Course Information and General Policies

Note (Updated: August 16, 2020): This is a tentative document being provided early for student information in this unusual time. Changes to these course information and policies could happen before class starts on August 19, 2020.

Course Description

This course continues the theory and practice of the 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.

Prerequisites

MATH 1060

General Education Student Learning Outcomes

This course meets the Mathematics general education student learning outcome.

B. Mathematics: Students will demonstrate mathematical literacy through interpretation of mathematical forms and performing calculations.

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 infinite 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.

Topical Outline and Testable Skills

Refer to the Daily Course Calendar at the course website for a listing of topics covered in Math 1080, and the days when they will be covered. Also posted are skills sets for each unit, which give a detailed listing of the skills that you are expected to master. Students should expect test questions that require a synthesis of objective skills.

Course Modality

This course is considered "hybrid/blended." What this will mean for our class:

- Class will meet at your scheduled class time (either in person or virtually) on Monday, Wednesday, and Friday. Class will not meet on Tuesdays.
- During the time that the University is in an online instruction only mode, class will be "online synchronous." Class will meet virtually (through Zoom) at your scheduled class time on MWF.
- When the University resumes face-to-face classes, for each class meeting a portion of the class will be able to attend in person and the remaining portion will attend class online (through Zoom).
- For the last week of classes (November 30 - December 4), class will not meet in person. Class will be "online synchronous" and will meet virtually (though Zoom) at your scheduled class time on MWF.

Course Structure

This course will be taught in a flipped format in which you will watch and take notes on pre-recorded video lectures before each class. Class will meet at your scheduled class time on Monday, Wednesday, and Friday. Class will not meet on Tuesdays to give you time toward watching video lectures and preparing for class.

- Class meeting times will consist of learning activities, which will typically be group activities. Class meetings will be conducted through Zoom and/or in the classroom based on the overall University teaching modality and social distancing requirements.
- It is strongly recommended that students attending class virtually do so with their video on since it is much easier to discuss and learn math together when you can see each other.
- Students will be informed later in the semester as to when they may attend class in the classroom.

Attendance

Students are expected to attend each class either virtually (through Zoom) or in the classroom and to arrive on time. Note that students will be allowed to attend class virtually the entire semester if that is their preference. Attendance will be taken in Zoom (and in the classroom when applicable) for the instructor's records. From the Undergraduate Catalog: "The academic resources of Clemson University are provided for the intellectual growth and development of students. Class attendance is critical to the educational process; therefore, students should attend scheduled courses regularly if they are to attain their academic goals."

If the instructor does not arrive in the classroom (virtual or physical) within 15 minutes after the scheduled start time, class is dismissed for the day. If the instructor's connection is lost during a virtual class, students are expected to work together until the end of the class meeting time even if the instructor is not able to reconnect.

Absences

A student is considered absent from class if they do not attend class either virtually or in person. Students are directed to use the Notification of Absence module in Canvas to inform their instructor of any absence (whether anticipated or unanticipated). Submitting the Notification of Absence is useful for notifying the instructor of your absence, but does not automatically allow for an excused absence. Students who must miss class should contact their instructor before the missed class for anticipated absences (such as a university function) and as soon as possible (preferably by the end of the day of the missed class) for unanticipated absences (such as illness, emergency, internet issues) to discuss their situation and whether their absence is excused. Documentation may be required for an absence to be excused. (See the Late Work Policy section for how missed work will be treated in the case of absence.)

A student with an excessive number of absences, with "excessive" for Fall 2020 being defined as having never engaged in class activity (in person and/or online), may be withdrawn from the course at the discretion of the instructor.

Inclement Weather/University Cancellation

Any assignments due at the time of a class cancellation due to inclement weather (or any university cancellation) will be due at the next class meeting unless contacted by the instructor. In the event that an exam was scheduled at a time when classes were cancelled due to inclement weather (or any university cancellation), your instructor will notify you as to the date of the rescheduled exam.

Required Materials

- Text: *Calculus: Early Transcendentals* by Briggs, Cochran, Gillett, Schulz, 3rd Edition, Pearson, 2019.
- MyLab Math (MLM): Will be used for online homework. Your section instructor will provide you with information about registering for MyLab Math.

