Tentative Syllabus: Math 1151 Calculus, Autumn 2022

Course Structure:

Lectures:

On Mondays, Wednesdays, and Fridays you will attend lectures, in which new topics are presented and fundamental skills are reviewed. Lecture is a time for us to develop and discuss the big-picture ideas and to start solving problems.

Recitations:

On Tuesdays and Thursdays, you will attend recitations covering the previous lessons. This is where you can ask questions about the course material you have learned and attempt more involved questions on that material.

Instructor:

Your instructors will introduce themselves and post their contact information and office hours details in Carmen. Office hours are times when you can meet with your professor or TA to discuss any questions or concerns you have about the course material or related items. This includes asking for clarifications, questions about a particular problem, and following up on course material and assignments.

Diversity:

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

Working with Others:

We encourage you to work together on Written Homework sets and Online Homework sets. You are free to ask for help, but you are responsible for understanding the material. Exams will ask you for more than just calculations, so be sure that you understand the answers and explanations in your responses. On Tests, Midterms, and Homework Quizzes you are to work alone to demonstrate your understanding.

MSLC Free Tutoring:

The Math Stat Learning Center (MSLC) offers free drop-in tutoring. Everyone can benefit from drop-in tutoring. During the day, the MSLC's in-person tutor rooms are a great place to work on math homework or study for exams. Students often use the space like a library with the added benefit of a tutor or peers nearby. MSLC tutors focus not only on helping you solve the problem at hand, but also work with you to build your understanding and knowledge to prepare you for exams. For information, please go to: https://mslc.osu.edu/courses/math/1151.

Course Goals:

In this course we will work to master the essentials of differential calculus and its applications, to develop the computational and problem-solving skills for that purpose, and to introduce the integral calculus. This includes:

1. Understanding the notions of limit and continuity.
2. Computing the derivative of any elementary function (polynomials, exponentials, logarithmic, trigonometric, …, or combinations of such).
3. Determining maxima and minima of a function.
4. Understanding the definition of the definite integral.
5. Applying these techniques to real-life situations.

Course Learning Objectives:

Upon successful completion of the course, students will be able to:

1. Demonstrate a thorough understanding of calculus concepts both graphically and analytically.
2. Demonstrate a conceptual understanding and computational proficiency of single variable differential calculus.
3. Demonstrate relevant applications of mathematical principles by modelling problems arising in a variety of disciplines using calculus and analyzing their solutions.
4. Clearly explain their reasoning both verbally and in writing.
5. Develop patience and persistence when solving problems.
6. Become confident in using mathematics to analyze and solve problems both in class and in real-life situations.

Course Materials:

This course uses Ximera for our textbook and online homework system. The textbook is also available as a free PDF file but working through the online textbook will constitute a portion of your grade in the course. In the Ximera assignments (the Online Textbook sections and the Online Homework), you have as many tries as you need to get these answers correct and there is no penalty for earlier incorrect answers. ***Each interaction with Ximera can trigger an update to the Carmen gradebook. It is not finalized until the due date/time. Your score will be updated as you continue to answer more questions. Submissions after that due date/time are not accepted for credit.***

Course Management System:

In Carmen, you'll find links to the Ximera assignments and course announcements, so you should check there regularly. Only access those assignments using the links provided in the weekly modules or in the Assignments tab in the Carmen course.

You are expected to check Carmen at least **once every 24 hours on weekdays**. We know that you have commitments outside this class, but to be successful in this course you should plan to work on it every school day. There are frequent deadlines (given on the Calendar), and you are responsible for keeping track of them. Try to work ahead of those deadlines whenever possible to prevent last-minute issues.

Gradescope:

Midterms and Written Homework assignments will be collected and returned through Gradescope, using either the mobile app or website. A link to Gradescope is posted in Carmen. In the Gradescope Info module in Carmen, you will also find details on how to upload your work to Gradescope and links to our formatting policy. This policy is in place to allow us to grade the assessments and have them returned in time to help

you study. Emailing a Midterm or Written Homework file to your lecturer or TA is not a valid means of submission. They must be uploaded to Gradescope to be graded and associated to your account. The Gradescope Info module in Carmen has additional information.

Grades:

We use an additive grading system. That means each item starts at a score of 0, and you gain points by demonstrating your understanding. Each assessment (exam question, HW question, HW quiz question, WH question, …) is aligned with the learning objectives listed at the beginning of each section of the textbook. Grades are indications of how well those learning objectives were demonstrated across the assessments.

We use a percentage-based scale to determine your overall course grades, weighted as follows.

