**Syllabus Fall 2023**

The University of Iowa  
The College of Liberal Arts and Sciences  
Department of Mathematics  
**MATH:1550 Engineering Math I: Single Variable Calculus**  

Section 00A: 10:30-11:20 am MWF in 100 PH  
Section 00B: 12:30-1:20 pm MWF in SHAM LIB

**Instructor:** Dr. Olga Sokratova  
Office location: 225K MLH  
Student drop-in hours: MW 2:30 pm - 3:20, F 9:30-10:20 and by appointment  
Phone: 319-335-3873  
E-mail: olga-sokratova@uiowa.edu

<table>
<thead>
<tr>
<th>Section</th>
<th>Time</th>
<th>Location</th>
<th>TA</th>
<th>Email</th>
<th>Office Hours</th>
<th>Math Lab Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0071</td>
<td>5:00-5:50 pm</td>
<td>TTh in 214 MLH</td>
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<tr>
<td>0082</td>
<td>8:30-9:20 am</td>
<td>TTh in 205 MLH</td>
<td>Ashwin Ayilliath Kutteri</td>
<td><a href="mailto:ashwin-ayilliathkutteri@uiowa.edu">ashwin-ayilliathkutteri@uiowa.edu</a></td>
<td>Tuesday, 11:30 – 12:30 PM at 261 MLH</td>
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<tr>
<td>0091</td>
<td>9:30-10:20 am</td>
<td>TTh in 213 MLH</td>
<td>Fatou Kineh Ndow</td>
<td><a href="mailto:fatou-ndow@uiowa.edu">fatou-ndow@uiowa.edu</a></td>
<td>Tuesday, 10:30AM-11:30AM, 1F MLH</td>
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<tr>
<td>0111</td>
<td>5:00-5:50 pm</td>
<td>TTh in 210 MLH</td>
<td>Ashwin Ayilliath Kutteri</td>
<td><a href="mailto:ashwin-ayilliathkutteri@uiowa.edu">ashwin-ayilliathkutteri@uiowa.edu</a></td>
<td>Tuesday, 11:30 – 12:30 PM at 261 MLH</td>
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<tr>
<td>0112</td>
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<td>TTh in 210 MLH</td>
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<tr>
<td>0131</td>
<td>12:30-1:20 pm</td>
<td>TTh in 205 MLH</td>
<td>Joseph Baroni</td>
<td><a href="mailto:joseph-baroni@uiowa.edu">joseph-baroni@uiowa.edu</a></td>
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<tr>
<td>0132</td>
<td>12:30-1:20 pm</td>
<td>TTh in 113 MLH</td>
<td>Ian Ramsey</td>
<td><a href="mailto:ian-ramsey@uiowa.edu">ian-ramsey@uiowa.edu</a></td>
<td>Thursday, 3:00-4:00pm at 261 MH</td>
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<tr>
<td>0134</td>
<td>2:00-2:50 pm</td>
<td>TTh in 205 MLH</td>
<td>Ian Ramsey</td>
<td><a href="mailto:ian-ramsey@uiowa.edu">ian-ramsey@uiowa.edu</a></td>
<td>Thursday, 3:00-4:00pm at 261 MH</td>
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<tr>
<td>0135</td>
<td>5:00-5:50 pm</td>
<td>TTh in 205 MLH</td>
<td>Joseph Baroni</td>
<td><a href="mailto:joseph-baroni@uiowa.edu">joseph-baroni@uiowa.edu</a></td>
<td>Tuesday, 10:30AM-11:30AM, 1F MLH</td>
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Course Home
The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the add and drop deadlines, the “second-grade only” option (SGO), academic misconduct policies, and other undergraduate policies and procedures. Other UI colleges may have different policies.

Description of Course:
This is the first semester of a five-semester mathematics sequence for engineering students, but not restricted to engineering students. This course is a redesigned version of a traditional first-semester calculus course with a little more emphasis on techniques of integration.

Objectives and Goals of the Course
Students who master the core course concepts will be able to:
• use limits to convert approximate solutions to a problem to an exact solution;
• recognize kinds of mathematical problems that can be solved using differentiation and solve them (rates of change, optimization, linear approximation);
• recognize kinds of mathematical problems that can be solved using integration and solve them (finding areas and volumes, cumulative total from a variable rate);
• apply calculus concepts to data given by formulas (in any notation), and also in graphs, tables, and words.
In the bigger picture, this course will help you develop mathematical reasoning skills beyond symbol manipulation. A successful student will also develop professional skills such as the ability to read and understand technical material independently.

