



MATH*2080 Elements of Calculus II – Winter 2016

Department of Mathematics and Statistics

University of Guelph, Guelph Campus

Course Description

This course will expand on integration techniques, and introduce students to difference and differential equations, vectors, vector functions, and elements of calculus of two or more variables such as partial differentiation and multiple integration. The course will emphasize content relevant to analyzing biological systems, and methods will be illustrated by application to biological systems.

- Prerequisite(s): 1 of IPS*1500, MATH*1000, MATH*1080, MATH*1200
- Restriction(s): IPS*1510, MATH*1210

Required Study Materials

- OPTIONAL: *Calculus for Biology and Medicine, 3rd. Edition* Author: Claudia Neuhauser, Publisher: Pearson Publishing, © 2011. (Available on reserve in the library).
- CourseLink at: <https://courselink.uoguelph.ca/shared/login/login.html>

Lecture Section(s)

MWF 09:30-10:20 in ROZH 103

Lab Section(s)

F 16:30-17:20 in RICH 2520

Lecturer & Lab TAs

S. Gismondi (Lecturer)

Ram Sigdel (Lab TA)

Erin Wild (Lab TA)

Meghan Timmins (Lab TA)

Mariane Wilcox (Lab TA)

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Office Hours

MW 10:30-11:30 in either
ROZH foyer or MACN 510

TBA

TBA

TBA

TBA

Lecture & Lab Procedures

There are **three lectures every week**. Attend all lectures. We will take notes in class e.g. new material, techniques, theorems and examples. Old notes are available on CourseLink. Reading assignments and homework is assigned in class, not to be handed in. Note that I take problems from these readings and homework for use on the take-home final examination. There is **one lab every week**. Attend all labs. The lab is designed as a concentrated help session re: assignments. Four TAs are available for help. Common problems are usually addressed to the entire class.

Assessment & Procedures

Assignments (5) @ 15% each: *There are five written take-home assignments. Each assignment normally accounts for 15% of your final grade. You have two weeks to complete an assignment.*

Note: Some students like to copy their assignment before they submit it. I think this is a great idea!

- **Assignment 1, Available Friday January 15 on CourseLink. Due in class January 29.**
- **Assignment 2, Available Friday January 29 on CourseLink. Due in class February 12.**
- **Assignment 3, Available Friday February 12 on CourseLink. Due in class March 4.**
- **Assignment 4, Available Friday March 4 on CourseLink. Due in class March 18.**
- **Assignment 5, Available Friday March 18 on CourseLink. Due in class April 1.**

How Marked Assignments are Returned & Posted Solutions/Marking Scheme: No later than one week (normally) after an assignment, your grade is posted to your account on CourseLink. Assignments are returned to a set of wooden orange cabinets labelled MATH*2080 located outside the learning centre (300A of the McLaughlin Library). Please respect the original order/location of previously filed assignment papers.

- If you cannot find your assignment, then PLEASE LOOK IN ALL OF THE BOXES. Often people are in a rush and they may not re-file papers as originally filed.
- If you cannot find your assignment after searching all boxes, check CourseLink to confirm that a grade was indeed assigned before contacting your instructor.
- Solutions and marking schemes for all assignments are posted to CourseLink.

How Marked Assignments Can Be Re-graded: Please submit re-grade requests as soon as possible re: peace of mind and record keeping.

- If AFTER HAVING REVIEWED the grading scheme posted on CourseLink, you disagree with the way in which you were graded then please indicate the error - in writing, e.g. attach a small note on your assignment. In addition, please attach a copy of the grading scheme and clearly indicate where the grading error has occurred. Simply bring it to my attention. I will either decide 'on the spot' or take / review your paper later. After reviewing your request, a decision is made and the assignment is returned to the orange boxes in the library
- If the grade posted for your assignment is wrong or missing, then please indicate the error - in writing, e.g. write a small note on your assignment. Simply bring it to my attention.

