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Clemson University
School of Mathematical & Statistical Sciences

MATH 1080-242, Calculus of One Variable II
M–F (online, asynchronous), Summer II, 2022
Syllabus

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Instructor: Dr. Matthew Macauley, Martin Hall O-325, macaule@clemson.edu, 656-1838 (no voicemail)

Course Description: MATH 1080 continues the theory and practice of calculus of one variable to model phenomena in engineering and science. It covers integration, applications of definite integrals, techniques of integration, infinite sequences and series, and calculus with parametric equations and polar coordinates.

Prerequisite: MATH 1060 (Calculus I).

Communication Strategy: I generally prefer to communicate via emails rather than Canvas messages.

All of my email addresses (e.g., **macaule@clemson.edu**) go to the same gmail inbox, which I check multiple times on weekdays. I often don't check email on Saturdays. Though I have the gmail app on my phone, I do not get push notifications for emails.

If you send me an email and do not get a reply by the time you go to bed, please re-send it, as that is my mistake. Just click "Reply" and "Send"; no need to explain.

Happy Hour: Every weekday evening at 7pm, you are invited to join me and your classmates on Zoom for an Adult Beverage[1], company, and office hours. I'll stick around to answer questions as long as there are some. However, *I will only show up if at least one person RVSPs, by sending me an email before 6:30pm saying they will attend.* If there has been an RSVP but no one is there by 7:05pm, I will log off.

Useful websites:

Canvas: `https://www.clemson.edu/canvas/`

MyLab Math: `https://portal.mypearson.com/` (online homework and daily in-class worksheets, our access code is **macauley66426**)

Course webpage: `http://www.math.clemson.edu/~macaule/classes/m22_math1080/`

Texts: *Calculus: Early Transcendentals* by Briggs, Cochran, Gillett, Schulz, 3rd Edition, Pearson, 2019.

Course structure: In Summer 2021, I taught a "long summer session" Math 1080 course, that met M,Tu,W,Th for 11 weeks. There were 36 days of lecture, and it was "partially flipped", so each day each consisted of (1) usually watching a pre-recorded video, (2) me lecturing in class over supplemental material with summaries/tips etc., and (3) students working in Breakout rooms on a *Learning Catalytics (LC)* worksheet that was due the following day. Our 2022 class is just 5 weeks, and (excluding exams) has 23 days of class. Thus, these 36 lectures and worksheets are spread out roughly equally over these 23 days. It is also asynchronous, so you will watch everything on your own.

Within Canvas Modules is a weekly schedule with one page per day. On there are links to videos to watch – usually 0-2 pre-recorded videos that I made in 2014, and a "supplement" video to cover

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[1]For me, this means drinks like **LaCroix** or **Kombucha**, which are *very unpopular* among kids.

additional material, summaries, tips, etc. Each day corresponds to 1 or 2 of the 36 lectures, and I list them by number at the top. The corresonding LC worksheets are due at 11:59pm on the next day of lecture (e.g., usually the next day, but Monday if it's on a Friday). Also listed are the assignment due on the current day, and the following day. Finally, there is a one-page pdf calendar listing all of this infomation on the course website:

`http://www.math.clemson.edu/~macaule/classes/m21_math1080/m21_math1080_calendar.pdf`

The Math 1080 course coordinator during the Acadmemic Year, Dr. Meredith Burr, also has a full set of lecture videos from when she taught this course online during the pandemic. For convenience, I included the links to her videos in Canvas, because some of you may be familiar with them (several of you have taken and dropped this class), but all of the material she covers are in my videos as well. You are in no way required to watch her videos, but I also wanted to provide easy access for anyone interested.

Assigned work: There will be two types of assigned work in our class, and both are accessible from Pearson MyLab Math: (i) online homework, and (ii) daily in-classes *Learning Catalytics* worksheets. Everything is due at 11:59pm on their due dates. The <u>due dates</u> of the MyLab Math homework are listed on the course calendar. The <u>assigned dates</u> for the worksheets are listed, and each one will be due on the calendar day of the subsequent class. This is because I will be able to see aggragated progress, and I will give feedback in class the morning of the actual due date.

Zoom Info: There will be one common Zoom URL for all evening office hours, and I will post this on Canvas. I am also available to meet by appointment, if needed. In that case, email me and include block(s) of time in which you are available. Please let me know in advance if you want any meeting to be private, like if you want to discuss your grade. In that case, I will use a different Zoom meeting.

Calculators/Other Technology: A calculator is recommended for homework and worksheets, but will not be permitted for exams.

Homework: Will be assigned over Pearson MyLab Math. The due dates are shown on the course calendar, and are due that day at 11:59pm. Extensions will not be granted, but I will drop everybody's lowest three scores.

Worksheets: Will be assigned using *Learning Catalytics* in Pearson MyLab Math. The dates assigned are shown on the course calendar, and are due the day of our following class at 11:59pm. Extensions will not be granted, and I will not drop any low scores. Most worksheets will be graded on a "50% completion, 50% correctness" scale. They are multiple choice, and at any time, I can see what percentage of students answered each part, which helps me see in real-time what problems students are having problems with, and common pitfalls. *Your scores are not recorded until the worksheets are "turned off" at 11:59pm.* In other words, it doesn't matter if you answer incorrectly initially, as long as you eventually change your answer to the correct answer.

Course Format: This course is being offered in one summer semester so EVERYTHING GOES QUICKLY. I have taught this class during a regular semester and I plan to cover the same amount of material and assign the same amount of homework, but over 5 weeks instead of 15.

You should expect to spend *at least* 3 hours per day on this course:

Watching the lecture videos.

Working on MyLab Math homework problems.

Working on Learning Catalytics worksheets.

