

# Math 130 - Essentials of Calculus

## Course Syllabus

### Spring 2021

Instructor : Dr. Edward Burkard  
E-mail : burkarde@denison.edu  
Office : Olin 205  
Office Hours : TW 8:00-9:00pm  
(Zoom links posted on Notebowl)

Section 04  
Class Time : MTWF 3:30-4:20pm  
Class Location : Olin 221 (MWF)  
: Virtual (T)

Section 05  
Class Time : MTWF 1:50-2:40pm  
Class Location : Olin 217 (MWF)  
: Virtual (T)

Course Webpage : <https://edwardburkard.com/?page=Teaching/130S21>

## 1. COURSE DESCRIPTION

A one-semester introduction to single-variable calculus focused on functions, graphs, limits, exponential and logarithmic functions, differentiation, integration, techniques and applications of integration, and optimization. Emphasis is given to applications from the natural and social sciences.

This course adheres to Denison's Academic Credit Policy.

## 2. COURSE EXPECTATIONS

Calculus is a difficult course and will require a significant amount of effort and work for most people. However, do not be discouraged by this! In my experience, the statement "I cannot do math" and ones like them are flat out false. For some of you, it may come more easily than others, but this does not mean anyone is innately bad at math (in fact, research backs this up!). What I will ask of you in this class is to give it your best effort and practice regularly. As one of my former teachers would say, "Math is not a spectator sport; you will learn only by doing!"

### 3. COURSE GOALS

In this course, you will:

- Develop a conceptual understanding of the main ideas of single-variable calculus, including limits, derivatives, and integrals.
- Reason through complex problems that require several steps and a combination of techniques.
- Apply calculus concepts to solve applied problems.
- Build confidence to tackle problems that require a mathematical solution.

### 4. TEXTBOOK

The required textbook for this class is *Brief Applied Calculus*, by James Stewart and Daniel Clegg. Webassign access (<https://www.webassign.net>) will come with access to the textbook (the cards with the access codes are available at the bookstore or you can purchase access online). My recommendation is to use the trial access and not actually purchase access until you are sure you will stay in the class (you get 2 weeks of trial access). You do not need to buy a physical copy of a textbook. To sign up for our class, use the Class Key: **denison 7982 6396**. Feel free to ask if you need any help signing up for Webassign!

### 5. COURSE STRUCTURE

We will have in-class lectures every Monday, Wednesday, and Friday. For the first week and any other times that we will not be able to meet in-person, these lectures will be done via a live stream (link posted in Notebowl). One of my aims is to design the class to be as easy as possible to translate to online if the need should arise. On Tuesdays, we will have Zoom meetings (link in Notebowl) in which we will have a discussion focused class for asking questions from lectures/. Notebowl will be used for class announcements, so be sure to check it often!

### 6. GRADE

The course grade is distributed as follows:

Item	Homework	Quizzes	Problem of the Day	Final Project
Percentage	35%	30%	15%	20%

The grade scale will be no stricter than

Letter	A	B	C	D	F
Cutoff	92%	82%	72%	57%	0%

with +’s and –’s to be used as needed for the final grade only. That is, getting at least 92% will guarantee an A, getting at least 82% will guarantee a B, getting at least 72% will guarantee a C, and getting at least 57% will guarantee a D.

**6.1. Homework.** Each lecture will have a homework set attached to it. These will also be done through Webassign. The 5 homework assignments with the lowest score will be dropped. Assignments are graded question-by-question, so I recommend submitting each part as you complete it. Any remaining parts will receive 0 credit after the due date has passed. Each assignment will be due Tuesday of the week after it is assigned (you can see

the due dates on assignments in Webassign). Due dates on Webassign will show in your local time zone.

I encourage you to work with each other on homework, though you should always attempt all problems on your own first, but all submissions must be your own work. Other students, TAs, tutors, or anyone else should never submit work for you. You should work all of your own problems. I recommend keeping a notebook of all of your homework so that you can refer back to it when studying and to help when you have questions as it allows us to see your thought process.

**6.2. Quizzes.** Quizzes will be a Webassign assignment consisting of 1-3 problems from material from the previous week that will become available at noon on Tuesday and be due by 11:59pm that night. The problems on the quiz will be allowed 6 attempts. The maximum score you can obtain on a problem will go down by 10% with each incorrect submission. The lowest 3 quiz scores will be dropped.

**6.3. Problem of the Day.** At the beginning of each lecture class (MWF) a problem will be given. The solution to this problem must be submitted on Notebowl by 11:59pm the day it is assigned. You can submit a picture of the solution, a scan of the solution, or a typed up solution to the assignment on Notebowl. Make sure your solution has your name and the date in your submission. These problems will be graded out of 3 points: 3 points for a perfect solution or a solution with only minor mistakes; 2 points for a solution that is in the correct direction, but not quite right; 1 point for attempting the problem; and 0 points for no submission. The lowest 5 scores will be dropped from this category

**6.4. Final Project.** The final for the class will be a project that will be given to you during the last week of classes. Details will be given then. It will be due at the end of our assigned final exam time which will be posted in Notebowl. This will also be submitted through Notebowl.

## 7. DISABILITY

Students with a documented disability who wish to request reasonable academic accommodations based on the impact of a disability should complete a Request for Academic Accommodations/Faculty Notification form with the Academic Resource Center (ARC) located in 020 Higley Hall and contact me privately as soon as possible to discuss specific needs and arrangements. I rely on the Academic Resource Center (ARC) to verify the need for reasonable accommodations based on the documentation on file in that office. Reasonable accommodations cannot be applied retroactively and therefore ideally should be enacted early in the semester as they are not automatically carried forward from a previous term and must be requested every semester.