Assignment or category	Percent of Final Grade
Final Exam	14%
Midterms (5)	28% (lowest one dropped)
Written Homework (6)	24%
Computational Test	5%
Homework Quizzes	5% (lowest two dropped)
Online Homework	12% (lowest two dropped)
Online Textbook	12% (lowest two dropped)
Total	100%

Grading Scale:

A	[93, 100]	B-	[80, 83)	D+	[67, 70)
A-	[90, 93)	C+	[77, 80)	D	[60, 67)
B+	[87, 90)	C	[73, 77)	E	Below 60
B	[83, 87)	C-	[70, 73)		

These grading cutoffs will not be raised. Individual assignments, including exams, **will not be curved**. The final grading scheme could be adjusted at the **end** of the semester, but this is rare. Grades are not rounded. In such cases, class participation and effort will be important factors in decisions about borderline grades.

Midterms (exams):

Midterms are a place for you to demonstrate what you understand about the learning objectives. Work which does not demonstrate an understanding of the appropriate learning objectives is not considered justification. *Answers without written justification do not demonstrate understanding of the corresponding*

learning objectives and will receive no credit. **Calculators/phones/tablets/iPads/other devices are not allowed on exams and tests**.

Math 1151 has **in-person common evening exams** (given outside of the regular class time). Exams will typically consist of short answer and free-response problems. ***Bring a phone/tablet/iPad with the Gradescope mobile app which you can use to scan and upload your exam file.***

Students who have a regularly scheduled course (or a work schedule) which conflicts with the evening exam times must attend their regularly scheduled class. They will need to contact their lecturer beforehand for permission to take the makeup exams, which are scheduled for the following mornings.

The midterm exam sessions are scheduled for 55 minutes, 6:30PM-7:25PM. The exam itself takes the first 40 minutes of this session. **At 7:10PM the exam time will be called. At that point, all writing utensils are put away and you will have 15 minutes to upload your file to Gradescope through the Gradescope app and hand your paper exam to your TA**. (See the Gradescope Info module in Carmen for our Formatting and Late Upload policies.) <mark>Your lowest midterm grade will be dropped.</mark> The purpose of this dropped midterm is to help mitigate unforeseen technical issues that can arise during the exam time.

Exam	Sections Covered	Date and time
Midterm 1	UF – CATIVT	Tuesday, September 13, 6:30 – 7:25PM
Midterm 2	AAOL – CR	Tuesday, September 27, 6:30 – 7:25PM
Midterm 3	HODAG – ARR	Tuesday, October 18, 6:30 – 7:25PM
Midterm 4	MAM – LA	Tuesday, November 8, 6:30 – 7:25PM
Midterm 5	O – FFTOC	Tuesday, November 29, 6:30 – 7:25PM
Final Exam	Cumulative	Monday, December 12, 6:00-7:45PM

Make-up Midterm Policy:

Unless you have a schedule conflict, everyone is expected to take the exams at the scheduled times. Excuses due to illness should be accompanied by a physician's note. Makeup exams for other reasons will only be given in extraordinary circumstances. Students should contact their instructor as soon as possible in the event a makeup is needed and should always contact the instructor before the exam is given. Documentation of the emergency is required for the make-up exam to be considered for credit. Any other items submitted after their due date/time will not be accepted for credit.

Written Homework:

There will be six written homework group assignments throughout the semester. These written assignments are your opportunity to practice and receive feedback on how you write solutions and explanations to problems before the exams. You will be able to work in groups of up to three students. You are free to make your own groups, but each group member must have the same recitation TA. Your group will submit a single file to Gradescope, selecting all group members during the upload. **If the uploader does not select the group members when they upload the file, the missing group members will not receive**

credit since there will be no assignment associated to them in Gradescope. Late assignments will not be accepted for credit.

EXPLAIN:

Some questions on written homeworks and exams will ask you to **EXPLAIN** your answer. (These will be indicated by the word "**EXPLAIN**" in bold capital letters.) For these questions, your explanation should include the answer to the question, the theorem/test that indicates that this answer is correct, and the relevant data necessary to apply that theorem/test.

A template for such an explanation could look like this: "_____ by _____ since _____" where you would fill the first blank with the answer to the question being asked, the second blank by the theorem/test used, and the third blank by the data needed to apply that theorem/test.

For instance, a response of "$\lim_{x \to 2} f(x) = 3$" indicates an answer, but does not give a complete explanation. However, "$\lim_{x \to 2} f(x) = 3$ **by** the Squeeze Theorem **since** $g(x) \le f(x) \le h(x)$ and $\lim_{x \to 2} g(x) = 3$ and $\lim_{x \to 2} h(x) = 3$" gives an answer, indicates the theorem used, and the relevant data necessary to apply that theorem.

Credit on these questions will be based on the content of the explanation. For an **EXPLAIN** question worth 5 points of credit:

- Citing the appropriate theorem/test will be worth 2 points.
- Including the relevant data necessary to apply that theorem/test will be worth 2 points.
- The answer given matches the indicated appropriate theorem/test applied to the indicated relevant data (even if the answer is not the "correct answer") will be worth 1 point.