Approved GE: Quantitative or Formal Reasoning

Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1005 with a minimum grade of C-) or MPT Level 3 score of 9 or higher or ALEKS score of 75 or higher or (MATH:1380 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or (MATH:1010 with a minimum grade of C- and ALEKS score of 55 or higher) or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-)

Materials:

• Top Hat Classroom Pro (1 Term) Required
  ISBN: 1218202000001
  Author: Top Hat
  Publisher: Top Hat ©2020
  Approximately $15.00 will be billed to your U-Bill

• MyLab Math With Pearson Etext -- 18-week Access Card -- For Thomas' Calculus: Early Transcendentals Required
  ISBN: 9780137559794
  Author: Joel Hass
  Publisher: Pearson ©2022
  Approximately $62.99 will be billed to your U-Bill

You may access the textbook and the online homework system on ICON.
Material to be covered from the Text: Most of Chapters 1 through 5, Sections 6.5, 6.6, 7.1, and 8.1 through 8.4.

ICON: Class information, e-text, lecture notes, homework assignments, and grades will be posted on ICON. I recommend you check it daily.

Course Structure: This course meets in lecture three days per week and in a discussion section two days per week. Our goal is to use active learning techniques to help you master the material. During the lecture periods, we will be discussing new material and exploring examples. In addition, you will be answering questions using Top Hat, a classroom response system (sometimes called “clickers”), that will help you assess your learning immediately. During discussion sections, you will be working together with your classmates to complete worksheets and clarify important points made during the previous one or two lecture periods. The lectures and discussion sections are designed to complement each other. Therefore, it is expected that you attend and participate fully in both.

Discussion Sections: Each discussion section is led by a teaching assistant (TA) and meets two times per week on Tuesdays and Thursdays. You should be enrolled in one and only one discussion section. Attendance in discussion sections is expected, and you must be present in discussion sections in order to take quizzes. Discussion sections are a good opportunity for you to ask questions in a smaller class setting and are designed to help you practice the material discussed in lectures. Changes in discussion sections can be made through MyUI during the first week of classes. Any section changes after the first week of classes must be approved by Dr. Sokratova. This way, we can maintain an equal balance in enrollment in discussion sections.

Role of Teaching Assistants: Your teaching assistant (TA) will lead your discussion sections and will be your first point of contact for most course questions. Your TA will hold weekly office hours and will be available for you to ask questions about the homework or go over quizzes and exams. You can visit your TA without an appointment during office hours although your TA may ask you to reserve a time slot. TAs will also work several hours in the Math Tutorial Lab, and you are welcome to drop in there without an appointment too. Office hours and times in the Math Tutorial Lab will be announced in your discussion section.

Grading procedures: The final grade will be based on the homework, midterm test, attendance, and the final examination as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
</tr>
<tr>
<td>Exit Ticket</td>
<td>2%</td>
</tr>
<tr>
<td>Midterm Exam I</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm Exam II</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm Exam III</td>
<td>10%</td>
</tr>
<tr>
<td>Derivatives Proficiency</td>
<td>4%</td>
</tr>
<tr>
<td>Integrals Proficiency</td>
<td>4%</td>
</tr>
<tr>
<td>Top Hat</td>
<td>5%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

Grades will be assigned on a curve, which will be determined after the final examination. Minimum cutoffs for each course letter grade are listed below. You should not view this as a fixed, predetermined grade scale for determining final grades, but rather as a guaranteed minimum scale. Cutoffs may be lowered at the discretion of the instructor.
Note that A+ grade will only be given for exceptional performance.

**Required Technology**

1. Reliable Internet connection to complete your homework.
2. Access to The University of Iowa computer system and ICON.

**Tech Support:**

Go to [https://support.pearson.com/getsupport/s/contactsupport](https://support.pearson.com/getsupport/s/contactsupport) for 24/7 online MML support.

Go to ICON Help for more information on finding help with ICON.

University of Iowa Help Desk: 319-384-HELP (4357) its-helpdesk@uiowa.edu

**Pearson Student Office Hours:**

- **Monday**, Aug. 21: (9am – 12pm) W10 Auditorium Lounge, Tippie/Pappajohn Bus. Building
  - (1pm – 4pm) E233 CHEM Building
- **Tuesday**, Aug. 22: (9am – 3pm) Muhly Lounge, 1st floor MacLean Hall
  - (9am – 3pm) [https://pearson.zoom.us/my/lizgarcia](https://pearson.zoom.us/my/lizgarcia)
- **Wed.,** Aug. 23: (10am – 1pm) E233 CHEM Building
- **Thurs.,** Aug. 24: (10am – 3pm) [https://pearson.zoom.us/my/lizgarcia](https://pearson.zoom.us/my/lizgarcia)

**Homework:** Homework will be assigned online on MyMathLab. It will be normally due on Tuesday 11:59pm. The two lowest homework scores will be dropped at the end of the semester.

