# Math 101 Math in the Modern World Winter 2014

**Instructor:** **Dr. Yvonne Chueh**
**Office:** **Bouillon Hall #107G**
**Office Hours:** **M&W 2:30-3:45, T&Th 10:00-10:50 & by arrangement**
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Required Text: *Using and Understanding Mathematics*, Fifth Edition, Bennett & Briggs, Addison Wesley, 2010

Required Material: Subscription to MathXL (Access Card via CWU bookstore or www.MathXL.com) for Online homework and quizzes
Graphing calculator, such as a TI-83+
Daily access to the Canvas for Math101 course lectures and worksheets

## Course Description:

*Math in the Modern World* takes a practical view of mathematics, stressing the application of mathematics over the development of abstract mathematical concepts. The focus of the course is on developing critical thinking and quantitative reasoning skills which we will develop through traditional homework sets and more investigative projects.

## Course Goals: The basic goals of Math 101 include:

- Becoming familiar with techniques from many branches of mathematics
- Developing the ability to analyze quantitative information critically
- Investigating real-world problems creatively
- Understanding to connections between various mathematical methods
- Using technology to help solve problems, experiment, interpret results and verify conclusions
- Determining the reasonableness of solutions
- Appreciating that the procedure for solving a problem is as important as the answer
- Communicating knowledge in both everyday and mathematical language

## Probable Course Topics:

- Numbers in the Real World: percentages, scientific notation, rounding
- Managing Money: interest, compounding, savings, loans
- Modeling: linear and exponential functions, population growth
- Probability: calculating probability, the law of large numbers, assessing risk

## Course Expectations:

As a student in this online course, you can expect:

- Collected assignments to be graded and returned within one week. Homework done through MathXL will provide instant feedback.
- Response to email within 24 hours (or less!) Monday to Friday. (But realize that I am in my in-person classes through 3:45 T&Th.) I will also respond to email on weekends, although less frequently.
- Constant accessibility during office hours, either by phone, by email, or in person, and individual appointments made as necessary.

As a student in this online course, you will be expected to:

- Devote enough time to the course to succeed. Remember this is a 5-credit course taken at an accelerated pace.

- Be proactive in seeking help when needed.
- Complete all assignments to the best of your ability.
- Notify the instructor *immediately of* any circumstances impeding your success.
- Adhere to Central Washington University's Student Judicial Code, particularly the section on Proscribed Conduct and academic dishonesty.

## Course Structure:

As an online course, the content will be delivered through the Conference feature of **Canvas** platform. Your daily tasks will include the following:

- Read the appropriate section(s) of material from the text.
- Join and/or Watch the recorded lesson (annotated PowerPoint). Pause the recording to work through examples where indicated.
- After the lesson, work through the worksheet on your own.
- Assess your work on the worksheet by comparing your work to the solution.
- If you need extra support, watch the recording of the instructor completing the worksheet.
- Complete the assigned homework on MathXL.
- If there are homework problems that you need help on, email me. I will either handle the questions individually, or I will post a recorded solution on Canvas, depending on how many students are having similar issues. Remember that I am here as a force of good, not evil.

There will also be two individual projects to be done and presented through Canvas Conferences.

## Homework:

Daily homework is an integral part of this course. You are responsible for keeping up with the assigned homework on MathXL, and seeking help when needed. The homework sets will open up a week before their due date, allowing you to work a little bit ahead in the course. In order to help you master the material, you have three attempts for each homework problem. The 10 homework sets are worth 16 points each.

## Mini-Quizzes:

There are four short quizzes, labeled as mini-quizzes during the course, administered through MathXL. These cover only a few sections of material. You are allowed two attempts on the 60-minute mini-quizzes, so take notes on any problems you've missed. These quizzes are worth 20 points each.

## Chapter Quizzes:

There are three Chapter Quizzes, also administered through MathXL, that assess the concepts in multiple entire chapters of material. As these are summative assessments, you are allowed only one attempt at a 90-minute chapter quiz **on the day specified on the course schedule**, so work carefully. The chapter quizzes are worth 50 points each.

## Individual Projects:

There are 2 individual projects to be done, in which we will delve more deeply into real-world applications of the course content. Due dates are noted on the course schedule. The projects are worth 50 points each. Grammar, spelling and professional writing count. These projects are significant assessments of your progress toward the goals of the course. They should be real-world applications that demonstrate QR (Numeracy or Quantitative Reasoning) to progressive levels. "QR is a 'habit of mind', competency, and comfort in working with numerical data, individuals with strong QL skills possess the ability to reason and solve quantitative problems from a wide array of authentic contexts and everyday life situations. They understand and can create sophisticated arguments supported by quantitative evidence and they can clearly communicate those arguments in a variety of formats using words, tables, graphs, mathematical equation, etc, as appropriate."

