Course Coordinator: Ms. R. Davidson, Martin 0-316, rmdavids@clemson.edu, 656-5211

Course Objectives:
- To develop a conceptual understanding of basic calculus concepts through the study of rates of change and the interpretation of rates of change in non-technical settings using a data-driven approach.
- To model discrete data as continuous functions and understand mathematical connections.

Prerequisites: A student may enroll in Math 1020 with prior credit for any college math course or a current score of 60 or better on the Clemson Mathematics Placement Test. Additional credit will not be given for Math 1020 if a student has previous credit for Math 1060.

Required Materials:
- Web Assign Access Code associated with Calculus Concepts: An Informal Approach to the Mathematics of Change 5th edition, by LaTorre, Kenelly, Fetta, Carpenter, and Biggers. The textbook is included as an eBook in the Web Assign online homework system. (Note that this access code can be used in Math 2070.)
- Lecture and Note-taking Guide to Accompany Calculus Concepts 2015-2016 edition, by Biggers, Davidson, Hanna, and McKnew. (Text will also be used next semester in Math 2070.)
- TI-83+ or TI-84+ calculator. The calculator will be used extensively in this course, and you will be expected to use it in class and on assignments, quizzes, and exams. (TI-Inspire, TI-89, TI-92 and similar calculators with symbolic algebra systems are NOT permitted.)
- A see-through ruler

Optional Bookstore Bundles:

Learning Outcomes: Upon successful completion of this course, a student will be able to:
- Evaluate functions and solve equations with the aid of a TI-84+ calculator.
- Mathematically describe the behavior of functions.
- Apply business terms: profit, revenue, cost, average cost, or the break-even point.
- Find and interpret marginal revenue and cost, given a revenue or cost function.
- Use compound interest formulas to find present value, future value, and doubling time.
- Develop a completely defined model from a data set. Use the model for extrapolation and interpolation and finding rates of change.
- Find change, average rate of change and/or percentage change from a function represented verbally, graphically, numerically, or algebraically.
- Find and interpret the slope of a tangent line to a function graph.
- Find and interpret derivatives for a large class of functions, including polynomial, exponential, logarithmic, and logistic functions, and their sums, products, and compositions.
- Use derivatives to optimize a function and interpret that value.
- Sketch first and second derivative graphs.
- Determine a function graph from its derivative graph.

General Education Requirement: Math 1020 satisfies the General Education requirement for Mathematical, Scientific, and Technological Literacy. You may demonstrate mathematical literacy through solving problems, communicating concepts, reasoning mathematically, and applying mathematical or statistical methods, using multiple representations where applicable. Problems that require mathematical literacy can be found in your class work, homework and tests: finding a mathematical model for discrete data; using a model to extrapolate or interpolate, with interpretation; finding and interpreting various types of rates of change; using a derivative to optimize a function, with interpretation; finding and interpreting marginal revenue or cost.
Course Regulations: http://www.registrar.clemson.edu/html/catalog.htm
Please read the information concerning Undergraduate Course Regulations, Academic Integrity, Class Attendance, Midterm Grades, Final Exams, and Posting of Grades found in the Undergraduate Announcements.

"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."

Note that work from other past or current courses may not be used to meet the requirements for this course. Also note that giving access to an academic website that requires your password (for example Web Assign or Blackboard) violates the code of student conduct computer use policy.

Math 1020 Course Website: https://mthsc.clemson.edu/ug_course_pages/MTHS1020
The course website contains resources such as the Course Syllabus, Course Calendar, Objectives and Exercises, previous semester tests with solution keys, testing information, answer keys for current semester tests, and links to important websites.

Blackboard: http://bb.clemson.edu/ Students are responsible for materials and announcements posted on Blackboard, as well as any email sent to their Clemson email address. An instructor’s Blackboard page may include assignments, worksheets, answer keys, skill objectives, your grades, and other resources.

Attendance: Attendance will be recorded. Students are responsible for all notes, assignments and announcements made in class, and are expected to be regular and punctual.
- Students absent due to an emergency or a University sanctioned activity (athletic travel, field trip, etc.) should provide documentation to their instructor. Students with excessive absences (3 or more classes) may be dropped from the course at any time.
- If an instructor does not show up for class, quietly wait 15 minutes before leaving. Please call 656-3434 to report this should it happen.
- In the case of inclement weather, check your Clemson email for communication from your instructor.
- If an assignment is due at the time of a class cancellation due to inclement weather (or any university cancellation), it will be automatically be due at the next class meeting, unless contacted by your instructor via email or Blackboard within 24 hours of the cancellation. In the event of the university closing during a scheduled test, students will be notified by their instructor as to the date of the rescheduled exam.

