

The University of Iowa
The College of Liberal Arts and Sciences
Spring 2025

Title of Course: **MATH:1850:0BBB Calculus I**

Course meeting time and place:

MATH:1850:0BBB --- **MWF 9:30 – 10:20 AM in 110 MLH**

Department of Mathematics: <https://math.uiowa.edu/>

Course ICON site: To access the course site, log into [Iowa Courses Online \(ICON\)](#) using your Hawk ID and password.

Course Home

The College of Liberal Arts and Sciences (CLAS) is the home of this course, and CLAS governs the add and drop deadlines, academic misconduct policies, and other undergraduate policies and procedures. Other UI colleges may have different policies.

Instructor Contact Information

Professor Rodica Curtu, PhD

Office location: **225 F MLH**. Phone: **319-335-0744**.

E-mail: rodica-curtu@uiowa.edu

<https://homepage.divms.uiowa.edu/~rcurtu/>

Student Drop-in Hours: Mon & Wed 10:30 AM -12:00 PM (except Feb 10, Feb 26, and April 7)

Students are invited to drop by during these hours to discuss questions about the course material or concerns. I am also available by appointment if you are unable to attend my drop-in hours

Departmental Executive Officer (DEO):

Prof. Ryan Kinser, 14A MLH, ryan-kinser@uiowa.edu.

The DEO is responsible for supervising the delivery of courses in their department.

Course TAs

Abdul Shabeer Abdul Sattar, abdul-shabeer@uiowa.edu

Drop-in hours: Friday 10:30 am - 11:30 am (Office: B1L MLH)

- Math:1850:0B11 (TTh 8:30-9:20 AM in 221 MLH)
- Math:1850:0B12 (TTh 11:00-11:50 AM in 221 JH)

Description of Course

This is a standard first semester course in Calculus. The sequence MATH:1850 - MATH:1860 is one of the basic entry-level mathematics courses for students in the mathematical and physical sciences. Topics include fundamental concepts, limits, methods and techniques of differential calculus of a single variable (including power, product, quotient and chain rules; extreme values, graphing, optimization, implicit differentiation, related rates); definite and indefinite integrals,

substitution rule, Fundamental Theorem of Calculus; applications including areas, and volumes. The students should expect the material to be covered at two to three times the pace in high schools. Students are expected to attend class and read the textbook for comprehension. Usually, for every hour of lecture and discussion time, the students are expected to spend three hours studying outside the class. The Examinations will cover the material discussed in class as well as assigned material from the text that is not discussed in class.

Learning Objectives

The main goal of this class is to provide the mathematical background needed to familiarize students with several fundamental concepts in calculus such as limits, derivatives, and integrals. The course emphasizes both the theoretical aspects of these notions as well as a wide range of applications to other sciences including engineering and economics. The students completing this course will be able to apply these concepts to real life problems that often arise in the natural sciences (e.g., optimization problems, modeling of various phenomena in physics, biology, astronomy etc). The students will be prepared for the second semester of calculus. The course is designed to be a half-year course; it is not, in general, recommended that student plan to take MATH:1850 and not MATH:1860. This course is also the building block for several subsequent classes.

Academic Honesty and Misconduct

All students in CLAS courses are expected to abide by the [college's standards of academic honesty](#). Undergraduate academic misconduct must be reported by instructors to CLAS according to [these procedures](#). Graduate academic misconduct must be reported to the Graduate College according to Section F of the [Graduate College Manual](#).

Student collaboration is NOT permitted on exams and NOT permitted on quizzes.
Any attempt to collaborate during tests will result in a 0 score on that test.

Student Complaints

Students with a complaint about a grade or a related matter should first discuss the situation with the instructor and/or the course supervisor (if applicable), and finally with the DEO (Chair) of the department, school or program offering the course. Sometimes students will be referred to the department or program's Director of Undergraduate Studies (DUS) or Director of Graduate Studies (DGS).

Undergraduate students should contact [CLAS Undergraduate Programs](#) for support when the matter is not resolved at the previous level. Graduate students should contact the [CLAS Dean's Office](#) when additional support is needed.

Drop Deadline for this Course

You may drop an individual course before the drop deadline; after this deadline you will need collegiate approval. You can look up the drop deadline for this course [here](#). When you drop a course, a "W" will appear on your transcript. The mark of "W" is a neutral mark that does not affect your GPA. To discuss how dropping (or staying in) a course might affect your academic goals, please contact your Academic Advisor. Directions for adding or dropping a course and

other registration changes can be found on the [Registrar's website](#). Undergraduate students can find policies on dropping CLAS courses [here](#). Graduate students should adhere to the [academic deadlines](#) and policies set by the Graduate College.