**Quizzes:** The quizzes will be given in discussions, usually on Thursdays. The two lowest quiz scores will be dropped at the end of the semester. Make-up quizzes will not be offered until your third missed quiz because the two lowest quiz scores are dropped. If you have already missed two quizzes, you will only be allowed to make up a quiz for an excused absence (illness, religious holidays, etc.); you must inform your TA BEFORE the quiz takes place (except in extreme cases), and arrangements to make up the quiz must be made within 24 hours.

**Exit ticket** is a small assignment at the end of your discussion on Tuesday, typically over the new material. Each assignment is worth 2 points. You’ll get 1 point just for taking the assignment. The two lowest quiz scores will be dropped at the end of the semester. If you missed two exit tickets, you will be allowed to make up the next exit ticket for an excused absence, however you will need to show your work for the worksheet in addition to the exit ticket.

**Examinations:**

There will be three 90-minute evening midterm exams and a cumulative final exam.

- **Midterm Exam I:**
  - Date: Thursday, September 21, time 6:30-8pm, Coverage: Chapters 1 and 2, sections 3.1-3.6.
- **Midterm Exam II:**
  - Date: Thursday, October 19, time 6:30-8pm, Coverage: 3.7-3.11, 4.1-4.5.
- **Midterm Exam III:**
  - Date: Thursday, November 16, time 6:30-8pm, Coverage: 4.8, 5.1-5.6, 6.5-6.6

**Final Exam:**

Date: TBA Coverage: comprehensive

All exams and quizzes are closed-book, closed-notes, no calculators.
Derivatives /Integral Proficiency: After we have covered related techniques, you will be asked to complete a proficiency assessment on derivatives and a proficiency assessment on integrals. The assessments will be given during a discussion section. You will be given several chances to retry the proficiency assessment. You will need to register in advance to do this. Details on this process will be given later in the semester.

**Tentative lecture schedule:**

<table>
<thead>
<tr>
<th>Week</th>
<th>Starting</th>
<th>Sections</th>
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</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Aug 21</td>
<td>Syllabus, 1.1, 1.2, 1.3, 1.5, 1.6</td>
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<tr>
<td>Week 2</td>
<td>Aug 28</td>
<td>2.1, 2.2, 2.5, 2.6</td>
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<tr>
<td>Week 3</td>
<td>Sep 04</td>
<td>3.1, 3.2, 3.3</td>
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<tr>
<td>Week 4</td>
<td>Sep 11</td>
<td>3.4, 3.5, 3.6</td>
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<tr>
<td>Week 5</td>
<td>Sep 18</td>
<td>3.7, Review, Exam, 3.8</td>
</tr>
<tr>
<td>Week 6</td>
<td>Sep 25</td>
<td>3.9, 3.10, 3.11</td>
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<tr>
<td>Week 7</td>
<td>Oct 02</td>
<td>4.1, 4.2, 4.3</td>
</tr>
<tr>
<td>Week 8</td>
<td>Oct 09</td>
<td>4.4, 4.5</td>
</tr>
<tr>
<td>Week 9</td>
<td>Oct 16</td>
<td>Review, Exam, 4.6</td>
</tr>
<tr>
<td>Week 10</td>
<td>Oct 23</td>
<td>4.8, 5.1, 5.2</td>
</tr>
<tr>
<td>Week 10</td>
<td>Oct 30</td>
<td>5.3, 5.4, 5.5</td>
</tr>
<tr>
<td>Week 11</td>
<td>Nov 06</td>
<td>5.6, 6.5</td>
</tr>
<tr>
<td>Week 12</td>
<td>Nov 13</td>
<td>6.6, Review, Exam 7.1</td>
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<tr>
<td>Week 13</td>
<td>Nov 20</td>
<td>Thanksgiving Break</td>
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<tr>
<td>Week 14</td>
<td>Nov 27</td>
<td>8.1, 8.2, 8.3</td>
</tr>
<tr>
<td>Week 15</td>
<td>Dec 04</td>
<td>8.4 Review</td>
</tr>
<tr>
<td>Week 16</td>
<td>Dec 11</td>
<td>Final exam</td>
</tr>
</tbody>
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The course plan may be modified during the semester. Such modifications will be announced in advance during class periods and on the course page; the student is responsible for keeping abreast of such changes.

**Course Policies:**

**Attendance:** You are required to attend all lectures and discussions. Attendance will be taken regularly. If you must miss a class, you are still responsible for the material discussed in class and for all the announcements made in class.

**Timely completion of assignments:** There will be 30% penalty for late homework assignments.

**Other Expectations of Student Performance:** Expect to spend at least 8 hours weekly outside of the classroom doing the assignments. More time may be needed to prepare for exams.