## 8. CONDUCT

You are expected to act in a respectable manner. If you are disruptive, you will be asked to leave. If you have a cell phone, please turn it off (or at least place it on silent) during class time. Lectures being interrupted by cell phones going off is disrespectful to everyone in the classroom.

## 9. CODE OF ACADEMIC INTEGRITY

Proposed and developed by Denison students, passed unanimously by DCGA and Denison's faculty, the Code of Academic Integrity requires that instructors notify the Associate Provost of cases of academic dishonesty. Cases are typically heard by the Academic Integrity Board which determines whether a violation has occurred, and, if so, its severity and the sanctions. In some circumstances the case may be handled through an Administrative Resolution Procedure. Further, the code makes students responsible for promoting a culture of integrity on campus and acting in instances in which integrity is violated.

Academic honesty, the cornerstone of teaching and learning, lays the foundation for lifelong integrity. Academic dishonesty is intellectual theft. It includes, but is not limited to, providing or receiving assistance in a manner not authorized by the instructor in the creation of work to be submitted for evaluation. This standard applies to all work ranging from daily homework assignments to major exams. Students must clearly cite any sources consulted—not only for quoted phrases but also for ideas and information that are not common knowledge. Neither ignorance nor carelessness is an acceptable defense in cases of plagiarism. It is the student's responsibility to follow the appropriate format for citations. Students should ask their instructors for assistance in determining what sorts of materials and assistance are appropriate for assignments and for guidance in citing such materials clearly. For further information about the Code of Academic Integrity, see <http://denison.edu/academics/curriculum/integrity>.

## 10. USE OF COURSE MATERIALS

As an institution which strives to inspire and educate our students to become discerning moral agents and active citizens of a democratic society, we are committed to complying with all laws regarding copyright throughout the University. This syllabus and all course materials used in this course may be copyrighted and accordingly will be governed by the provisions of the U.S. copyright law (for an overview see <http://copyright.gov/circs/circ01.pdf> and for fair use guidelines see <http://copyright.gov/fair-use/more-info.html>). In particular, posting any course materials on commercial sites or creating a bank of materials for distribution to other students may be considered a violation of the University's Code of Academic Integrity as well as a breach of copyright law. If you have any questions about these guidelines, please speak with your instructor.

## 11. WRITING CENTER

Staffed by student Writing Consultants, the Writing Center is a free resource available to all Denison students. Writing Consultants from many majors help writers one-on-one in all phases of the writing process, from deciphering assignments, to discussing ideas, to developing an argument, to finalizing a draft. Because proofreading is a last step in that process, you should leave plenty of time (like at least a week) for getting your ideas right before expecting proofreading help. Consultants also can help writers with personal documents, like job and internship applications. The Center welcomes student writers with all varieties of backgrounds and college preparation, including multilingual writers. Should a multilingual writer need writing assistance that exceeds the abilities of consultants, the writer can be referred to the Coordinator for Multilingual Learning. For

Spring 2021, the Writing Center is entirely virtual; please visit the Writing Center's page (<https://my.denison.edu/campus-resources/writing-center>) on MyDenison for specific information regarding hours of availability and how to schedule an appointment.

## 12. MULTILINGUAL SUPPORT

In addition to the academic support services available to all Denison students, students who use English in addition to other languages can meet with Denison's Coordinator of Multilingual Learning, Kalynda Thayer. If English is not your first or only language, please consider utilizing this resource, which is available to ALL Denison students. Ms. Thayer offers a variety of support for L2 students, including consulting with you about your written language (grammar, syntax, word-choices), strategies to manage your reading assignments, assistance with class conversation and presentations, and to help devising ways to develop and effectively use all your skills in English. You can email her at [thayerk@denison.edu](mailto:thayerk@denison.edu) to schedule an appointment.

## 13. REPORTING SEXUAL ASSAULT

Essays, journals, and other coursework submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees are required by University policy to report allegations of discrimination based on sex, gender, gender identity, gender expression, sexual orientation or pregnancy. This includes reporting all incidents of sexual misconduct, sexual assault and suspected abuse/neglect of a minor. Further, employees are to report these incidents that occur on campus and/or that involve students at Denison University whenever the employee becomes aware of a possible incident in the course of their employment, including via coursework or advising conversations. There are others on campus to whom you may speak in confidence, including clergy and counselors at the Whisler Center for Student Wellness. More information on Title IX and the University's Policy prohibiting sex discrimination, including sexual harassment, sexual misconduct, stalking and retaliation, including support resources, how to report, and prevention and education efforts, can be found at: <https://denison.edu/campus/title-ix>. Students may also contact Jessica Galano, Interim Campus Title IX Coordinator by email at [galanosj@denison.edu](mailto:galanosj@denison.edu), or by phone at 740-587-5652.

## 14. RECORDING CLASS SESSIONS

Any lectures done remotely will be livestreamed on YouTube. These videos will be unlisted and the link to them will be shared on Notebowl. Only students in this class will have access to them and the videos will never be made public.

## 15. FACE COVERINGS IN THE CLASSROOM

Denison requires all students, faculty, and staff to wear face coverings (face masks) on campus to promote the health and safety of all community members. This policy includes all academic, office, residential, communal, and athletics spaces. Students must adhere to this policy during all class meetings.

## 16. PHYSICAL DISTANCING AND CLASSROOM DISINFECTION

It is the responsibility of all community members to follow all health and wellness protocols established by the institution. This includes maintaining physical distancing and sharing responsibility for sanitized learning spaces. The classroom space has been arranged to maintain six feet of physical distance between all students and the instructor. Students are expected to maintain that distance. Classrooms must be disinfected after every class session. In this course, it is a community responsibility to make sure the disinfectant is sprayed after every class session. Students are expected to follow the instructor's guidance regarding plans for sanitizing our learning space.

The material here is tentative and subject to change pending our class needs.