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
1040 Prerequisites:
Demonstrated proficiency in college algebra, either by
1) a score of 65 or higher on the Clemson Math Placement Test, CMPT, OR
2) credit for any MATH course, obtained either at Clemson University, through transfer, or AP or IB credit

MATH 1040 is not open to students who have received credit for MATH 1060.

1060 Prerequisites:
1) Credit for MATH 1030, 1040, 1050, or 1060, obtained either at Clemson University, through transfer, or AP or IB credit OR
2) Score of 80 or higher on the CMPT

Students who score a 65 or higher on the CMPT and who do not meet prerequisites for MATH 1060 should remain in MATH 1040.

Learning Outcomes
Upon completing this course, it is expected that a student will be able to do the following:
1. **Pre-Calculus**: Demonstrate mastery of algebra including properties of numbers, polynomials, rational expressions, and radicals. Demonstrate mastery of functions, graphs, and transformations as well as solving, factoring, and simplifying linear, quadratic, and rational functions equations.

2. **Trigonometry**: Demonstrate mastery of the unit circle and right triangle trigonometry, trigonometric functions, trigonometric identities and equations.

3. **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.
4. **Derivative:** State and apply the limit definition of the derivative, recognize when a function is not differentiable, and use derivative theorems to calculate derivatives.

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

**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 1040, 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**


Brooks/Cole, 2012 -- required

**Technology**

Software -- WebAssign – required

Calculator -- Students will be expected to use either laptop computers or a scientific calculator such as a TI-89 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/MATH1040](http://mthsc.clemson.edu/ug_course_pages/MATH1040) -- General MATH 1040 site which includes this syllabus, a daily schedule including instructional objectives, announcements, and other useful information.


[http://bb.clemson.edu](http://bb.clemson.edu) -- Follow links to your section of MATH 1040 in Blackboard.

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.
MATH 1040
Pre-Calculus and Introductory Differential Calculus
(first semester of year-long Calculus)

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.

"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 Blackboard. In the event of a university cancellation during a scheduled test or exam, your instruction 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 Blackboard site, the MATH 1040 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

- 3 Common Tests (Dates: 2/3, 3/2, 4/13) weighted 20% each (60% total)
- Classwork (average of group Learning Activities, additional HW, quizzes, etc. as determined by individual instructors) weighted 10%
- Department Homework (WebAssign problems) weighted 10%
- Common Final Exam (Date: 4/25) weighted 20%

The Final Exam is mandatory and comprehensive (no exemptions). 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 64% or higher, or
(b) a weighted average test and final exam score of 64% or higher where the weighted average is computed as
   \[ \frac{20*(T1 + T2 + T3 + FE - \min(T1,T2,T3,FE)) + 20*FE}{3*20 + 20} \]
In the formula; 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 NP 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
   \[ \frac{10*CW + 10*HW + 20*(T1 + T2 + T3 + FE - \min(T1,T2,T3,FE)) + 20*FE}{10 + 10 + 3*20 + 20} \]
where CW is the classwork percentage score, 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:
-70% or higher: P; otherwise,
-less than 70%: NP.

Midterm Grade
On or before February 26th, 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 = \((60*T1+10*SW+10*DW)/80\)

Tests
There will be 3 common unit tests during the semester. All of the tests will take place in the evening at 5:30 PM on designated Wednesdays (2/3, 3/2, 4/13). 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. After this one-week period, no grading appeals will be considered.

The final exam is comprehensive – it will be given Monday, 4/25 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 1040 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 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.

Particularly Unit 2, 3, or 4 materials.

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

**Accommodations**
Students who need accommodations should make an appointment with Dr. Margaret Camp, Director of Student Disability Services, to discuss specific needs within the first month of class. Student Disability Services is located in Suite 239 Academic Success Building (656-6848; sds-l@clemson.edu). Students should present a Faculty Accommodation Letter from Student Disability Services when they meet with instructors. 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 Faculty Accommodation 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, April 26, 2016; 11:30 am - 2:00 pm

Course Coordinator
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