

The University of Western Ontario
London, Ontario Canada
Department of Applied Mathematics
APPLIED MATHEMATICS 2276B
Course Outline 2021

Instructors:

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Tutorials:

003	Tuesday	5:30 PM	6:30 PM	Online
004	Wednesday	11:30 AM	12:30 PM	Online
005	Wednesday	11:30 AM	12:30 PM	Online
006	Tuesday	5:30 AM	6:30 PM	Online

Text:

Advanced Engineering Mathematics, 6th edition, Zill (required)

Calculus Volume 3 : <https://openstax.org/details/books/calculus-volume-3> (required)
(This is a free downloadable text)

Lectures: Lectures have been/will be posted on OWL under Course Content

Course Description:

Topics covered include a review of orthogonal expansions of functions and Fourier series and transforms, multiple integration with methods of evaluation in different systems of coordinates, vector fields, line integrals, surface and flux integrals, the Green, Gauss and Stokes theorems with applications.

Anti-requisite(s): Calculus 2302A/B, Calculus 2303A/B, Calculus 2502A/B, Calculus 2503A/B, Applied Mathematics 2277A/B, the former Applied Mathematics 2411, the former Applied Mathematics 2413, the former Applied Mathematics 2415.

Prerequisite(s): Applied Mathematics 2270A/B.

Learning Outcomes:

By the end of the course the student will be able to

- Find the Fourier series of a periodic function.
- Calculate double, triple, line and surface integrals and use the Gauss and Stokes theorems in this context; apply these concepts to engineering problems.
- Students are expected to have read the appropriate sections from the textbook and to have completed practice problems recommended in class.
- Students should note that success in university-level mathematics courses requires self-directed exploration of topics.
- Students are expected to use help resources available to them when problems arise. It is often better to tackle difficult material when problems with understanding occur. Putting off questions until exam time is an ill-advised study strategy. Students that work at a consistent pace throughout the term and make a consistent effort to understand material tend to achieve better results.

Method of Evaluation:

50% biweekly quizzes online via Sakai/OWL (Multiple Choice and Long Answer)

first quiz: Friday, Jan.22

20% Midterm Exam (TBD)

(Multiple Choice and Long Answer)

30% Final Exam (TBD)

(Multiple Choice and Long Answer)

All evaluations will be done using OWL or WebWorks. Each student will receive a unique quiz or exam. Tentatively we will not be using Proctor Track, although we may switch to Proctor Track if necessary.

Dates for evaluations are posted in the Course Calendar on Sakai/OWL.

Attendance: All material in the online lectures up to the end of the course can be considered testable. In addition, extra material covered in online lectures can be tested in quizzes and exams.

Addendum to all Applied Mathematics Course Outlines:

Statements concerning Online Etiquette

Some components of this course will involve online interactions. To ensure the best experience for both you and your classmates, please honour the following rules of etiquette:

- please “arrive” to class/tutorials on time
- please use your computer and/or laptop if possible (as opposed to a cell phone or tablet)
- ensure that you are in a private location to protect the confidentiality of discussions in the event that a class discussion deals with sensitive or personal material
- to minimize background noise, kindly mute your microphone for the entire class until you are invited to speak, unless directed otherwise
- In order to give us optimum bandwidth and web quality, please turn off your video camera for the entire class unless you are invited to speak
- please be prepared to turn your video camera off at the instructor’s request if the internet connection becomes unstable
- unless invited by your instructor, do **not** share your screen in the meeting

The course instructor/TA will act as moderator for the class and will deal with any questions from participants. To participate please consider the following:

- if you wish to speak, use the “raise hand” function and wait for the instructor to acknowledge you before beginning your comment or question
- remember to unmute your microphone and turn on your video camera before speaking
- self-identify when speaking.
- remember to mute your mic and turn off your video camera after speaking (unless directed otherwise)

General considerations of “netiquette”:

- Keep in mind the different cultural and linguistic backgrounds of the other students in the course.
- Be courteous toward the instructor, your colleagues, and authors whose work you are discussing.
- Be respectful of the diversity of viewpoints that you will encounter in the class and in your readings. The exchange of diverse ideas and opinions is part of the scholarly environment. “Flaming” is never appropriate.
- Be professional and scholarly in all online postings. Cite the ideas of others appropriately.

Note that disruptive behaviour of any type during online classes, including inappropriate use of the chat function, is unacceptable. Students found guilty of Zoom-bombing a class or of other serious online offences may be subject to disciplinary measures under the Code of Student Conduct.

Examination conflicts

A student with examinations having flexible submission times (e.g., where one or more examination is a take-home examination) cannot request alternative arrangements unless a conflict cannot be avoided by rescheduling writing the exam to a different time within the window specified by the instructor. This applies to direct conflicts as well as “heavy load” conflicts (e.g., three exams within a 23-hour period). The student should discuss any concerns about a potential conflict and/or request accommodation with their academic counselling unit prior to the deadline to drop a course without academic penalty.

In the case of online examinations, an “Examination Conflict Room,” which may be assigned when a student is scheduled to write two proctored exams concurrently, will be interpreted as arrangements for continuous proctoring.

Missing Quizzes or Exams: Missing an exam or quiz will result a grade of zero for that exam or quiz except when permission is granted from Engineering Student Services. If permission is granted, a prorated mark will be assigned. There will be no make up for quizzes.

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or supporting documentation to the Academic Counselling Office of your home faculty as soon as possible. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at scibmsac@uwo.ca.

For further information, please consult the university’s medical illness policy at http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

If you miss the Final Exam, please contact your faculty’s Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (see http://www.registrar.uwo.ca/examinations/exam_schedule.html)

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Student Accessibility Services (SAS) at 661-2147 if you have any questions regarding accommodations.

The policy on Accommodation for Students with Disabilities can be found here: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_disabilities.pdf

The policy on Accommodation for Religious Holidays can be found here: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western (http://www.health.uwo.ca/mental_health) for a complete list of options about how to obtain help. Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.

Use of Recordings:

Some remote learning sessions for this course could be recorded. The data captured during these recordings may include your image, voice recordings, chat logs and personal identifiers (name displayed on the screen). The recordings will be used for educational purposes related to this course, including evaluations. The recordings may be disclosed to other individuals under special circumstances. Please contact the instructor if you have any concerns related to session recordings. Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor.

If Proctortrack is used (as decided by the instructors):

By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide personal information (including some biometric data) and the session will be recorded. More information about this remote proctoring service is available in the Online Proctoring Guidelines at the following link:

<https://www.uwo.ca/univsec/pdf/onlineproctorguidelines.pdf>.

Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. Information about the technical requirements are available at the following link:

<https://www.proctortrack.com/tech-requirements/>.