Final Examination IS a “Final Take-Home Assignment” (1) @ 25%: *There is one final take-home assignment.* The final take-home assignment normally accounts for 25% of your final grade. The Final Take-Home Assignment is not returned to you. Note: Some students like to copy their assignment before they submit it. I think this is a great idea!

- **Distribution dates & due dates – TBA.**

Accessibility & SAS Students

The services of Student Accessibility Services (SAS) are available to students registered at the University of Guelph who have a permanent disability. This includes full-time or part-time, graduate and undergraduate students. The SAS also has a number of services available to students with temporary disabilities. Students must provide appropriate documentation from a medical or mental health professional to verify their disability. You must identify yourself as early as possible and no later than the 40th class day in the semester in which you are requesting accommodation and/or support. Failure to do so will mean that accommodation cannot be guaranteed for that semester. See <https://www.uoguelph.ca/csd/current-students> for complete details and procedures.

All students registered with SAS 1) are accommodated as per SAS recommendations, AND, 2) write/take their quizzes, term tests and their final examination via SAS. This means contact SAS ASAP – bring this course outline with you when you meet. Then you can be accommodated.

HELP!!! Free HELP from the Mathematics & Statistics Department

The Mathematics and Statistics Department operates a drop-in learning centre. This is YOUR RESOURCE for support with lab and course-work related problems. The TA's ARE FRIENDLY. They KNOW MATH*1080 material, and they are usually AVAILABLE TO HELP YOU 6 hours a day! Our learning centre is located on the third floor of the McLaughlin Library. During the 12-week scheduled class times, scheduled 'open times' are:

Days	Monday	Tuesday	Wednesday	Thursday	Friday
Times	09:30-15:30	10:00 - 16:00	09:30-15:30	10:00- 16:00	09:30-14:30

Steve's Course Policies & Miscellaneous Comments

Group Work

Assignments 1 – 5: Group work IS EXPECTED!! However, EVERY STUDENT MUST SUBMIT ORIGINAL WRITTEN WORK in the form of five assignments completed as semester work, submitted for grading through-out the semester, AND, according to a template posted on CourseLink.

Final Take-Home Assignment: There is no group work allowed. No talking, no sharing, no texting, email etc., video communications, pictures of solutions, copying of solutions, no telepathy, no smoke signals, no social media groups or sharing in the group, no secret meetings, no utterances of even a plan to share your work. COMPLETE THE FINAL TAKE-HOME ASSIGNMENT INDEPENDENTLY, WRITE IT UP INDEPENDENTLY and SUBMIT IT INDEPENDENTLY.

Electronic Recording of Lectures, Labs and Course Related Communications

Electronic recording of classes is expressly forbidden without my consent. 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.

“Not Withstanding” Clause a.k.a. About Unforeseen Fateful Events

When fate intervenes e.g. snow days, emergencies, work disruptions & other fateful events, and the conduct of the course falls outside of my control in a way that lectures, labs & assignments etc. might need to be cancelled/rescheduled, then please refer to CourseLink for further instruction *which may now deviate in any manner whatsoever from published course outlines, past cases and any other commitments previously made by me with or without knowledge of these unforeseen fateful events.*



➔ ***IN THE EXTREMELY UNLIKELY EVENT THAT ALL COMMUNICATIONS FAIL (strike/lock-out, pandemic, war, terrorism etc., AND EVEN CourseLink is unavailable):***

1. ***DURING THE FIRST TWO WEEKS, try to keep to our schedule (last page) independently however you can manage i.e. try and stay current so that it'll be easier when we finally resume from where we left off.***
2. ***BEYOND TWO WEEKS, it's a disaster. We'll worry about it later, if ever.***

Miscellaneous Comments

Personal Tutors: If you would like to find/work with a private tutor, then perhaps work with all of the TA's in the learning centre, and if you find that you get along especially well with a particular TA, why not ask them if they would tutor privately? You might also like to try these links.

