**MA 141: Calculus I**
Fall 2019

**Instructor:** Elizabeth Dempster
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**Recitation Leader:** TBS
**Office:**
**Email:**

**Course Description:** (4 credit hours) First of three semesters in a calculus sequence for science and engineering majors. Functions, graphs, limits, derivatives, rules of differentiation, definite integrals, fundamental theorem of calculus, applications of derivatives and integrals. Credit is not allowed for both MA 141 and MA 121 or MA 131.

**Prerequisites:** MA 108 or 111 with a C- or better, or a 550 on the SAT Subject Test in Mathematics Level 2 or the NCSU Math Skills Test, or 2 or better on an AP Calculus exam.

**Textbook:** PDF File on WebAssign. Access to WebAssign can be purchased at webassign.ncsu.edu.
**Blue Books:** All tests will be taken in blue books. You will need to purchase and turn into our t.a. 3 small blue books and 1 large blue book. Do not write on them anywhere. Turn them in by * submit date*
**Attendance Policy:** Attendance will be taken at the beginning of class. Students who are late or not engaged in class may be marked absent. Students who miss fewer than 5 times(excused or unexcused), will receive a bonus on their webassign averages. Your attendance will be posted on Moodle. If you have concerns that you will miss class test date for an excused reason please email and make arrangements ahead of time. If you are sick or something else extraordinary happens on the day of the test, get word to me as soon as you can. Excused tests can me be made up at the time later in the semester.
**Homework:** The WebAssign homework assignments are obtained, submitted, and graded online and will usually are due a few days after the lecture and a recitation day. All due dates for assignments are posted on the Webassign site. It is very important that you keep up with this work. I highly recommend you print each assignment and work it with pencil and paper before submitting. Extensions may be requested via WebAssign, but late homework penalty to motivate you to turn in your assignments in a timely way.

**In-class tests:** We will have 3 in-class exams.
The dates are Thursday, September 12th, Tuesday, October 8th(might be moved to Monday depending on Physics) , Thursday, October 31st, and Thursday, November 21st.
If an in-class test is missed with an excused absence (i.e. for a university-approved reason, with supporting documentation), then a make-up test will be scheduled individually. If an in-class test is missed for an unexcused absence, that test will be given a score of 0. No make-ups will be allowed. Documentation for an excused absence must be provided within 1 week of the missed class.
**Final Exam:** The final exam will be held *Insert your date*
The final exam date is scheduled by the University and is non-negotiable unless you have 3 exams within 24 hours. Inform me by June 15th if you have 3 final exams within 24 hours so we may discuss. The time of the final exam cannot be changed to accommodate any student's travel plans.
**Calculator Policy:** There are NO GRAPHING CALCULATORS allowed on tests. You may bring a scientific or four-function calculator if you choose.

**Grade Disputes:** Answer keys for all tests will be posted on Moodle when the exams are returned in class. If a grading error is found after looking at the posted answer key then you should **provide a written explanation of the error, attached to the original test, to the instructor within 1 week**. Do not alter the original work. The entire test may be re-graded and the test grade is subject to remain the same, increase or decrease at the discretion of the instructor.

**Grading:** Your grade will be determined by the following break down:
Homework: 10%
In-Class Tests: 60% (20% each)
Final: 30%

A student's numerical average will be converted to a letter grade as follows (do not expect any additional rounding or curves):

| | | | | | |
|---|---|---|---|---|---|
| **A+** | 100-98 | **A** | 97-92 | **A-** | 91-90 |
| **B+** | 89-88 | **B** | 87 - 82 | **B-** | 81-80 |
| **C+** | 79-78 | **C** | 77 - 72 | **C-** | 71 - 70 |
| **D+** | 69-68 | **D** | 67 - 62 | **D-** | 61-60 |
| | | **F** | 0 - 59 | | |

**General Class Expectations:**

1. Check your email often. Any announcements send out by email are posted on the Moodle page under announcements.
2. Please be **respectful and professional**. Via email, please identify yourself and the class clearly. Treat everyone in class (other students and myself) with respect and courtesy. In class, be active and engaged and come prepared. In office hours, be prepared to ask me questions and be respectful of others who are also in office hours.
3. Be accountable for your own education. You are responsible for resolving confusion about assignments, due dates, exam dates, accommodations, etc.
4. Do not submit work that is not yours. **It is understood that your name or signature on any assignment or attached to any online submission indicates your adherence to the NC State Honor Pledge: "I have neither given nor received unauthorized aid on this test or assignment."**

**Disability Services:** Reasonable accommodations will be made for students with verifiable disabilities. To receive accommodations, students must register with Disability Services for Students at 1900 Student Health Center, Campus Box 7509, 919-515-7653. https://dro.dasa.ncsu.edu/ Please see the Academic Accommodations for Students with Disabilities Regulations (REG02.20.1). You must discuss accommodations with me *prior* to a test date.

## Course Schedule:

Weekly Class Calendar of Topics

| Date | Section | Topic |
|---|---|---|
| Week 0; 8/21 | Sec 0.1, 0.3 and 0.2 | Precalc. Review and Conic sections |
| Week 1; 8/26 | Sec 0.4 , 1.2 and 1.3 | Parametric, Limits, Continuity |
| Week 2; 9/2 | Sec. 1.4 and 1.1 | Average Rate of Change; Limit review |
| Week 3; 9/9 | Sec 2.1 **Test#1** Sec 2.2 | Defn of Derivative, test, Rules of Derivative |
| Week 4; 9/16 | Sec 2.3, 2.4 and 2.5 | More Derivative rules |
| Week 5; 9/23 | Sec 2.6, 2.7 | Implicit Diff., Related Rates |
| Week 6; 9/30 | Sec 2.7 , review | Related Rates |
| Week 7; 10/7 | **Test#2** | Test and Fall Break |
| Week 8; 10/14 | Sec 3.1, 3.2, 3.3 | Linearization, Newton's Method, Extrema Graphing |
| Week 9; 10/21 | Sec 3.4 and 3.5 | Optimizations and L'Hopital's rule |
| Week 10; 10/28 | Sec.3.6 **Test#3** Sec.4.1 | Antiderivatives, test and areas |
| Week 11; 11/4 | Sec.4.2 and 4.3 | Definite Integral and Fund. Thm. of Calc. |
| Week 12; 11/11 | Sec.4.3, 4.4 and 4.5 | F.T.C. and Integration by substitution and parts |
| Week 13; 11/18 | Sec 4.5 **Test #4** Sec 5.1 | Integration, Test, Areas between curves |
| Week 14; 11/25 | Sec 5.2 [T-giving Break] | Volumes of revolution |
| Week 14; 12/1 | Sec 5.2 | Volumes of revolution and Review |
| Exams-12/8 | Chapters 0 - 5 | All of the above |