## Individual Conferences:

After each of the two projects, you will engage in an individual conference with me. We'll set up a schedule for these conferences, which will take place over the Canvas Conference. We will discuss the contents of your completed project and any concerns or questions that you have about the course. And, you'll learn that I'm human.

## Citizenship:

Citizenship addresses your behavior and comportment with other class members and the instructor. We each need to be respectful of other students, other cultures, and differing ideas within our learning community. In particular, in a class where we are expected to participate in collaborative work and discussions, we need to keep our comments constructive.

## Grading:

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|---|---|---|
| Homework (MathXL): | 160 points | |
| Mini-Quizzes (MathXL): | 80 points | |
| Chapter Quizzes (MathXL): | 150 points | |
| Individual Projects: | 100 points | |
| Individual Conferences: | 40 points | |
| Citizenship: | 20 points | Total 550 points |

## Academic Honesty:

Each of us should consider our placement at this institution to be a privilege. We need to have respect for one another, and for ourselves. In light of these facts, cheating in any form will not be tolerated. You are encouraged to consult with each other using the online discussion forums, however anything you turn in with your name on it should have been written by you alone. The word "plagiarize" is defined by Merriam-Webster as "to steal and pass off (the ideas or words of another) as one's own: use (another's production) without crediting the source." This is a very serious offense that I absolutely do not tolerate. The first instance of plagiarism results in a score of 0 on that assignment, and the second is grounds for failing the course.

## Disability Services:

Students with disabilities may arrange for academic adjustments by providing the instructor with a copy of the "Confirmation of Eligibility for Academic Adjustments" from the Disability Support Services Office as soon as possible. To obtain this form, contact the Disability Support Services Office at the main campus at dssrecept@cwu.edu or (509) 963-2171.

| **Week** | **Topic and Assignment** |
|---|---|
| 1. 1/6-1/10 | Chapter 1 Thinking Critically<br>Homework 0 (Getting started Math XL),<br>Homework 1 (Chapter 1, due January 13) |
| 2. 1/13-1/17 | Chapter 2 Approaches to Problem Solving<br>Homework 2 (Chapter 2, due January 20)<br>**Mini Quiz 1 (60 Minutes, covering Ch1-2)** |
| 3. 1/20-1/24 | Chapter 3 Numbers in the Real World<br>Homework 3 (Chapter 3, due January 27)<br>Worksheet<br>**Chapter Quiz 1 (90 Minutes, covering Ch1-3)** |
| 4. 1/27-1/31 | Chapter 4 Managing Money<br>Homework 4 (Chapter 4, due February 3) |

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| | Worksheet<br>**Mini Quiz 2 (60 Minutes, covering Ch4)** |
| 5. 2/3-2/7 | Chapter 5 Statistical Reasoning<br>Homework 5 (Chapter 5, due February 10)<br>Worksheet,<br>***Project Conferences (Project due)*** |
| 6. 2/10-2/14 | Chapter 8 Exponential Astonishment<br>Homework 6 (Chapter 8, due February 17)<br>Worksheet<br>**Mini Quiz 3 (60 Minutes, covering Ch 5,8)** |
| 7. 2/17-2/21 | Chapter 9 Modeling Our World<br>Homework 7 (Chapter 9, due February 24)<br>Worksheet<br>**Chapter Quiz 2 (90 Minutes, covering Ch 4-5, 8)** |
| 8. 2/24-2/28 | Chapter 10 Modeling with Geometry<br>Homework 8 (Chapter 10, due March 3)<br>Worksheet<br>**Mini Quiz 4 (60 Minutes, covering Ch 9-10)** |
| 9. 3/3-3/7 | Chapter 11 Mathematics and the Arts<br>Homework 9 (Chapter 11, due March 10)<br>Worksheet<br>***Project Conferences (Project due)*** |
| 10. 3/10- 3/14 | Chapter 12 Mathematics and Politics<br>Homework 10 (Chapter 12, due March 17)<br>Worksheet<br>**Chapter Quiz 3 (90 Minutes, covering 9-12)** |
| 11. 3/17-3/21 | **Final Exam (120 Minutes, covering all)**<br>***Projects Resubmission.*** |

The Final Exam Date will be announced