Textbook/Materials

The required textbook(s) for this course are:

- Title: Single Variable Calculus, Early Transcendentals
- ISBN: 978-0-357-02226-9
- Author: James Stewart, Daniel Clegg & Saleem Watson
- Publisher: Cengage Learning
- Copyright Year: 2020 (edition 9)

The ICON Direct program will be used to provide required course materials via your ICON course site. Your U-Bill will be charged automatically after your course has started, unless you opt out prior to the last day for tuition and fee reduction [course deadline](#). Specific opt out information will be provided in the course syllabus and in the opt out tool.

Material to be covered

We will cover Chapters 1-6 of the textbook. Some sections will be omitted.

Chapter 1. (1- 5) Review pre-calc: basic properties of a list of functions that will be studied in this course including exponential, logarithmic and inverse functions. Review of increasing/decreasing functions; odd/even functions; domain of a function; equation of a line and equation of a circle; laws of exponents; laws of logarithms.

Chapter 2. (1-3, 5-8) Limits, one-side limits, infinite limits and limits to infinity. Vertical and horizontal asymptotes. Precise definition of limits and continuous functions. Using Intermediated Value Theorem to approximate roots. Tangent lines and definition of derivatives.

Chapter 3. (1-11) Differentiation. Product, quotient and chain rules. Implicit differentiation. Linear approximation. Related rates and exponential growth. Hyperbolic functions.

Chapter 4. (1-5, 7-9) Extreme values. Monotonicity, concavity and graphing of functions. Mean Value Theorem and L'Hospital's Rule. Optimization and Newton's method. Antiderivatives.

Chapter 5. (1-5) Riemann integrals and approximations of integrals by Riemann sums. Fundamental Theorem of Calculus and substitution rule. Indefinite integrals.

Chapter 6. (1-5) Areas and volumes of revolution. Work and average value of function if time allows.

Grading System and the Use of +/-

With **criterion-reference grading**, students receive grades based on the quality of their work in relation to the criteria defined by the instructor and by the rubrics or models specifying the qualities of each grade. The cut scores (e.g. 90 for A-) will never go up, but they may go down for some exams, and each exam will be treated separately. We will start with the following ranges:

A	B	C	D	F
A+ 98-100	B+ 87-90	C+ 76-79	D+ 61-64	F < 50
A 93-97	B 83-86	C 71-75	D 56-60	
A- 90-92	B- 80-82	C- 65-70	D- 50-55	

Course Grades

Final course grades will be assessed based on your performance in the following activities:

10% Top Hat participation/scores - for information about Top Hat, see insert on last page

20% Quizzes; 8 total (every week on Tuesday, starting with week 2); drop the lowest two scores

20% Exam 1 -- Friday March 7, 50-min, (week 7) in class → retake/makeup exam: Wed March 26

20% Exam 2 -- Friday April 18, 50-min, (week 12) in class → retake/makeup exam: Mon April 28

30% Final Exam (date, time, and place to be announced; during finals week)

- **Calculators:** You may not use a calculator during tests (and we encourage you not to use one while doing homework).
- **Top Hat:** Please be aware that to master the skills needed for this class, practice is required, and that to do well on quizzes and exams you will need to work many of these problems multiple times without help. Class participation (when you'll have the opportunity to practice, in class, a diverse set of problems) would be tracked through Top Hat.
- **Homework:** 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, be sure to test your knowledge by doing much of the homework on your own. Homework will neither be collected nor graded, but its solution will be posted weekly on ICON. Make sure you check your results for correctness. All other graded work for this class (quizzes and exams) must be completed individually and any form of cheating will be reported. Please read the student collaboration rules above.
- **Quizzes:** To ensure that students are completing the course readings and understanding the material, regular quizzes covering the topic from the homework "due on Saturday" (the previous week) will be administered every Tuesday (the following week), in class, during discussion section. The quizzes will be worth 10 points each.

Opportunity to improve your scores:

- You will be able to improve your scores for quizzes by taking a "review-quiz" several times during the semester; see the schedule below. If it is larger, the score from the review-quiz will replace the scores of the previous quizzes (as described below).

Schedule:

Quiz 1 (1/28) & Quiz 2 (2/4) → Review-quiz (2/11)= its score may replace scores for Q 1, 2

Quiz 3 (2/18) & Quiz 4 (2/25) → Review-quiz (3/4)= its score may replace scores for Q 3, 4

Quiz 5 (3/11) & Quiz 6 (3/25) → Review-quiz (4/1)= its score may replace scores for Q 5, 6

Quiz 7 (4/8) → Review-quiz (4/15)= its score may replace scores for Q 7

Quiz 8 (4/22) → Review-quiz (4/29) = its score may replace scores for Q 8

- **Exams:** The exams will test student's knowledge of basic concepts, terms, and general trends discussed in the course. Study guides will be posted on ICON at least a week before the exam.

