

Math 3200 Course Outline Form: Fall 2018

General Information

Course Title: Real Analysis, Math 3200

Course Calendar Description:

This course provides a basic foundation for real analysis. The rigorous treatment of the subject in terms of theory and examples gives students the flavour of mathematical reasoning and intuition for other advanced topics in mathematics. Topics covered include the real number line and the supremum property; metric spaces; continuity and uniform continuity; completeness and compactness; the Banach fixed-point theorem and its applications to ODEs; uniform convergence and the rigorous treatment of the Riemann integral.

Prerequisite(s): Math*2000, Math* 2210 (Math*1160 or Math*2160)

Credit Weight: 0.5 CEUs

Academic Department (or campus): Mathematics and Statistics

Campus: University of Guelph Main Campus

Semester Offering: Fall 2018

Class Schedule and Location: LEC Tues, Thurs 2:30 PM - 3:50 PM, MACN, Room 118

Note: Start Date September 06, 2018. There will be extra class day on Thursday, November 29, 2018, to replace the class of Tuesday, October 09, 2018. Tuesday schedule is in effect on Thursday, November 29, 2018.

Instructor Information

Instructor Name: Prof. Anna Lawniczak

Instructor Email: alawnicz@uoguelph.ca

Office location and office hours: MacN 522, Tue. & Th. 1:00 PM-2:00 PM

Course Content

Specific Learning Outcomes: (1) demonstrate foundation for real analysis; (2) improvement of mathematical reasoning and intuition for other advanced topics in mathematics; (3) improvement of mathematical technical competence; (4) improvement of the ability of thinking critically and independently; (5) improvement of effectively communicate mathematical ideas.

Lecture Content: The lecture content, i.e. the covered material, will follow the selected material from the course-required textbook. Not all course topics will be covered at the same level of depth.

Course Assignments and Tests: There will be 2 in class tests during the term plus the final exam. The marks are assigned as follows:

- Test I - 30%, Tuesday, October 16, 2018
- Test II - 30%, Tuesday, November 20, 2018
- Final Exam - 40%, on Thursday, December 06, 2018, at 7:00 PM – 9:00 PM, Room TBA

There will not be graded take home assignments. However, from each covered topic, i.e. part of the covered material, there will be assigned problems and the material to read from the textbook. Students are expected to do the assigned problems and read the assigned material from the textbook. The assigned reading material and the assigned problems will be announced in class and posted on CourseLink at the time when the corresponding topic is covered. The solutions to the problems will not be collected and graded. Solutions to selected problems will be posted on

CourseLink. The term tests and the final exam will be based on the assigned problems and the covered material. One week before each term test the information which material and which problems are covered by a term test will be provided in class and in CourseLink. The final exam will be based on all the covered material of the entire course and all the assigned problems.

Course Resources

Required Texts:

"Closer and Closer Introducing Real Analysis", Carol S. Schumacher, Jones and Bartlett Publisher, available at University of Guelph Library Guelph Book Stacks (QA331.S38 2008)

Recommended Texts:

"A Problem Book in Real Analysis" Asuman G. Aksoy and Mohamed A. Khamsi, Springer, available on line

Grading Policies

Requests for academic consideration because of illness or of a compassionate nature when an in-course requirement is missed must be made in writing and be accompanied by official certificate whenever possible. See the academic calendar for information on regulations and procedures for Academic Consideration:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

The University policy must be followed when the final exam is missed

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/index.shtml>

There will not be graded take home assignments. However, from each covered topic, i.e. part of the covered material, there will be assigned problems and the material to read from the textbook. Students are expected to do the assigned problems and read the assigned material from the textbook. The assigned reading material and the assigned problems will be announced in class and posted on CourseLink at the time when the corresponding topic is covered. The solutions to the problems will not be collected and graded. Solutions to selected problems will be posted on CourseLink. The term tests and the final exam will be based on the assigned problems and the covered material. One week before each term test the information which material and which problems are covered by a term test will be provided in class and in CourseLink. The final exam will be based on all the covered material of the entire course and all the assigned problems.

University Policies

E-mail Communication:

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

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 in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

<http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Drop Date:

The last date to drop one-semester courses, without academic penalty, is **Friday, November 02, 2018**. For regulations and procedures for Dropping Courses, see the Academic Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

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.

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: www.uoguelph.ca/sas

Academic Misconduct:

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 discourages misconduct. 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.

The Academic Misconduct Policy is detailed in the Undergraduate Calendar:

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Course Policy regarding use of electronic devices and recording of lectures:

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the written permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with written permission is restricted to use for that course unless further written permission is granted. When recordings are permitted, they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor, or presenter.

Course Evaluation Policy:

Please see: <https://courseeval.uoguelph.ca/files/Provosts%20Protocol%20for%20teaching%20evaluations%20-%20updated%20March%202010.pdf>

Additional Course Information

Resources:

The Academic Calendars are the source of information about the University of Guelph's procedures, policies and regulations, which apply to undergraduate, graduate and diploma programs: <https://www.uoguelph.ca/registrar/calendars/undergraduate/current/>