**Student Collaboration:** The homework for this course is designed to help you master your knowledge related to the topics covered during lecture. As such, you may work on the homework problems with others or use online resources. However, please be aware that to master the skills needed for this class, practice is required and that to do well on the final exam you will need to work many of these problems multiple times without help. Be sure to test your knowledge by doing much of the homework on your own.

**Make-up options for quizzes and exams**

As stated in CLAS webpage, university policy requires that students be permitted to make up examinations
missed because of illness, mandatory religious obligations, authorized University of Iowa activities, or unavoidable circumstances. An unavoidable circumstance is defined as an event beyond the student’s control and often involves a serious and unexpected hospitalization, a family tragedy, or a related incident. Such circumstances do not include attendance at a wedding, a family vacation, obligations related to work or other such matters.

The instructor of a student participating in an authorized University of Iowa activity must send a statement generally by email from the University of Iowa official in charge of the event before the absence occurs. This statement will include the specific date and time that the student will miss class. Activities related to employment, fraternities or sororities, or volunteer activities are not University of Iowa authorized activities that are considered for make-ups. Make-ups must be arranged as soon as possible and must be generally completed within one week of the missed quiz or exam.

Calculators
No calculators or other hand-held electronic devices are allowed on exams. Exams are written in such a way that a calculator is not necessary.

Academic Integrity
You are expected to work on your assignment without getting help from outside sources. The points will be taken off for any unjustified answer on an assignment.

https://clas.uiowa.edu/students/handbook/academic-fraud-honor-code).

Expected classroom behaviors
It is expected that you will behave with respect to other students in the class and to your instructor. In particular this means turning off (or silencing) your cell phone. You should not be sending text messages, browsing Internet, playing games, or listening to musing during class.

Expectations for assignments and examinations
The homework for this course is designed to help you master your knowledge related to the topics covered during lecture. As such, you may work on the homework problems with others or use online resources. However, please be aware that to master the skills needed for this course, practice is required and that to do well on the final exam you will need to work many of these problems multiple times without help. Be sure to test your knowledge by doing much of the homework on your own.

The University of Iowa Academic Calendar
Visit the University of Iowa Academic Calendar for the important dates such as last drop date, registration dates for the semester.

How to Succeed in MATH:1550

• Ask questions in class.
• Check your UI email regularly.
• Log into the course ICON page daily.
• Create a study schedule so that you don’t fall behind.
• Expect to spend at least 8 hours weekly outside of the classroom.
• Communicate with your instructors and visit during office hours.
• Visit Math Tutorial Lab (125 MLH, https://math.uiowa.edu/math-tutorial-lab).
• Visit Engineering Tutoring Center (3124 Seamans Center).

Resources for Students:

Math Tutorial Lab offers free tutorial services (in person and virtual). Participation is optional, but strongly recommended. It is located in 125 MLH and it is staffed by teaching assistants from the Department of Mathematics.

Engineering Tutorial Center: 3124 Seamans Center; http://www.engineering.uiowa.edu/current-students/academic-support/engineering-tutorial-center

Mental Health Resources and Student Support

Students are encouraged to be mindful of their mental health and seek help as a preventive measure or if feeling overwhelmed and/or struggling to meet course expectations. Students are encouraged to talk to their instructor for assistance with specific class-related concerns. For additional support and counseling, students are encouraged to contact University Counseling Service (UCS). Information about UCS, including resources and how to schedule an appointment, can be found at counseling.uiowa.edu. Find out more about UI mental health services at mentalhealth.uiowa.edu.

Student Care and Assistance provides assistance to University of Iowa students who are experiencing a variety of crisis and emergency situations, including but not limited to medical issues, family emergencies, unexpected challenges, and sourcing basic needs such as food and shelter. More information on the resources related to basic needs can be found at basicneeds.uiowa.edu/resources/. Students are encouraged to contact Student Care & Assistance in the Office of the Dean of Students (Room 135 IMU, dos-assistance@uiowa.edu, or 319-335-1162) for support and assistance with resources.

University Policies

Accommodations for Students with Disabilities
The University is committed to providing an educational experience that is accessible to all. If a student has a diagnosed disability or other disabling condition that may impact the student’s ability to complete the course requirements as stated in the syllabus, the student may seek accommodations through Student Disability Services (SDS). SDS is responsible for making Letters of Accommodation (LOA) available. The student must provide an LOA to the instructor as early in the semester as possible, but requests not made at least two weeks prior to the scheduled activity for which an accommodation is sought may not be accommodated. The LOA will specify what reasonable course accommodations the student is eligible for and those the instructor should provide. Additional information can be found on the SDS website.

Free Speech and Expression
Absences for Religious Holy Days
Classroom Expectations
Non-discrimination
Sexual Harassment/Misconduct and Supportive Measures