Course Information and Policies

Description
MATH 1040 and MATH 1070 constitute the year-long calculus sequence. The sequence introduces the theory and practice of the calculus of one variable to model phenomena in engineering and science. MATH 1040 covers relevant pre-calculus and algebra review, limits, continuity, and introduction to differential calculus. The combination of MATH 1040 and MATH 1070 covers the same calculus material as MATH 1060. MATH 1040 is 4 credit hours and is graded on a pass/fail scale. The MATH 1040 final course average will be incorporated into the MATH 1070 final course average. MATH 1070 is 4 credit hours and is graded on an A, B, C, D, F scale.

Prerequisites
Successful completion of MATH 1040 (MthSc 104 in previous semesters) – Pre-Calculus and Introductory Differential Calculus.

Students who do not meet prerequisites will not be permitted to remain in the course.

Learning Outcomes
Upon completing this course, it is expected that a student will be able to do the following:

1. **Limits and Continuity**: Explain the concept of a limit, apply the $\varepsilon - \delta$ definition of a limit, evaluate limits involving elementary functions, including indeterminate forms, and apply limits to determine the continuity of a function at a point.

2. **Derivative**: State and apply the limit definition of the derivative, recognize when a function is not differentiable, and use derivative theorems to calculate derivatives.

3. **Implicit Functions**: Distinguish between implicitly and explicitly defined functions and calculate derivatives for implicit functions.

4. **Derivative Applications**: Use information from derivatives to determine the behavior of a function, solve elementary optimization problems, and determine rates of change in models of physical phenomena.

5. **Antiderivatives**: Find antiderivatives, use the Substitution Method to find antiderivatives, and solve elementary initial value problems.

6. **Definite Integral**: State the definition of the definite integral as the limit of a Riemann sum and use properties of summation to evaluate certain definite integrals, including, but not limited to, definite integrals for area under a curve.

7. **Fundamental Theorem**: Evaluate definite integrals by finding antiderivatives, and demonstrate a working knowledge of the inverse relationship between differentiation and integration.
MATH 1070
Pre-Calculus and Introductory Differential Calculus
(second semester of year-long Calculus)

Topical Outline and Objective Skills
Students should refer to the tentative daily schedule course calendar at the course website for a listing of sections covered in MATH 1070, and the days when they will be covered. Also posted is a course objectives document, which gives a detailed listing of the skills that students are expected to master.

Text

Technology
Software -- WebAssign – required

Calculator -- Students will be expected to use either laptop computers or a basic scientific graphing calculator for homework and classroom exercises. Students will not be permitted to use laptop computers or calculators on any unit test or the Final Exam.

Cellphones or other technology -- Students will not be permitted to use cellphones or other technology on any unit test or the Final Exam.

Websites
http://mthsc.clemson.edu/ug_course_pages/MATH1070 -- General MATH 1070 site which includes this syllabus, a daily schedule including instructional objectives, announcements, and other useful information.

http://www.registrar.clemson.edu/publicat/catalog/2014/AcadReg.pdf -- Detailed information about Clemson University undergraduate class regulations including academic integrity, attendance policy, mid-term grades, final examinations, and posting of grades.

http://www.clemson.edu/canvas -- Follow links to your section of MATH 1070 in Canvas. You are responsible for checking this website and your university e-mail account (userid@clemson.edu) on a regular basis for announcements and class materials. Gmail accounts will not be used for official university correspondence.
Academic Dishonesty
Students are expected to adhere to the following official Clemson academic integrity statement. You may get and give help with your classwork and homework (as allowed by your instructor), but do not submit another student's work. Giving someone else access to an academic website that requires your password (like Canvas or WebAssign) violates the code of student conduct computer use policy.

"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."

Attendance
You are expected to be regular and punctual in your class attendance. You are responsible for all notes, assignments, and announcements made in class. Students who have more than 8 absences are subject to being dropped from the course. You must provide your instructor with proper documentation for university sanctioned absences. If the instructor does not arrive in the classroom within 15 minutes after the scheduled start time, class is dismissed for the day.

Any assignment(s) 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 contact by your instructor via e-mail or Canvas. In the event of a university cancellation during a scheduled test or exam, your instructor will notify you as to the date of the rescheduled exam.

Structure
Instructional techniques and classroom structure will be determined by your instructor.

Prior to each class meeting, you should ...
- Complete the homework assignment for the previous class meeting.
- Read the assigned material in the text.
- Begin the next homework assignment.

*It is the student’s responsibility to master the objectives of the course.* Resources available to you include the instructor, the class teaching assistants, your fellow students, the course Canvas site, the MATH 1070 web site, the library, on-line course resources, and Supplemental Instruction (SI).