This means that a final answer, even a correct final answer, on an **EXPLAIN** question without including the supporting responses is worth no credit.

Online Textbook:

We use an interactive textbook on Ximera. The readings are usually due by 11:59PM the day after the lecture session for that section. Make sure you are using the reading assignment link from inside the weekly Carmen module to access the Online Textbook sections. Using links to the section from other locations will not associate a grade back to the Carmen gradebook for the assignment. The Carmen Gradebook drops your lowest two Online Textbook scores. Late assignments will not be accepted for credit.

Online Homework:

The online homework assignments are also on Ximera. These assignments will be due by 11:59PM on the date it is due (see the calendar for these dates). Each assignment will cover the new material and may also contain questions covering earlier material. This is to promote a continued review and mastery of all course material. The Carmen Gradebook drops your lowest two Online Homework scores. Late assignments will not be accepted for credit.

Homework Quizzes:

The homework quizzes assignments are taken as timed Quizzes in Carmen. These will consist of (usually) two problems related to the online homework. You will have 10 minutes to answer the questions. They are due the same time as the corresponding homework sets. **You have one attempt for each of these quizzes**.

Late assignments will not be accepted for credit.

Dropped Assignments:

As noted above, your lowest midterm score, lowest two online textbook scores, lowest two online homework scores, and lowest two homework quiz scores will be dropped from your grade at the end of the semester. The purpose of these dropped scores is to help mitigate unforeseen technical issues that can arise. The overall grade you see in the Carmen gradebook already drops those lowest scores.

Computational Test:

This will be our assessment on taking derivatives using shortcut methods. It is a timed closed book/closed note assessment using the [Proctorio](#) browser extension. Proctorio requires a computer (not a tablet) with the Chrome browser and a webcam. (This is the only time we use Proctorio in this class.) You should have blank paper and a pencil/pen to write with. Writing on an iPad/Tablet/other device is not allowed. Calculators and headphones are not permitted during the Computational Test. Late assignments will not be accepted for credit.

Course Prerequisites:

A grade of C- or above in 1150, or Course Code L on the Math Placement Test.

GE Information:

This course sequence can be used, depending on your degree program, to satisfy a GEN/GEL course requirement.

GEN:
 Goals:

1. Successful students will be able to apply quantitative or logical reasoning and/or mathematical/statistical methods to understand and solve problems and will be able to communicate their results.

Expected Learning Outcomes:

Successful students are able to:
1.1. Use logical, mathematical, and/or statistical concepts and methods to represent real-world situations.
1.2. Use diverse logical, mathematical, and/or statistical approaches, technologies, and tools to communicate about data symbolically, visually, numerically, and verbally.
1.3 Draw appropriate inferences from data based on quantitative analysis and/or logical reasoning.
1.4. Make and evaluate important assumptions in estimation, modeling, and logical augmentation and/or data analysis.
1.5. Evaluate social and ethical implications in mathematical and quantitative reasoning.

GEL:
 Goals:

Students develop skills in quantitative literacy and logical reasoning, including the ability to identify valid arguments, and use mathematical models.

Expected Learning Outcomes:
    Mathematical or Logical Analysis
    1. Students comprehend mathematical concepts and methods adequate to construct valid arguments.
    2. Students comprehend mathematical concepts and methods adequate to understand inductive and deductive reasoning
    3. Students comprehend mathematical concepts and methods adequate to increase their general problem solving skills.

Other Course Policies

Technology Problems:

It is inevitable that technology will sometimes malfunction. Students are responsible for beginning assignments early enough to have time to ask for help with technical issues. Although reasonable accommodations will be made for students when there are technical issues, the student will be responsible for documenting errors and seeking help in a timely fashion from both technical support and the instructor as needed. No accommodations will be made for students who do not work actively to resolve their technical problems in a timely fashion.

Contingency Planning:

We are aware that current health issues may impact our course. If you are unable to attend class due to a positive diagnosis, symptoms, or a required quarantine following contact tracing: Do not attend any in-person lectures or recitations. If symptoms prevent you from doing so, contact your instructors as soon as you can.

Health and Safety:

All students, faculty, and staff are required to comply with and stay up to date on all university safety and health guidance (https://safeandhealthy.osu.edu), which includes following university mask policies and maintaining a safe physical distance at all times. Non-compliance will be warned first, and disciplinary actions will be taken for repeated offences.

Mental Health:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting https://ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at https://suicidepreventionlifeline.org.

Accommodations for accessibility

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process (http://slds.osu.edu/covid-19-info/covid-related-accommodation-requests/), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Academic Misconduct:

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

For additional information, see the Code of Student Conduct https://studentconduct.osu.edu/.