Important Notes:

- If you have used MyLab Math with this edition of the text before, your access should still be valid. If you have not used MyLab Math with this edition of the text, access can be purchased online through Pearson or through the university bookstore.
- If you have not used MyLab Math with this edition of the text, you may choose to purchase a hard copy of the text bundled with the MyLab Math access code or to purchase the MyLab Math access code only.
- An electronic version of the text is accessible through MyLab Math. Additionally, you may read the eText by going to `http://pearsonetext.com/` or by downloading the Pearson eText app on your phone or tablet. In both cases, your login is the same as your MyLab Math username and password. I highly recommend the Pearson eText app for referencing the textbook.

Required Technology

- Adobe Reader
- Computer with speakers or headphones. (This course includes audio components.)
- Web camera and microphone (integrated microphone with laptop is sufficient).
- Reliable internet connection (see `https://ccit.clemson.edu/working-remotely/` if you need assistance with internet connectivity)
- Ability to scan and upload written work. Suggested scanning apps are CamScanner and AdobeScan. (If you have a tablet, submitting written work from the tablet is also acceptable.)
- Respondus Lockdown Browser (`https://www.clemson.edu/online/tools/responduslockdown.html`) and Respondus Monitor
- Other apps/websites to be used include: Zoom and Gradescope.

Calculators

No specific calculator is required. You may use calculators with graphing and symbolic capabilities (e.g., the TI-89) as learning aides for homework and classroom exercises when permitted by the instructor. However, you must not come to rely on them because **no calculators will be allowed on common unit exams or the final exam.**

Canvas

Course materials and announcements will be posted in your section's Canvas course (`https://www.clemson.edu/canvas/`). Your instructor will communicate with you often using the Canvas Announcements and will assume that you are immediately notified of any posted announcements. To make sure you are notified of all posted announcements, set notifications (under Account in Canvas) to notify you by email right away whenever a new announcement is posted. For help setting Canvas notifications, see How do I set my Canvas notification preferences? Students are responsible for checking Canvas on a regular basis for all course info, materials, announcements, and assignments.

E-mail

You are responsible for checking your university e-mail account regularly.

Websites

- `https://mthsc.clemson.edu/ug_course_pages/MTHS1080` is the general MATH 1080 site containing this syllabus, a course schedule, instructional objectives/skill sets, announcements, questions and solutions from old exams, and other useful information.
- `http://catalog.clemson.edu/index.php` has detailed information about Clemson University undergraduate class regulations including academic integrity, attendance policy, mid-term grades, final examinations, and posting of grades.
- `http://www.registrar.clemson.edu/html/fallexam.htm` has final exam information for all courses.

Grading Policy

The final course grade will be determined by the following scores:

- Pre-class check-in quizzes (CIQs) on video lectures: weighted 5%
- In-class group learning activities (LA) and any written homework: weighted 8%
- Quizzes (Q): weighted 7%
- MyLab Math (MLM) homework; weighted 10%.
- Three common unit tests (T1, T2, T3); weighted 17.5% each.
- Mandatory, comprehensive, common final exam (FE); weighted 17.5%. **The final exam is mandatory (no exemptions) and comprehensive.**

Pre-class check-in quizzes

For most classes, you will be expected to watch a set of video lectures before class and complete a pre-class check-in quiz (CIQ) on those videos before class. Check-in quizzes will be done through Canvas and will allow for multiple attempts. About 10% of the CIQ grades will be dropped.

Learning activities and written homework

Class time will typically include a learning activity. Learning activities will be completed in groups and give you a chance to practice solving problems on material explained in the video lectures. **It is essential that you watch the assigned video lectures before class so you are prepared to practice solving similar problems.** It is ok if you still have questions after watching the video lectures. The class time gives you a chance to ask questions and work with your classmates and the instructor (and a TA and/or PAL leader) to understand the material. Additional practice in the form of written homework may also be assigned. About 10% of the combined learning activities and written homework assignments will be dropped.

Quizzes

There will be a quiz about once per week. Quizzes will be proctored virtually (Using Respondus Lockdown Browser and Respondus Monitor or using Zoom). The purpose of the quizzes is to give you practice working problems in a lower stakes "exam-like" environment and to provide you with feedback on your understanding of the material. Quizzes give you the benefit of the testing/retrieval effect in which learning is strengthened by being forced to recall information. About 10% of the quiz grades will be dropped.