You will prepare for two Midterms and a cumulative Final Exam.

Exams: There will be 2 exams (closed book and notes) during the semester and a cumulative final exam: Midterm 1 on <u>Wed. June 13</u>, Midterm 2 on <u>Wed. June 27</u>, and the Final Exam on <u>Fri. Aug 5</u>. All three exams must be taken at an *approved proctored test facility*. Guidelines for administration of these exams are given in the separate write-up under the heading <u>Proctored Tests Policy</u>. These guidelines must be followed by all students.

Grading: Your final grade will be computed as follows:

MyLab Math Homework	22%
Learning Catalytics worksheets	12%
Midterm 1	22%
Midterm 2	22%
Final Exam	44%

I will drop either your lowest midterm grade, OR half of the weight of the final exam; whichever is lowest. Also, if you get an **A** or **B** on the final exam then you will get at least that grade in the course, *assuming you have a passing grade on both the homework and worksheets.*

I do *not* necessarily grade using arbitrary round number cut-offs, as sometimes I like to err on the difficult side for exams. That said, 90+ will always be an A, 80+ will always be at least a B, 70+ will always be at least a C, and 60+ will always be at least a D.

The automatically calculated numeric grade that you see in Canvas is NOT an accurate indicator of your grade. It will not take MyLab Math HW or worksheets into account. At any point in time during the class, I would be happy to give you a ballpark estimate of how you are doing.

Key Dates

Jun 29 (Wed)	Classes begin
Jun 30 (Thu)	Last day to register or add a class
Jul F (Mon)	No class (Independence Day)
Jul 5 (Tue)	Last day to drop a class or withdraw from the University w/o a **W** grade
Jul 22 (Tue)	Last day to drop a class or withdraw from the University w/o final grades
Aug 3 (Wed)	Last day of class
Aug 5 (Fri)	Final Exam

Student Learning Outcomes: Upon completing this course, students will be able to do the following:

1. Apply the definition of the definite integral to construct integrals representing geometric and physical quantities (including area, volume, work, force, arc length, and surface area).
2. Apply integration techniques (integration by parts, trigonometric integrals, trigonometric substitution, partial fractions, and improper integrals) to evaluate indefinite and definite integrals, including improper integrals.
3. Determine the convergence behavior of infnite sequences and series and justify the conclusion.
4. Determine a power series representation for a function and use the power series representation to solve problems involving the function.
5. Graph equations given in parametric and polar form, convert between rectangular, parametric, and polar form, and solve problems using derivatives and integrals in parametric and polar form.
6. Communicate the calculus methods and techniques used in solving a problem.

Make-Up Policy: I will drop your lowest midterm, which means that if you miss a midterm, then your final exam grade will replace it. The homework deadlines will not be extended for individual students, and assigned homework must be turned in by the deadline. PLAN AHEAD: If you submit assignments minutes before the deadline, you take the risk of bad luck, e.g., a power outage, computer freeze or crash, personal emergency, zombie attack, etc., that could make you miss the deadline.

Special Accommodations: Clemson University values the diversity of our student body as a strength and a critical component of our dynamic community. Students with disabilities or temporary injuries/conditions may require accommodations due to barriers in the structure of facilities, course design, technology used for curricular purposes, or other campus resources. Students who experience a barrier to full access to a class should let the instructor know, and make an appointment to meet with a staff member in Student Accessibility Services as soon as possible. You can make an appointment by calling 864-656-6848 or by emailing studentaccess@lists.clemson.edu. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their instructors as early in the semester as possible so that accommodations can be made in a timely manner. It is the student's responsibility to follow this process each semester. You can access further information here: `http://www.clemson.edu/campus-life/campus-services/sds/`.

Mental health: Your mental health is important to me, and I am always available to talk. Please don't hesitate to reach out. We're in this together, and all of us are strugling in some regards, myself included.

Title IX Policy: Clemson University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, religion, sex, sexual orientation, gender, pregnancy, national origin, age, disability, veterans status, genetic information or protected activity (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions and financial aid. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972.

The University is committed to combatting sexual discrimination including sexual harassment and sexual violence. As a result, you should know that University faculty and staff members who work directly with students are required to report any instances of sexual harassment and sexual violence, to the Universitys Title IX Coordinator. What this means is that as your professor, I am required to

report any incidents of sexual harassment, sexual violence or misconduct, stalking, domestic and/or relationship violence that are directly reported to me, or of which I am somehow made aware.

There are two important exceptions to this requirement about which you should be aware:

Confidential Resources and facilitators of sexual awareness programs such as "Take Back the Night and Aspire to be Well" when acting in those capacities, are not required to report incidents of sexual discrimination.

Another important exception to the reporting requirement exists for academic work. Disclosures about sexual harassment, sexual violence, stalking, domestic and/or relationship violence that are shared as part of an academic project, a research project, classroom discussion, or course assignment, are not required to be disclosed to the Universitys Title IX Coordinator.

This policy is at `http://www.clemson.edu/campus-life/campus-services/access/title-ix/`. Alesia Smith is the Executive Director for Equity Compliance and the Title IX Coordinator. Her office is at 223 Holtzendorff Hall, phone number is 864.656.3181, and email address is alesias@clemson.edu.

Academic Integrity: As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a 'high seminary of learning'. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

Copyright Statement: Some of the materials in this course are possibly copyrighted. They are intended for use only by students registered and enrolled in this course and only for instructional activities associated with and for the duration of the course. They may not be retained in another medium or disseminated further. They are provided in compliance with the provisions of the Teach Act. Refer to the Use of Copyrighted Materials and "Fair Use Guidelines" policy on the Clemson University website for additional information: `http://clemson.libguides.com/copyright`.