

Clemson University
Department of Mathematical Sciences

MATH 1080-241 Calculus II
Summer Session II 2016

Instructor: Professor Matthew Macauley, Martin O-325, 656-1838 (no voicemail!)

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Course Description: MATH 1080 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.

Prerequisite: MATH 1060 (Calculus I).

Office Hours & Communication Strategy:

“Office hour meetings” can happen through Adobe Connect.

I plan to be available for a one-hour slot most weekday evenings, though I will be traveling at times, so I will keep you posted as to when I will login, at least 24 hours in advance.

Please send an e-mail for an appointment time outside of those times. These meetings could be individual or group. To log on to a meeting, go to <https://connect.clemson.edu/macauley/>

Email is the best way to reach me. I have not set up voicemail on my phone (as a way to encourage you to use email instead!), and I will be traveling to a few conferences during the class. I strongly recommend that you put Math 1080 in the subject line of any email – I will set up a Gmail filter for this.

Students are responsible for checking their Clemson e-mail regularly.

Useful websites:

Course webpage: <http://www.math.clemson.edu/~macaule/> (all relevant links posted here)

Blackboard: <https://bb.clemson.edu/> (Learning Activities can be found here)

General MATH 1080 site: https://mthsc.clemson.edu/ug_course_pages/view_course_page.py?course_id=8 (study guides, practice exams, etc., but my calendar is *different* than the one here)

Online homework: <http://www.webassign.net/>. The WebAssign Class Key for MATH 1080-241, Summer II, 2016 is **clemson 3373 2848**.

Text: *Calculus*, by James Stewart. Cengage Learning. Refer to the MATH 1080 website for your options for purchasing the textbook and associated software.

Required technology:

An Internet Browser that contains the Adobe Flash Player and Adobe PDF Reader is required.

Access to Blackboard at <https://bb.clemson.edu> is required. This online course will be conducted through Blackboard.

Adobe Connect - recommended for ‘office hour meetings’, and it’s free.

Hardware - headset microphone - recommended, not required for meeting through Adobe Connect.

Hardware – a computer with a webcam is required to take exams using the Remote Proctor NOW software.

Calculators/Other Technology: A calculator is not required for this course. Calculators can be used to assist with homework and Learning Activities; however, the use of calculators or any other form of technology on exams will not be permitted.

Schedule: This course is being offered in an entirely ONLINE asynchronous format through Blackboard. The course calendar can be found on the course website.

Lectures There will be 23 lectures, ranging in length from 15 to 55 minutes, that will be available on YouTube. Students will be required to watch roughly one lecture each weekday. The lecture schedule is listed on the course calendar.

Learning Activities Each lecture has one corresponding *Learning Activity* (and in a few cases, two). In an on-campus Math 1080 course at Clemson, roughly half of the class time is devoted to working on these Learning Activities alone or in small groups. In a summer class, this is always done during the 2nd half of a two-hour class following a lecture on the material. It is thus *strongly recommended* to get into the habit of completing a Learning Activity right after you finish watching the corresponding online lecture. Learning activities will not be graded, but solutions will be posted on Blackboard the following day. Some of the exam problems will be taken directly from Learning Activities.

Homework: WebAssign is *required* for online homework. Students register for it at www.webassign.net; use the following course key: **clemson 3373 2848**. A three-page pdf of detailed instructions can be found on the course webpage. The due date for all 23 assignments can be found in the calendar when you log into WebAssign, though here is a general rule of thumb: the WebAssign homework “HW k ” will usually be due at 11:59pm on the day that “Lecture ($k + 1$)” is scheduled (certainly no earlier, once or twice it is a day later than this). Late assignments will NOT be accepted.

Course Format: This course is being offered in one summer semester so EVERYTHING GOES QUICKLY.

You should expect to spend at least 4 hours per day on this course:

Listening to (usually) one online lecture.

Working written Learning Activity problems.

Working online homework problems.

You will prepare for two video-proctored tests and a cumulative Final Exam.

Because this is an online course, our chief means of communication is through Blackboard and e-mail. It is important that you check your Clemson e-mail on a regular basis - at least once a day.

Attendance: Because this is an asynchronous online course, a zero on an online homework assignment or a written homework assignment that is not turned in will be counted as 1/2 of a missed class. Any student who accumulates 8 ‘missed classes’ before July 17 (the last day to drop the course without a final grade) is subject to being dropped from the course.