Class Work: This reflects performance on in-class assignments, written homework assignments, and quizzes. Late work will not be accepted for credit unless specific arrangements have been made with the instructor. No make-ups will be given on quizzes or in-class assignments. Instead, at the end of the semester, the lowest scores on 10% of these grades will be dropped before the final grade is computed.

Web Assign: http://www.webassign.net (Not accessible through Blackboard!) Web Assign is an online homework system that uses problems from the Calculus Concepts textbook. Registration begins on Friday, August 21, at 8 pm. (Web Assign is unavailable beforehand.) You have free access to Web Assign during a two-week trial period, after which you must purchase a Web Assign Access Code (unless you already have an access code for this textbook). Specific due dates for each assignment are listed both on the Course Calendar and in Web Assign. Late work will not be accepted, though 10% of your Web Assign grades (three assignments) will be dropped before the final grade is computed.

Homework: Problem solving is essential to mastering the objectives in this course. For additional practice problems, refer to the Objectives and Exercises document (posted on 1020 course website), which lists Suggested Textbook Exercises. Work those Suggested Textbook Exercises that have not been discussed in lecture, the Lecture and Note Taking Guide, or in Web Assign.

Academic Success Center: http://www.clemson.edu/asc A wide variety of resources are offered, including free drop-in Math 1020 Tutoring. The Supplemental Instruction Program (SI) is run through this center. SI study sessions support learning by reviewing concepts and building study and test-taking skills. Refer to the ASC website for tutoring and SI schedules and additional information on ASC offerings.
Tests and Final Exam: Three ninety-minute tests are scheduled, all on Wednesday nights, on the dates listed on the Course Calendar. The final exam is mandatory and comprehensive. It is scheduled for Wednesday, April 27, at 7-9:30 pm. Each test and the final exam is closed-book and closed-notes, and requires a TI-83+ or TI-84+ calculator and a clear ruler. Cell phones and other technology are not permitted in any testing environment. Use of unapproved technology will lead to a charge of academic dishonesty.

Make-ups for missed tests may be available for university-sanctioned absences if the instructor is notified at least one week in advance. Students have one week from the date a test is returned to submit it for re-grading or to correct a clerical error. The final exam grade may replace the grade for a single missed test.

No rescheduling of the final exam will be permitted to accommodate travel arrangements. Since Math 1020 has a common exam and common exams take priority, a student who has more than two final exams in one calendar day, or two final examinations at the same time, should contact their other course instructor no less than one week prior to the last class meeting to reschedule.

Testing Accommodations: Students with disabilities requesting accommodations should make an appointment, with Dr. Margaret Camp, Director of Disability Services (Suite 239 Academic Success Building, 656-6848, sds-l@clemson.edu), within the first week of classes to discuss specific needs. At least one week prior to the first test, students must present and discuss a Faculty Accommodation Letter from Student Disability Services at a meeting with their instructor, and may be required to meet with the Math 1020 Course Coordinator (rdavids@clemson.edu; Martin Hall O-316) to finalize the accommodations. Students who do not follow these procedures may not be accommodated. Students must inform their instructor of their intentions before each subsequent test. Please be aware that accommodations are not retroactive and new Faculty Accommodation Letters must be presented each semester.

Course Grade:
- In order to earn a passing grade (D or higher) for the course, a student must first have either:
  - (1) Final Exam score of 60% or higher, OR
  - (2) Weighted Exam Score of 60% or higher, which can be calculated using the formula:
    \[
    \text{Weighted Exam Score} = \frac{0.20 \times (\text{Test 1} + \text{Test 2} + \text{Test 3}) + 0.20 \times (\text{Final exam})}{0.80}
    \]
    where in the event of a higher final exam score, it replaces the lowest test score in the formula.

  - If neither of the above conditions (1) or (2) are met, the final course grade is F and the following computation of the final course average is irrelevant to the grade assigned in the course.

  - If a student meets one of the initial criteria for passing the course, the grade will be assigned based on a 10-point scale (90% = A, 80% = B, etc.) according to the more favorable of the two methods shown below:

<table>
<thead>
<tr>
<th>Course Average: Method I</th>
<th>Course Average: Method II</th>
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<tbody>
<tr>
<td>Web Assign</td>
<td>Web Assign</td>
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<tr>
<td>Class Work</td>
<td>Class Work</td>
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<tr>
<td>3 Exams @ 20% each</td>
<td>Best 2 of the 3 Exams @ 20% each</td>
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<td>Final Exam</td>
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Note: It is anticipated that in Fall 2016, Math 2070 will require a grade of C or higher in Math 1020 as a prerequisite.

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. This includes a prohibition against sexual harassment and sexual violence as mandated by Title IX of the Education Amendments of 1972: “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal assistance.” 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 and the Director of the Office of Access and Equity, at 110 Hotzendorff Hall, 864-656-3181 (voice) or 864-656-0899 (TDD).