MyLab Math

There will be multiple MyLab Math assignments to complete each week. MyLab Math assignments will be completed through your section's MyLab Math course. Due dates for MyLab Math assignments are included on the course tentative daily calendar. Any changes to the due dates will be announced in Canvas. At the end of the semester, the 3 lowest MLM homework scores will be dropped.

Late Work Policy

For learning activities (which are done in class): In the case of an excused absence, a missed learning activity will either be exempted or an extension permitted, depending on the student's situation. Students with unexcused absences will earn a 0 for a missed learning activity. To determine whether an absence is excused or not and what arrangements for missed work are possible, students must contact their instructor. (See the Absences section of these course policies for information on reporting absences.)

For check-in quizzes, any written homework, quizzes, and MyLab Math homework: Late work will not be accepted. Drops are included in these categories to allow for occasional missed work.

Note: Rare exceptions may be made to the above rules for major documentable emergencies and illnesses.

Common Unit Exams and Final Exam

There will be three common unit exams during the academic semester as well as a common final exam.

- Exam 1: Wednesday, September 16 from 7:30 pm - 9:00 pm Eastern Time
  (see special circumstances note below)
- Exam 2: Wednesday, October 14 from 7:30 pm - 9:00 pm Eastern Time
- Exam 3: Wednesday, November 18 from 7:30 pm - 9:00 pm Eastern Time
- Final Exam: Monday, December 7 from 11:30 am - 2:00 pm Eastern Time

All exams will be proctored virtually (Using Respondus Lockdown Browser and Respondus Monitor or using Zoom). Exams will be accessed through Canvas and will involve scanning and uploading work to Gradescope. More details on testing procedures will be given prior to the first exam.

Special circumstances for Exam 1: Exam 1 is scheduled to occur on Wednesday, September 16 from 7:30 - 9:00 pm ET, which is during move-in week. Should this date conflict with your scheduled move-in time, you may choose to take your exam during the scheduled make-up time of Sunday, September 20th from 7:30 – 9:00 pm ET. In order to take the exam at the scheduled make-up time, you must contact your instructor at least one week prior to the exam to notify them of your conflict and decision.

An absence from any exam will result in a grade of zero. However, if a student misses an exam for a reason that would qualify as an excused absence and can provide the proper documentation, a make-up test may be permitted if the request is made no later than 24 hours after the scheduled exam. In the case that a make-up for a unit exam is permitted, the make-up must occur after the scheduled exam (preferably on the Thursday or Friday of the same week), but no later than the Tuesday following the scheduled unit exam. If the exam cannot be made up by this date or if a make-up was not permitted, then the final exam score will be used in place of the missing exam score. Note that the final exam score can be used in place of a missing test score for one exam only.

Questions on Exam Grading

If you have a question on the grading of an exam, you must contact your instructor within one week after the graded exams are returned. After this one-week period, no grading appeals will be considered.

To earn a passing grade for the course, students must have:

(a) a final exam score of 60 (60%) or higher

or

(b) a weighted average test and final exam score (WTAVG) of 60 (60%) or higher where the weighted test average is computed as

$$WTAVG = \frac{0.175(T1 + T2 + T3 + FE - \min(T1, T2, T3, FE)) + 0.175FE}{0.70}$$

where T1, T2, T3 and FE are the scores on Tests 1 - 3 and the Final Exam. This formula has the effect of replacing the lowest test score with the final exam score if this benefits the student.

If neither of the conditions (a) or (b) above are met, the final course grade is F and the following computation of course average is irrelevant.

If either of the conditions (a) or (b) above are met, the final numerical course average (CRSAVG) is computed as:

$$CRSAVG = 0.10MLM + 0.05CIQ + 0.08LA + 0.07Q + 0.175(T1 + T2 + T3 + FE - \min(T1, T2, T3, FE)) + 0.175FE$$

where the final exam score replaces the lowest test score if it improves the final numerical course average.

If either of the conditions (a) or (b) above are met, the final letter grade is determined from the course average according to a standard 10-point grading scale:

90% - A, 80% - B, 70% - C, 60% - D, below 60% - F.