Suggested study techniques for the exam are for the student to complete all the assigned readings for the exam and then to use course notes to be sure that they are familiar with all the terms and concepts outlined on the study guide. The exams will consist mainly of open-solution problems but may also include multiple-choice problems. Information on each exam structure will be provided when the study guide for the exam is posted on ICON. **All exams are comprehensive**, unless specified otherwise.

Opportunity to improve your scores:

- ➔ You will be able to improve your scores in exams 1 and/or 2 during two corresponding makeup exams (see above for makeup exam dates).
- ➔ However, to be allowed to take each makeup exam, the student will need to first complete a “*Study Reflection-Error Report-Error Analysis-Plan for Improvement*” self-evaluation form (details will be provided in class and posted on ICON).
- ➔ The maximum score between exam 1 and retake/makeup exam 1 will be the final score for EXAM 1. The maximum score between exam 2 and retake/makeup exam 2 will be the final score for EXAM 2.

TENTATIVE TIMETABLE (Subject to change, and all changes will be announced in class, posted on the course webpage, or e-mailed to your UI e-mail.)

Week 1: sec. 1.1-1.5

Review pre-calc topics (see also “Diagnostics Tests, pages xxvi-xxx)

Week 2: still review (sec 1.1-1.5); sec. 2.2

Week 3: sec. 2.3, 2.6

Week 4: sec. 2.5, 2.1, 2.7

Week 5: sec. 2.8, 3.1-3.3

Week 6: sec. 3.4 + (not in exam 1) 3.6, intro to 4.4

Week 7: sec 4.4 + Review (in discussion) + **EXAM 1**

Week 8: sec 4.1, 4.3, 4.5

Week 9: sec. 4.2., 3.5 + **Retake/Makeup exam 1**

Week 10: still sec. 3.5, and sec. 3.10, 3.8

Week 11: sec. 3.7 and 3.9

Week 12: sec. 3.11, 4.7 and 4.8 + Review + **EXAM 2**

Week 13: sec. 4.9-5.4, 5.2- 5.3 and 5.5

Week 14: sec. 5.1, 5.2, 6.1, **Retake/Makeup exam 2** + sec. 6.2-6.3

Week 15: sec. 6.2-6.3 again, 6.4, 6.5; Review +Practice for the final exam

Date and Time of the Final Exam

The [final examination date and time](#) will be announced by the Registrar generally by the fifth week of classes, and it will be announced on the course ICON site once it is known. **Do not plan your end of the semester travel plans until the final exam schedule is made public. It is your responsibility to know the date, time, and place of the final exam.** According to the Registrar's final exam policy, students **have a maximum of two weeks after the announced final exam schedule** to request a change if an exam conflict exists or if a student has more than two exams scheduled for the same day (see the [policy](#) here).

Attendance and Absences

- Attendance is expected for each class meeting, as it will help you better understand the concepts covered in lectures. If you miss a class, you are responsible for any assignments/announcements made/material covered.
- We strongly encourage you to actively participate in class discussions; ask questions or ask for more explanations whenever you feel confused!

[University regulations require that students be allowed to make up examinations](#) that have been missed due to illness, religious holy days, military service obligations (including service-related medical appointments), or other unavoidable circumstances or University-sponsored activities. Students with UI-authorized activities must discuss their absences with the instructor as soon as possible. Religious obligations must be communicated within the first three weeks of classes.

Other Expectations of Student Performance

There is a general expectation that all students will abide by the civil behavior and avoid any disturbances of the class. This requirement includes disturbances for those involving technology, which can distract those students sitting by the user. Please remember: all students have the right to a distraction-free learning environment. Students are expected to help each other learn and to contribute to the overall learning environment of the course. Arriving prepared for class is part of this expectation.

Communication: UI Email

Students are responsible for all official correspondences sent to their UI email address (uiowa.edu) and must use this address for any communication with instructors or staff in the UI community. For the privacy and the protection of student records, UI faculty and staff can only correspond with UI email addresses.

Where to Get Academic Support for this Course

Generally, for each lecture you should spend at least two-three hours on reading/homework/repeating the material. You should start working over the homework problems right after the relevant sections are covered. If you encounter difficulties, we strongly recommend you seek help immediately! Do not postpone it until one day before the exam! Also, remember this: small deficiencies at the beginning tend to rapidly grow into big ones.

- You are always welcome to come to our office hours. You may also make an appointment.
- Your TA also has office hours.
- Another excellent resource is the Math Lab is located in 125 MLH. It is staffed by very knowledgeable math graduate students. Math Lab services are FREE.