Dedicated student effort and study is needed to master the learning objectives of the course. Students are expected to aggressively participate in their own learning by reading the textbook, working homework, practicing course objective skills, and seeking help in a timely manner when necessary.
Grading
The final course grade will be determined by the scores on

- 4 Common Tests (Dates: Final Course Average MATH 1040, 9/20, 10/25, 11/29) weighted 15% each (60% total)
- Section Work (average of in-class work, additional HW, quizzes, etc. as determined by individual instructors) weighted 10%
- Department Work (online WebAssign) weighted 10%
- Common Final Exam (Date: 12/11) weighted 20%

The Final Exam is mandatory (no exemptions) and comprehensive. No rescheduling of the final exam will be permitted.

In order for a student’s course average to be computed, a student must have either:
(a) a final exam score of 60% or higher, or
(b) a weighted average test and final exam score of 60% or higher where the weighted average is computed as
\[(15*(CA+T1 + T2 + T3 + FE - \min(CA,T1,T2,T3,FE)) + 20*FE) / (4*15 + 20)\]
In the formula; CA is the Final Course Average from MATH 1040; T1, T2, and T3 are the percentage scores on tests 1, 2, and 3 respectively; FE is the percentage score on the final exam.

Note: The previous formula has the effect of replacing the lowest test score with the final exam score if this improves the weighted average.

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

If either of the conditions (a) and (b) above are met, the final course average is computed as
\[(10*SW + 10*HW + 15*(CA+T1 + T2 + T3 + FE - \min(CA,T1,T2,T3,FE)) + 20*FE) / (10 + 10 + 4*15+ 20)\] where SW is the percentage score on the section work, learning activities etc, HW is the percentage score on the department homework, and the other variables are as previously defined. Again, the final exam score is substituted for a single lower test score if possible.

If either of the conditions (a) and (b) above are met, the final letter grade is determined from the course average according to the grading scale:
-90% or higher: A: otherwise,
-80% or higher: B: otherwise,
-70% or higher: C: otherwise,
-60% or higher: D: otherwise,
-less than 60%: F.
Midterm Grade
On or before October 13th, your instructor will give you a midterm grade. The midterm grade can be calculated as follows. Please note that your midterm is only an estimate of your grade. Your final course average could differ significantly from your midterm.
Midterm = (15*CA+45*T1+10*SW+10*DW)/80

Tests
There will be 3 common unit tests during the semester. All of the tests will take place in the evening at 7:30 PM on designated Wednesdays (9/20, 10/25, 11/29). Ninety minutes will be allotted for each test. You have 1 week after graded tests are distributed in class to submit a unit test for re-grading or to dispute your score.
The final exam is comprehensive – it will be given Monday, 12/11 beginning at 11:30 am and will be allotted 2.5 hours.
Students will not be permitted to use laptop computers, calculators, cellphones, or other technology on any test or the final exam. The use of a textbook and/or notes is prohibited on all MATH 1070 tests and Final Exam.

An absence from a test or exam will result in a grade of zero. If you miss a unit test or the final exam due to an emergency that would qualify as an excused absence, you must inform your instructor within 24 hours of the scheduled test or exam. In the case of an excused absence for a unit test, the final exam score will be used in place of the missing test score.

Section Work
The Section work portion of the grade may include (but not limited to) in-class activities, traditional individual quizzes, solving problems to be turned in, additional homework problems, projects, reading quizzes, or worksheets. These assignments will be determined by your instructor. Some amount of low scores may be dropped as determined by the instructor.

Department Work
Each student will work online homework associated with the Calculus text (including Quick Prep sections which are only available in WebAssign) through the web portal, WebAssign. Your instructor will provide you with information about registering with WebAssign.

General Education Competency
This course meets the Mathematical general education competency.

B. Mathematics
Demonstrate mathematical literacy through solving problems, communicating concepts, reasoning mathematically, and applying mathematical or statistical methods using multiple representations where applicable.
H. Critical Thinking
Demonstrate the ability to assemble information relevant to a significant, complex issue, evaluate the quality and utility of the information, and use the outcome of the analysis to reach a logical conclusion about the issue.

Particularly activities involving Related Rates and/or Optimization

Accessibility
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. Students who receive Academic Access Letters are strongly encouraged to present these to their instructor as early in the semester as possible so that accommodations can be made in a timely manner. 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 or final exam. Please be aware that accommodations are not retroactive and new Academic Access Letters must be presented each semester.

CU Title IX
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 (e.g., opposition to prohibited discrimination or participation in any complaint process, etc.) in employment, educational programs and activities, admissions, and financial aid. Thus 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/. Mr. Jerry Knighton is the Clemson University Title IX Coordinator. He also is the Director of Access and Equity. His office is located at 111 Holtzendorff Hall, (864) 656-3181 (voice) or (864) 565-0800 (TDD).

Final Exam
Monday, December 11, 2017; 11:30 am - 2:00 pm

Course Coordinator
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