Math 130: Contemporary Mathematics  
Fall 2014  
Course Procedures

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

Office Hours:  
Monday and Wednesday 3:00-4:00, in my office  
Tuesday and Thursday 10:00-11:30, at the Bistro  
Anytime by appointment or by catching me in my office.  
My available times are on my webpage http://www.willamette.edu/~jlaison

Class Meetings:  
Section 2: MWF 12:40–1:40, Eaton 211  
Section 3: MWF 1:50–02:50, Eaton 211

Course Web Page: http://www.willamette.edu/~jlaison/contemporary.html

Grading:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homework assignments (around 20)</td>
<td>25%</td>
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<tr>
<td>Quizzes (around 4)</td>
<td>20%</td>
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<tr>
<td>Class project (6 components)</td>
<td>35%</td>
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<tr>
<td>Class attendance and participation (41 days)</td>
<td>20%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Learning Outcomes for Quantitative and Analytical Reasoning:

- Gain the ability to interpret and draw inferences from mathematical and formal models such as formulas, graphs, tables, and schematics
- Gain the ability to represent logical and mathematical information symbolically, visually, numerically, and verbally
- Gain the ability to employ methods such as arithmetic, algebra, geometry, statistics, or formal rules to solve problems
- Gain the ability to check mathematical results and other conclusions for reasonableness
- Gain the ability to recognize the limits of mathematical, statistical, or formal methods

Learning Outcomes Specific to this Course:

- Have fun doing mathematics.
- Think deeply and creatively about mathematics.
• Experience the authentic process of mathematical research, including the creation of our own mathematical ideas.

• Gain an understanding and appreciation for the work of professional mathematicians.

**Course Philosophy – Doing Mathematics:** In this course, you will learn quite a lot of mathematics, but with a different emphasis than other mathematics courses you may have taken in the past. The course is not a prerequisite for any other, and it is unlikely that you will require the material you learn in this course for your career after you graduate. The material is simply presented to satisfy your own intellectual curiosity.

I will try as hard as I can to avoid making any problem you attempt in this course tedious or overly frustrating. Mathematics is all about solving puzzles, exploring patterns, and getting insights into new ideas. For your part, try not to race through the problem assignments with the goal of arriving at the solution as quickly as possible. Play with the ideas! Invent new problems and solve those! Discuss the problems with your friends and classmates! The problems are intended not as hurdles to be leapt over, but as intellectual challenges to be enjoyed. I hope that you will enjoy them as much as I do. To encourage you to think creatively, particularly interesting, creative, or unique solutions to any problem in this course will be given extra credit.

**Ways to Get Unconfused:**

• Find classmates to work together with. Although different people have different working styles, I find math problems much more interesting and less frustrating in a group than by myself. Also, there are enough Contemporary Math students to create a critical mass in the math hearth, which makes finding classmates to work with much easier. Hang out in the math hearth, and your classmates will too!

• 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. I hope to see everyone regularly!

• Come to the drop-in tutoring sessions held by the Learning Center. Student tutors will be available to help with Contemporary Math homework most nights of the week, in a classroom in Ford Hall. These are also great places to form study groups. Stay tuned for times and locations!

**The Textbook:** The text is probably different from any other math text you have seen (I know that is true for me) and you might be surprised that it is actually fun to read. Certainly, reading it will provide you with greater understanding of the material of the class, and improve your grade.

**Homework Assignments:** These will be due about twice a week, and should be turned in either to me in class, or to the folder outside my office, Ford 215. These are the only component of the course graded by a student grader.

**Quizzes:** We will have an in-class quiz about once every three and a half weeks. They should each take a full class. The quizzes will test your understanding of the fundamental ideas of the course, emphasizing conceptual ideas over calculation.
Class project: The class project is an opportunity for you to engage in actual mathematics research. Your group of three students will ask and answer original mathematical questions. You will start with a puzzle from class and then guide the direction of your investigation, in consultation with me. Over the course of the semester, you will get regular feedback from me and your classmates to help you generate fresh ideas and keep the project going in a productive and interesting direction. The graded components of the project will be:

- Two in-class informal presentations to other groups
- Two group meetings with me in my office
- Peer feedback to other groups about their projects
- A final 15-minute presentation to the class, using presentation software such as PowerPoint

Missed Classes: Attendance and participation in class counts for 20% of your final grade, so every non-excused absence will result in about a half a percent reduction of your final grade. Attendance by itself will not get you an A for class participation – you should make an effort to be an active participant in class activities and discussions.

Late Assignments: If you have a crises during the semester that prevents you from turning in homework on time, talk to me about it, and I will generally be sympathetic.

Time Commitment: Willamette’s Credit Hour Policy holds that for every hour of class time there is an expectation of 2-3 hours of work outside of class. Since this class meets three days a week you should anticipate spending 6-9 hours outside of class engaged in course-related activities.

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

Academic Honesty: Cheating and plagiarism are serious offenses and will be treated severely, in accordance with university policy. The Willamette policy on plagiarism and cheating is located here:

http://www.willamette.edu/cla/catalog/resources/policies/categories/plagiarism_cheating.php

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 assignments: You are encouraged to discuss the homework with your classmates, get help from tutors, your professor, calculators, or your textbook. You may not look up solutions on the internet, and you may not copy/paste any amount of text from any source without citation. Your submitted written work should be your own.
on the quizzes: You may not receive aid from any source other than your professor. Copying others’ work, or providing your work to be copied by other students, is a violation of university policy.

on the class project: All members of your group should contribute to producing all components of your project. Writing your name on work written by others is a violation of university policy.