- <https://www.uoguelph.ca/tutoring/welcome-tutoring-guelph-tag>
- <http://www.kijiji.ca/b-tutor-language-lessons/guelph/math-tutor-guelph/k0c16911700242>
- <https://helphub.me/networks/university-of-guelph>

Sharing Course Materials: UNIVERSITY OF GUELPH BASED TEACHING

ORGANIZATIONS: We neither endorse nor support these groups, e.g. Prep 101. They exist separate from, and independent of the University. They may or may not be useful, credible, helpful etc., they are in no way associated with the University, and they may or may not act in your best interests. We do not provide materials, hints, notes, sample tests, examinations, text books, course outlines, assignments etc. to these groups, no matter what you may be shown and/or told. Whatever materials these groups develop, promote, claim as relevant to the course etc., these materials are in no way sanctioned by us and/or the University. While these groups can be helpful to you, they are not accountable to the University, unlike University of Guelph instructors that are accountable for their decisions - a benefit and security that you surrender in dealing with these groups. Do not copy / provide any course materials to these organizations i.e. copyright issues to be resolved. Contact me directly if you are asked to share your materials with these groups.

University Policies, Course Evaluation & Drop Date

Academic Accommodation of Religious Obligations: If you are unable to complete a course requirement due to religious obligations, please let the instructor know within the first two weeks of class. See the academic calendar for more information:

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

Academic Consideration: 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>

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:

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

Accessibility: The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact the Student Accessibilities Services (SAS) as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email csd@uoguelph.ca or see the website: <https://www.uoguelph.ca/csd/current-students>

Course Evaluation Information: Please see <http://www.mathstat.uoguelph.ca/files/TeachevaluationformF10.pdf>

Drop Date: The last date to drop one-semester courses, without academic penalty, is **Friday, March 11, 2016**. For regulations and procedures for Dropping Courses, see the Academic Calendar: <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

MATH2080W16 “Get to work!!” Schedule

Lecture & Reading / Reference Schedule Note: <i>Calculus for Biology and Medicine</i> is on reserve in our library.	Assignment Schedule
Week 1: Jan. 11 - 15 • Lectures as regularly scheduled. Optional Text 7.1 – 7.3	
Week 2: Jan. 18 - 22 • Lectures as regularly scheduled. Optional Text 7.3, 5.5, 7.4	
Week 3: Jan. 25 - 29 • Lectures as regularly scheduled. Optional Text 7.4, 10.7	<u>Assignment 1 Due IN CLASS January 29 (15%).</u>
Week 4: Feb. 1 - 5 • Lectures as regularly scheduled. Optional Text 10.7 & mostly our class notes	
Week 5: Feb. 8 - 12 • Lectures as regularly scheduled. Optional Text 8.1 – 8.3	<u>Assignment 2 Due IN CLASS February 12 (15%).</u>
** READING WEEK, February 15-19. NO CLASSES. **	
Week 6: Feb. 22 - 26 • Lectures as regularly scheduled. Optional Text Continuing with 8.1 – 8.3 (possibly 11.4.1)	
Week 7: Feb. 29 - Mar. 4 • Lectures as regularly scheduled. Higher dimensional integrals, area and volume.	<u>Assignment 3 Due IN CLASS March 4 (15%).</u>
Week 8: Mar. 7 - Mar. 11 • Lectures as regularly scheduled. Double integrals over general regions.	
Week 9: Mar. 14 - 18 • Lectures as regularly scheduled. Double integrals and polar coordinates.	<u>Assignment 4 Due IN CLASS March 18 (13%).</u>
Week 10: Mar. 21 – 24 • * HOLIDAY * Friday March 25. NO CLASS & NO LAB. • Lectures as regularly scheduled on Monday & Wednesday. Optional Text 10.1 – 10.4	
Week 11: Mar. 28 – Apr. 1 • Lectures as regularly scheduled. Optional Text. Continuing 10.1 – 10.4	<u>Assignment 5 Due IN CLASS April 1 (15%).</u>
Week 12: Apr. 4 - 8 • Lectures as regularly scheduled. Continuing 10.1 – 10.4	<u>Final Take-Home Assignment Distribution & due dates: TBA.</u>