Note: We use typical rounding. A course average with a decimal part ≥ 0.5 rounds up and < 0.5 rounds down. For example, a course average of 89.5 rounds to 90, 79.4 to 79, etc.

Midterm Grade:

On or before October 9th, your instructor will give you a midterm grade, calculated as follows. Please note that your midterm grade is only an estimate of your grade. Your final course average could be significantly different from your midterm grade.

$$Midterm = (0.525T1 + 0.10MLM + 0.05CIQ + 0.08LA + 0.07Q)/0.825$$

Resources and Tips for Success

Dedicated effort and study are needed to master the course learning objectives. Students are expected to actively participate in their own learning by actively listing to and watching the video lectures, taking their own notes, reading the textbook, completing the pre-class check-in quizzes, engaging with the material and other students in class during learning activities, working all homework problems, practicing the course objective skills, and seeking help in a timely manner when needed.

Resources available include:

- Peer Assisted Learning Sessions: At PAL sessions, fellow students who have taken this course in the past offer extra practice with course material as well as tips and tricks for being successful in the course. (`http://www.clemson.edu/asc/`).
- Academic Success Center Tutors (`http://www.clemson.edu/asc/tutoring/`).
- Your instructor's office hours. Be sure to find your instructor's office hours information listed in their supplement to the course policies. Don't hesitate to make an appointment to meet with your instructor whenever you have questions. Your instructor is here to help you!
- Your classmates. Form study groups, work problems together and ask and answer each other's questions.
- Class Q & A discussion forums on Canvas. Use these discussion forums! The forums are a good place to post questions on course material and assignments. Remember, often someone else has the same question as you, so everyone benefits from questions and answers posted on the forums. Your instructor and/or TA will post answers to posted questions, but you are also encouraged to answer questions posted by your classmates.
- Course materials in Canvas
- Textbook and MyLab Math
- Math 1080 website

Study tips: The best (and I think the only) way to study for exams in math is to practice DOING math problems. It is never enough to read over your class notes or to read over perfect solutions. Passively reading information is NOT a good use of your study time. To prepare for exams, work problems! Old exams are posted on the course website for you to practice. The more problems you practice, the more comfortable and prepared you will be for the exam.

Importance of notation: In written communication it is important to use correct grammar and punctuation. In mathematical communication, it is important to use correct mathematical syntax and notation. Mathematical symbols have exact meanings and need to be used appropriately. For example, "=" means "is equal to." So, something like

$$\lim_{x\to 2} \frac{x^2-4}{x-2} = \frac{0}{0}$$

uses "=" incorrectly, since $\frac{0}{0}$ is not a number, and therefore is not "equal to" the value of the limit, which is 4. **Incorrect use of notation will lose you points on exams!**

Common notation errors include missing or incorrect use of equal signs and missing differentials on integrals (ex. $\int x^2$ instead of $\int x^2\,dx$) or on a substitution set-up (ex. $u = \sin x$ so $du = \cos x$, instead of so $du = \cos x\,dx$.). Pay attention to notation used in worked problems from the videos and text, and learn from any notation corrections on graded assignments.

Peer-Assisted Learning (PAL) and Academic Success Center (ASC) Tutoring

PAL and ASC tutoring focus on creating a supportive learning environment and engaging students in activities designed to promote learning and mastery of course content. All PAL and tutoring sessions are facilitated by a trained peer leader. PAL sessions will be conducted online (through Zoom) throughout the semester. ASC tutoring will be conducted online initially but may move to in-person later in the semester if possible.

- **Peer-Assisted Learning (PAL)** sessions are available as a complement to the course lectures. PAL leaders have taken this course in the past and can share tips and tricks for success. Leaders also work closely with course instructors to ensure you are equipped with the right tools to support your learning. PAL sessions are a great way to stay current with course content, ask questions, and learn from other students' understanding. You can take advantage of this valuable resource by referring to the session schedule on the ASC website (`https://www.clemson.edu/asc/`) then clicking on the orange "Visit PAL Website" icon on the right. You can attend any leader's sessions that fit your schedule, but you will also get emails and announcements from a specific PAL leader for this course.
- This course is supported by the **Academic Success Center tutoring** program. The ASC tutors have completed and done well in this course, and they understand the concepts well enough to help you work through questions you have. The ASC tutoring program is certified by the College Reading and Learning Association (CRLA), which means that our tutors are trained to share learning and study strategies during tutorial sessions. While tutors will not complete/correct homework for you or help you on take-home tests or quizzes, they will help you understand and reinforce concepts that you are learning in your classes. For more information visit, `https://www.clemson.edu/asc/courses/tutoring/index.html`. To view the complete ASC Tutoring Schedule, visit `https://sites.google.com/g.clemson.edu/asctutoringschedule/home`.