Exams: There will be 2 exams (closed book and notes) during the semester and a cumulative final exam: Midterm 1 on Wed. July 6, Midterm 2 on Wed. July 20, and the Final Exam on Fri. July 29. These will be taken on your computer Remote Proctor NOW: which is a program that access the exam from Blackboard and “locks down” your computer browser down, and videotapes you taking the exam. Each video is individually and personally reviewed by three staff members at the Remote Proctor

NOW company, and the professor is alerted to any irregularities or suspicious activity and then can choose to view the video feed. There is a nominal fee (approx. \$12) per exam for this service that you will be responsible for paying to Remote Proctor NOW. Calculators or compute software (e.g., WolframAlpha) will not be allowed on any exam. The Remote Proctor NOW will “lock down” your computer so that you cannot use your browser or other programs during the exam.

Exams will be a combination of multiple choice and short answer. I may break a longer problem into smaller steps, and have you give an answer at each step so you can “show your work” and so I can give you partial credit when appropriate.

Grading: Your final grade will be computed as follows:

Online HW	25%
Midterm 1	25%
Midterm 2	25%
Cumulative Final Exam	50%

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

The letter grade will be assigned as follows:

A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Make-Up Policy: In general, no make-up exams will be given. 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.

Course Objectives: The course objectives are to develop an understanding of the concepts of calculus of one variables and their applications to practical problems from geometry, science, and engineering.

Portfolios: This course contributes to general education requirements in the Mathematical, Scientific, and Technological Literacy competency. Any exams or activities, particularly the more challenging or complex ones, could be placed in a portfolio as evidence for *Objective 1: Demonstrate mathematical literacy through solving problems, communicating concepts, reasoning mathematically, and applying mathematical or statistical methods using multiple representations.* Any learning activities where computer software or a graphing calculator was used to advance learning and understanding of mathematical concepts could be placed in a portfolio for *Objective 4: Apply information technologies to intellectual and professional development*

Material Covered: The general MATH 1080 website, https://mthsc.clemson.edu/ug_course_pages/view_course_page.py?course_id=8, has a detailed list of topics covered in this course, though beware that our calender differs a little from the one posted there – that refers to the on-campus Math 1080 course.

Student Learning Outcomes: Upon successful completion of MATH 1080, students will be able to

Differentiate, integrate and apply exponential and logarithmic functions (two of the most important functions occurring in engineering and science applications).

Apply the Riemann sum and the associated definite integral for geometric and physical quantities arising frequently in engineering applications (e.g. area and volume of a solid of revolution).

Apply integration techniques (e.g., integration by parts, trigonometric integrals, trigonometric substitution, partial fractions, and improper integrals) to evaluate integrals of more complicated functions, with applications in engineering and science.

Represent the equations of graphs on the rectangular coordinate system in either rectangular or parametric form and describe the relationship between polar and rectangular coordinates.

Apply calculus techniques to study curves in rectangular or parametric form and recognize which form is suitable for a given application in engineering and science.

Demonstrate fundamental concepts in sequences and series (e.g. convergence properties), which will be needed in engineering applications including Fourier analysis and signal processing.

Demonstrate the ability to work on learning activities in small groups to develop problem-solving and communication skills.

Key Dates

June 22 (Wed)	Classes begin; late enrollment fee applies
June 23 (Thu)	Last day to register or add a class
June 27 (Mon)	Last day to drop a class or withdraw from the University without a W grade
July 4 (Mon)	July 4th Holiday
July 6 (Wed)	Midterm 1
July 15 (Fri)	Last day to drop a class or withdraw from the University without final grades
July 20 (Wed)	Midterm 2
July 28 (Thu)	Study Day
July 29 (Fri)	Final Exam

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.”

Special Accommodations: Students with disabilities who need accommodations should make an appointment with Dr. Arlene Stewart, Director of Disability Services, to discuss specific needs within the first week of classes. Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. Student Disability Services is located in Suite 239 Academic Success Building (656-6848; sds-1@clemson.edu). Please be aware that accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

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>

Statement Included for Certification Purposes: In this online course, you will interact with the content, instructor and classmates on at least a weekly basis through course assignments, asynchronous discussions and/or synchronous sessions as indicated in this syllabus.