Illness for Undergraduate Students, located at:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=1&Command=showCategory&Keywords=medical&SubHeadingID=323&SelectedCalendar=Live&ArchiveID=#SubHeading_323

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. Students should familiarize themselves with the procedures for academic consideration and note the process for self-reporting.

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=1&Command=showCategory&Keywords=absence&SubHeadingID=323&SelectedCalendar=Live&ArchiveID=#SubHeading_323

Approval can be granted either through a self-reporting of absence or via the Academic Counselling unit. The Academic Counselling is located in NCB 280, and can be contacted at scibmsac@uwo.ca.

B. Accommodation for Religious Holidays

The policy for accommodation for Religious Holidays can be found at:

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?PolicyCategoryID=1&Command=showCategory&Keywords=absence&SubHeadingID=323&SelectedCalendar=Live&ArchiveID=#SubHeading_323

C. Special Examinations

A Special Examination is any examination other than the regular final examination, and it may be offered only with the permission of the Dean/Academic Counselling Office 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.
If a student fails to write a scheduled Special Examination, permission to write another Special Examination will be granted only with the permission of the Dean/Academic Counselling Office in exceptional circumstances and with appropriate supporting documents. In such a case, the date of this Special Examination normally will be the scheduled date for the final exam the next time the course is offered.

When a grade of Special (SPC) or Incomplete (INC) appears on a student's record, the notations will be removed and replaced by a substantive grade as soon as the grade is available.

Support Services:
Registrarial Services:  [http://www.registrar.uwo.ca](http://www.registrar.uwo.ca)

Academic Counselling (Science and Basic Medical Sciences):  [http://www.uwo.ca/sci/counselling](http://www.uwo.ca/sci/counselling)

USC Student Support Services:  [http://westernusc.ca/services/](http://westernusc.ca/services/

Student Development Services:  [http://www.sdc.uwo.ca](http://www.sdc.uwo.ca)

Student Health Services:  [http://www.shs.uwo.ca/](http://www.shs.uwo.ca/)

Students who are in emotional/mental distress should refer to Mental Health@Western [https://www.uwo.ca/health/mental_wellbeing/self/student.html](https://www.uwo.ca/health/mental_wellbeing/self/student.html) for a complete list of options about how to obtain help.