Specific COVID-19 related information for in-person classes

While on campus, face coverings are required in all buildings and classrooms. Face coverings are also required in outdoor spaces where physical distance cannot be guaranteed. Please be familiar with the additional information on the Healthy Clemson website (`https://www.clemson.edu/coronavirus/index.html`), such as the use of wipes for in-person classes. If an instructor does not have a face covering or refuses to wear an approved face covering without valid accommodation, students should notify the department chair. If a student does not have a face covering or refuses to wear an approved face covering without valid accommodation, the instructor will ask the student to leave the academic space and may report the student's actions to the Office of Community & Ethical Standards as a violation of the Student Code of Conduct. If the student's actions disrupt the class to the extent that an immediate response is needed, the instructor may call the Clemson University Police Department at 656-2222.

Copyright Statement

Materials in courses should be considered to be copyrighted. They are intended for use only by students registered and enrolled in a particular 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. Students must seek permission from instructors to record any class activity, including lectures, discussions, and presentations. Students should be reminded to refer to the Use of Copyrighted Materials and "Fair Use Guidelines" policy on the Clemson University website for additional information (`https://clemson.libguides.com/copyright`).

Note: In particular, notes and any assignments/quizzes/exams prepared by instructors for this course are considered copyrighted and their property. You are not permitted to post course materials to commercial websites such as Chegg, Course Hero, etc. If you post an instructor's course content, you may be violating their intellectual property rights.

Academic Integrity

Students are expected to adhere to the following official Clemson academic integrity statement. "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."

Providing or using materials (like Chegg) to provide or obtain an academic advantage is in violation of the University's academic integrity policy. Giving someone else access to your Canvas and/or MyLab Math account violates the code of student conduct computer use policy and could be considered in violation of the academic integrity policy.

The penalties for academic integrity violations can be severe and any student found to be "in violation" will be subject to penalties as outlined in the Undergraduate Academic Integrity Policy. See the Undergraduate Academic Integrity Policy (`http://catalog.clemson.edu/content.php?catoid=16&navoid=478#undergraduate-academic-integrity`) for additional information.

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 this class should let the professor 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, by emailing studentaccess@lists.clemson.edu, or by visiting Suite 239 in the Academic Success Center building. Appointments are strongly encouraged - drop-ins will be seen if at all possible, but there could be a significant wait due to scheduled appointments. Students who receive Academic Access Letters are strongly encouraged to request, obtain and present these to their professors 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/`.

If you have a letter stating specific testing accommodations to which you are entitled, please turn in a copy to your instructor at least **one week prior to the test**. Your instructor will keep you informed as to how your accommodations will be handled.

It may not be possible to grant requests for accommodations if the request is made less than one week prior to the test.

Non-Discrimination

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, veteran's status, genetic information or protected activity 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. This policy is located at `http://www.clemson.edu/campus-life/campus-services/access/title-ix/`. Ms. Alesia Smith is the Clemson University Title IX Coordinator, and the Executive Director of Equity Compliance. Her office is located at 110 Holtzendorff Hall, 864.656.3181 (voice) or 864.656.0899 (TDD).

Campus Safety

Clemson University is committed to providing a safe campus environment for students, faculty, staff, and visitors. As members of the community, we encourage you to take the following actions to be better prepared in case of an emergency:

(a) Ensure you are signed up for emergency alerts (`https://www.getrave.com/login/clemson`

(b) Download the Rave Guardian app to your phone (`https://www.clemson.edu/cusafety/cupd/rave-guardian/`)

(c) Learn what you can do to prepare yourself in the event of an active threat(`http://www.clemson.edu/cusafety/EmergencyManagement/`)

Course Coordinator

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Comments to: burr3@clemson.edu

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