Math 142: Calculus 2
Fall 11
Course Procedures

Professor: Josh Laison
Ford 215, x6689, jlaison@willamette.edu

Office Hours:
Monday 2:00-3:30
Wednesday 2:00-3:30
Thursday 10:00-11:30, at the Bistro
or anytime by appointment or by catching me in my office. You can see my schedule and
available times at http://www.willamette.edu/∼jlaison

Class Meetings: Ford 301
Section 3: 9:10-10:10 Monday, Wednesday, Friday
Section 4: 10:20-11:20 Monday, Wednesday, Friday

Drop-In Math Lab Help: The math hearth
6:30-9:30 PM, Sunday through Thursday

Text: Calculus, Single Variable, 5E, Hughes-Hallett, Gleason, McCallum, et al.
Course Web Page: http://www.willamette.edu/∼jlaison/calc2.html

Grading:

WeBWorK Assignments (approximately 30)	25%
Quizzes (approximately 7)	25%
Group Projects (approximately 7)	25%
Final Exam (1)	20%
Class Attendance and Participation	5%

Course Goals:

- Learn about integration, infinite sequences and series, and differential equations.

- Improve your problem-solving, logical, and analytic skills.

- Improve your ability to communicate mathematical ideas verbally and in writing.

- Gain skills applying the tools of calculus in other disciplines, and translating between
  mathematics and real-world problems.

Ways to Get Unconfused:

- I encourage you to find classmates to work together with on homework problems and
  to study for quizzes and the final, even if you're not confused!

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- Find me in my office during my office hours or at other times, and I will be more than happy to answer questions. Feel free to hang out in the math hearth or in my office and work on homework there. These are great places to meet other statistics students and work together, and I will be easily available for questions.

- If you're working on a WebWork problem, use the "E-mail Instructor" button to ask me a question.

- Come to the evening group study sessions held by the math department in the math hearth. Math majors are paid by the department to hang out and answer math questions 5 nights a week. These are also great places to form study groups.

The Textbook:

I have chosen a textbook that I believe is readable, and in fact interesting to read. I will ask you to read portions of the text for homework each night. I encourage you to do this. It will help your understanding of the material, and you might actually enjoy it!

Homework Assignments and WeBWorK:

Homework will be assigned almost every day of class. Homework assignments will consist of a few problems on WeBWorK, and a few problems from the textbook. The problems from the text will not be turned in or graded, but some of them (or slight variations of them) will appear on quizzes.

WeBWorK is an online homework system. When you enter a correct solution to a homework problem, it will immediately tell you the solution is correct, and give you credit for it in your grade. If you enter an incorrect solution, on most problems you will have the opportunity to go back and try the problem again, and it won't be counted against you.

Tips on using WeBWork:

- Get started early, and try the problems before the day they're due. That way you will have time to seek help. Also, avoid the danger that the system might become overloaded and slow right before an assignment is due, if everyone is trying to enter their answers at the same time.

- WeBWorK usually requires very precise answers. For instance, if the correct answer is 1.60045 and you enter 1.6, the system will say that's incorrect. If you are entering a decimal answer, give at least 5 digits of accuracy. On most problems, you can enter answers like cos(9.81sqrt(340)) instead of a messy decimal, and WeBWorK will do the calculation for you.

- For expressions such as (x + 3)^2, be careful with parentheses. Note that x+3^2 is not the same thing, and would be considered incorrect. Assignment 0 will give you practice entering expressions like this. Also, you can make use of the "Preview answers" option to see that you've used your parentheses correctly.

- Don't spend time guessing random answers and entering them into WeBWork. This is a waste of your time! If you don't know how to do a problem, see the list of ways to get unconfused above.

Quizzes:

The quizzes will be in class approximately every 2 weeks, and will take about half an hour each. They will be designed to test your understanding of the assigned homework problems, with an emphasis on the (ungraded) problems from the textbook. They will also emphasize conceptual understanding over calculation, so calculators will probably not be needed to take the quizzes, and might not be permitted.

Group Projects:

The group projects will give you a chance to apply your newly acquired calculus skills to larger, more involved, and more open-ended problems than those found in the homework.

Your write-ups of these projects should be in paper form, not short-answer form. In particular, make sure you have an introduction explaining the project and a conclusion summarizing what you did. Use complete sentences, even when presenting mathematical formulas. Explain your approach to the problem and your technique of solution. You do not need to show every simplifying step of a computation.

Your grade will be based on both presentation and mathematical correctness. For each of these projects you will be working with one or two partners. Your group will turn in a single project and each member of the group will receive the same grade.

Calculators and WolframAlpha:

Technology is a valuable tool in solving mathematical problems. You are encouraged to use technology when it might help, and we'll spend some time in class talking about how to use technology in calculus. Calculators are good at getting a number or expression solution to a problem, but bad at determining whether that solution is reasonable, explaining what it means, or fitting it into a real-world context. So, you should work to develop these skills, and the quizzes, project, and final will emphasize them.

Late Assignments and Missed Classes:

I expect everyone to attend all classes and turn in all homework assignments on time. Unfortunately, it is inevitable that some people will have crises during the semester that will prevent them from turning in homework on time. If this happens to you, talk to me about it, and I will generally be sympathetic.

Note that I cannot accept late WeBWorK assignments after solutions have been posted.

Disabilities:

If you have a documented disability for which accommodations may be required in this class, please contact me to discuss your needs. Additionally, you will need to register with Disability and Learning Services in the Bishop Wellness Center within the first two weeks of class. All such discussions will be confidential.

Academic Honesty:

Cheating and plagiarism are serious offenses and will be treated severely, in accordance with college policy. In addition, I am personally insulted by such behavior. So please don't do it. These are the practices I expect you to follow in each of the components of the course:

on homework: You may, and are encouraged to, discuss the homework with anyone, get help from technology, your textbook, etc. However, you should still complete your problems yourself. Having someone type solutions into WeBWorK for you is cheating.

on the group projects: The members of the group should contribute equally to producing the final product. Do not put your name on work written by others.

on quizzes and exams: The resources that you may use on each quiz/exam will be different, and will be specified on the quiz/exam and earlier in class by me. You will never be allowed to receive aid from others. Copying others' work, or providing your work to be copied by other students, is cheating.

Tentative Schedule

(Note: We may add or remove topics as time permits.)

Part 1: Integration

Sections 5.1–5.4, 6.1, 6.2, 7.1, 7.2, 7.5, 7.7, 8.1, 8.2, 8.5–8.8

5 weeks of class

Interlude: Parametric and Polar curves

Sections 4.8, 8.3

1 week of class

Part 2: Sequences and Series

Sections 9.1–9.5, 10.1–10.5

4 weeks of class

Part 3: Differential Equations

Sections 11.1–11.8

3 weeks of class

Friday 12/9: Review for final exam

Tuesday 12/13 or Thursday 12/15, 8:00-11:00: Final exam