For more information and hours, please go to
<https://math.uiowa.edu/undergraduate/tutoring/math-tutorial-lab>

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 course-related concerns. For additional mental health support, please see the guidance and resources at mentalhealth.uiowa.edu, including the 24-7 [UI Support and Crisis Line](#).

Additionally, the Office of the Dean of Students can help students navigate personal crisis situations. They can provide one-on-one support, help with identifying options, and access to [basic needs resources \(such as food, rent, childcare, etc.\)](#). Student Care and Assistance: 132 IMU, dos-assistance@uiowa.edu, or 319-335-1162 and more info: dos.uiowa.edu/assistance
[University Policies](#)

[Accommodations for Students with Disabilities](#)

The University is committed to providing an educational experience that is accessible to all students. 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 to the student. **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.

[Free Speech and Expression](#)

[Absences for Religious Holy Days](#)

[Classroom Expectations](#)

[Non-discrimination](#)

[Sexual Harassment/Misconduct and Supportive Measures](#)

[Sharing of Class Recordings](#) (if appropriate)

About Top Hat:

"In addition to using Canvas as our Learning Management System, we will be using Top Hat (<https://tophat.com>) for class participation. Top Hat is an educational platform that integrates interactive features into learning materials, enhancing class engagement and comprehension.

For instructions on how to download the Top Hat app, please refer to our Student's Getting Started Guide online.

■ *Getting Started: Firstly, your Canvas account role must be "Student", you can verify this in the "People" menu in Canvas under the header "Role". If your role is listed as anything other than student, your grades will not sync to Canvas from Top Hat. To correct this, please connect directly with your educator (Top Hat cannot change this role).*

■ *Enrolling into your course: Do not enroll into the Top Hat course directly. To enroll correctly into your course, you must click the Top Hat Link on the left side of your course in Canvas. Locate the link "Top Hat" or "Top Hat LTI 1.3" or "Launch Link" in your Canvas course. Pressing the Top Hat link in Canvas directly will also ensure you are enrolled into the correct course or course section in Top Hat.*

Once you have clicked the Top Hat link in Canvas, you will be directed to Top Hat automatically (turn off any pop-up blockers). You will have the option to either create a student account or log in to an existing Top Hat account. If you are signing up for Top Hat the first time, please use your official school email address and use a web browser to complete the process.

Important! Use your school issued email address to create your Top Hat account

- *Please note you cannot create a Top Hat account or make the required course purchases through the mobile applications. You may see the message "Account not active or Additional Materials Required" when attempting to enroll in the Top Hat Course via the mobile app. To resolve this, please first enroll and purchase the required content (when prompted) on a web browser (Google Chrome or Firefox is recommended for the best experience).*
- *Once you have successfully linked your Canvas and Top Hat account, you may log-in and access Top Hat directly using the mobile application.*
- *If you do not click the Top Hat link: You will be shown a pop-up message in Top Hat instructing you to do so (web browser only)*
- *You will be removed from the Top Hat course during the nightly roster sync (if you enrolled in Top Hat directly, which we don't advise!)*

If you're removed from the Top Hat course, please review the above steps again.

<https://support.tophat.com/s/article/Student-LTI-Course-Enrollment-Canvas>

- *Grade syncs from Top Hat to Canvas:*

Grade sync settings are determined by your course educator. For clarification on when to expect your grades to appear in Canvas, please connect with your educator directly.

- *Some helpful Top Hat lingo to know:*

Join Code / JC : The unique 6 digit code specific to your Top Hat course. (Top Hat Support will ask for this when you reach out!)

LMS: Learning Management System (Canvas, Blackboard, D2L...).

Course Content: Anything in your course such as questions, readings, exams, assignments, presentations, discussions...).

Top Hat Access Key: A unique code issued by Top Hat to redeem on your account for a specific product such as an eTextbook (purchased through an external vendor only). Purchases made directly on Top Hat will be applied to your account. No codes or access keys are provided by Top Hat if buying on Top Hat directly)

Bookstore Redemption Code: Purchased through your campus bookstore and is valid for a Top Hat product such as an eTextbook, which must first be exchanged for a Top Hat Access Key (typically completed on the campus bookstore website) before redeeming it on the Top Hat course check-out page.

Secure Attendance: Requires you to confirm your device location within proximity to the classroom.

Homework: Submissions are saved and graded.

Review: Submissions are not saved and not graded. Intended for revision purposes.

Contact Top Hat Support:

*Press "?" in your app or upper right corner of your screen or visit our Support Site
Articles: <https://support.tophat.com/s/>*

Through our contact form: <https://success.tophat.com/s/contact-main>
