MAT 127 -- Calculus II Online Fall 2015

Professor: D. Bradley

Text:

There is no required text. Extensive course notes with worked out problems and examples are provided in the course conference on your FirstClass desktop. For most students, this will be more than sufficient. For those desiring an additional reference, there are many excellent calculus texts to choose from. In the past, the department recommended "Single Variable Calculus: Early Transcendentals" by Jon Rogawski, published by W. H. Freeman and Company, ISBN-13: 978-14292-1075-1, ISBN-10: 1-4292-1075-3. Schaum's Outline of Calculus is available for less than $20 and is an excellent source of over 1100 solved problems. Copies of "Single Variable Calculus for Scientists and Engineers" by Briggs, Cochran and Gillet should be available at the UM bookstore on the Orono campus. If you have a different calculus text that you are comfortable with, it will probably be adequate. Contact me if you have any doubts. Since course notes and lecture videos are freely available, and there is also plenty of free material on the web, you may not need to buy a text.

Lectures:

There are no formal class meetings. Lectures in streaming video format as well as lecture notes are provided in the course conference on your FirstClass desktop. You can access the material at your convenience. There are no scheduled times when you must online.

Grades:

The breakdown will be as follows:

- **Assignments:** 40%
- **Midterm Test:** 30%
- **Final Exam:** 30%

Letter grades will be determined by the following cutoffs: A > 95 > A- > 90 > B+ > 85 > B > 80 > B- > 75 > C+ > 70 > C > 65 > C- > 60 > D+ > 55 > D > 50 > D- > 45 > F.

Help:

For technical assistance with issues concerning MaineStreet, FirstClass, or video problems contact either

- the CED Tech Help staff in (main floor) Room 122 Chadbourne Hall on the UMaine campus in Orono. email: cedtechhelp@umit.maine.edu> ("CED Tech Help" on FirstClass) toll-free phone: 1-877-947-4357 phone: 207-581-4591 (1-4591 on the UMaine campus in Orono).

- or the IT Help Center in (basement) Room 17 Shibles Hall on the UMaine campus in Orono. email: help.center@umit.maine.edu ("Help Center" on FirstClass) phone: 207-581-2506 (1-2506 on the UMaine campus in Orono). Facebook: https://www.facebook.com/UMaine.IT

For help with the course material, email is the best way to reach me. For simple math questions, there's also the Math Lab, located in 116 Neville Hall and staffed weekdays throughout the semester.

Assignments:

Once the course gets underway, you should be able to access homework assignments at the URL http://WebWorK.umemat.maine.edu/webwork2/MAT127-Bradley/. Typically, your username will be your last name (all small letters) and your password will be your 7-digit MaineStreet student ID number used for course registration. (Not your FirstClass password, nor the password that you use to log into MaineStreet.)

To find out what your MaineStreet Student ID number is, visit the Maine Street portal. Once you are logged in, use the following navigation to find your Student ID Number:

Go to Student Self-Service -> Student Center.

Once in Student Center, go to the "Demographic Data" link under the Personal Information bar.

The ID is the first thing listed once you click the Demographic link.

If you have trouble logging in to WebWorK there are usually two reasons: either someone else registered in the course shares your last name, in which case try appending the number 1 or 2 or higher to your username; or you registered for the course after the first official day of class, in which case alert me of your registration by email and I will set up your account.

After successfully logging into WebWorK, you should see a list of problem sets with due dates. Clicking on a problem set will reveal a list of problems. You have the option of downloading and printing a hard copy of the list so that you can work the problems off-line. You can do this using WebWorK's download button, or by printing problems individually using your web browser's print feature. When you're ready to enter your answers, just click on each problem, enter the answer(s) in the box(es), click "Preview Answers" at the bottom of the page to check that WebWorK is interpreting your answers as you intended, and if that's the case then click "Check Answers". If your answer is correct, WebWorK will state this in green, and you will receive credit for the problem. If your answer is incorrect, WebWorK will state this in red, and you will be given an opportunity to try the problem again. You can click the "Email instructor" button to send me feedback if there is a particular problem that you're having difficulty with. In fact, this is the best way to contact me concerning specific WebWorK problems, because WebWorK sends me additional information about the problem automatically when you use this feature.

Midterm Test and Final Exam:

- **UMaine Campus in Orono**: You do not need to sign up for this testing site; just show up at the scheduled time.
  - o Date, time and location for the Midterm: Details will be announced at least a week in advance. Look for information in the course conference on your FirstClass desktop.
  - o Tentative date, time and location for the Final: Details will be posted in the course conference on your FirstClass desktop at least a week in advance, but you can expect the final exam to be held sometime the week of Monday December 14 through Friday December 18 (Final Exam Week). Since the final exam schedule is subject to change by the University, do not make travel plans to leave town until after the end of Final Exam Week.

- **University College Testing Centers**: You'll need to sign up for a test site (https://sites.google.com/a/maine.edu/testing-location-registration/) during the first few weeks of the semester in order to ensure that copies of the midterm test and final exam are available for proctoring at the testing center you prefer. It is also your responsibility

to contact the site in advance to arrange a specific day and time to take the test/exam. Please contact University College Learning Services at 1-800-868-700 or ucls@maine.edu with any questions.

- **High School Students**: Arrange with your guidance office for proctoring of your midterm test and final exam.

- **Individual Proctoring**: Please provide the name of a suitable proctor in your community, preferably a public school, university or college professional, or librarian to University College Learning Services. They'll need your proctor's contact information so they can forward a copy of the test/exam to him/her. To set this up with University College Learning Services, submit the information at https://sites.google.com/a/maine.edu/testing-location-registration/home/university-college-out-of-state-testing . Please contact University College Learning Services at ucls@maine.edu or phone 1-800-696-1124 ext. 3377 (within Maine), (207) 621-3377 (out-of-state), 1-800-696-1125 (fax) with any questions.

Students with Disabilities:

If you have a disability for which you may be requesting an accommodation, please contact Disabilities Services, 121 East Annex on the UMaine Campus in Orono (207-581-2319) as early as possible. In particular, if you will be requesting alternative accommodation for the midterm test and final exam, you'll need to arrange a date and time with Disability Services at least 2 weeks in advance of each test date.

Topics:

· Definition and Properties of the Integral

o Area under a Curve

o Riemann Sums

o The Definite Integral

· Differential Equations

o Modeling with Differential Equations

o Direction Fields

o Separable Differential Equations

o The Fundamental Theorem of Calculus

o Antidifferentiation

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· Integration Techniques

o Substitution

o Integration by Parts

o Partial Fractions

o Tables of Integrals

o Improper Integrals

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· Applications of Integration

o Area Between Curves, Volumes

o Arc Length, Surface Area

o Average Value of a Function

o Motion, Work, Pressure, Force

o Probability

o Exponential Growth and Decay

o The Logistic Equation

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· Infinite Sequences & Series

o Geometric and Monotonic Sequences

o Geometric, Harmonic and Alternating Series

o Conditional and Absolute Convergence

o Convergence Tests - Root, Ratio, Integral & Comparison

o Taylor Series, Binomial Series

o Interval and Radius of Convergence

o Using Series to Evaluate Integrals

o Using Series to Solve Differential Equations

Course Schedule Disclaimer (Disruption Clause):

In the event of an extended disruption of normal classroom activities, the format for this course may be modified to enable its completion within its programmed time frame. In that event, you will be provided an addendum to the syllabus that will supersede this version.