

**DEPARTMENT OF MATHEMATICS  
COLLEGE OF SCIENCES  
CENTRAL WASHINGTON UNIVERSITY  
COURSE SYLLABUS FALL 2013**

1. **MATH 101H Math in the Modern World**

<u>COURSE NUMBER</u>	<u>TIME/DAY</u>	<u>BLDG/ ROOM</u>	<u>INSTRUCTOR</u>
94663	11:00-11:50	Hertz 120	Dr. Janet Shiver

2. **Textbook and Materials:**

- The text for this course is *Elementary Mathematical Modeling*, 2<sup>nd</sup> Edition, Davis and Edwards.
- A graphing calculator is **required**. The TI- 84 or TI-84 plus is strongly recommended and will be used by the instructor for classroom demonstration. The instructor may not be able to answer questions concerning the operation of any calculator other than the TI-84. Calculators should be brought to class on a daily basis.
- Graph paper, ruler and several pencils

3. **Office Hours and Phone Numbers:**

Office: Bouillon 115  
Phone: 963-2834  
Email: [shiverj@cwu.edu](mailto:shiverj@cwu.edu)  
Office Hours 9:00 – 10:00 or by appointment.

4. **Course Description:** This course will focus on using elementary mathematical models to analyze data. Modeling links classroom mathematics and statistics to everyday life, work, and decision-making. Modeling is the process of choosing and using appropriate mathematics and statistics to analyze empirical situations, to understand them better, and to improve decisions. In this course we will be investigating a range of models including linear, exponential, quadratic, cubic, trigonometric, logistic and logarithmic. We will be using the basic modeling cycle in class which involves (1) identifying variables in a situation and selecting those that represent essential features, (2) formulating a model by creating and selecting geometric, graphical, tabular, algebraic, or statistical representations that describe relationships between the variables, (3) analyzing and performing operations on these relationships to draw conclusions, (4) interpreting the results of the mathematics in terms of the original situation, (5) validating the conclusions by comparing them with the situation, and then either improving the model or, if it is acceptable, (6) reporting on the conclusions and the reasoning behind them.

5. **Course Expectations:** Students will be expected to read the text prior to class, to complete all assigned problems on time and to seek outside assistance when difficulties are encountered. All outside assignments should be NEATLY written **in pencil** or typed and all supporting work must be shown. Students who do not write in pencil will have 10 points deducted from their grade. The daily assignments/labs are a very important component of the course. The time devoted to assignment problems will pay off on tests and quizzes. The best way to insure successful completion of this course is to come to class and keep up with the assignments. Remember, mathematics is like a foreign language. To be successful in mathematics takes practice. Take home assignments will be accepted up to one day late but 20 points will be deducted from the grade

received on the assignment for any late work. Late work is anything handed in after the start of class. Textbook assignments will not be taken late.

6. **Absence Policy:** Regular attendance is essential for successful completion of this course. A student absent from a test or other class assignment will be given a **zero** unless excused in advance by the instructor. Extenuating circumstances such as illness or injury will be evaluated on a case- by- case basis but must be accompanied by a **doctor's note** if the student wishes to make-up the exam. Please have supporting documentation available for review upon returning to class or you will **not be allowed** to make up the missed work. **More than 4 unexcused absences from this class may result in the student being dropped from the course with a grade of F for the quarter.**
7. **Grading Policy:** The course grade will be determined as follows:  
 Average of Unit Tests = 50%  
 Quizzes = 10%  
 Average of Homework/ notebook/labs/ projects = 10%  
 Final Project = 10%  
 Final Exam = 20%

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
93-100%	90-92%	87-89%	83-86%	80-82%	77-79%	73-76%	70-72%	67-69%	63-66%	60-62%	<60%

8. **Academic Honesty:** The integrity of students and their written and oral work is a critical component of the academic process. There are times when it is proper to get help from other and times when it is not. Feel free to ask others for help on homework, activities and take-home assignments and quizzes. During in-class quizzes and tests all work will be done individually. All written work submitted in this course must properly document all outside sources used. The submission of another's work as one's own is plagiarism, and will be dealt with using the procedures outlined in the Undergraduate Catalog.
9. **Course Outline:** This schedule is a **rough** outline of the topics covered in this course and may be modified by the instructor at any time.

Week	Topic	Assessment
September 25	Chapter 1 Review	
September 30	Chapter 2 Review/Linear	
October 7	Chapters 2 & 3 Linear /Exponential	Test 1 (Wednesday???)
October 14	Chapter 3 Exponential	
October 21	Chapter 4 Exponential/ Logarithmic	
October 28	Chapter 4 & 5 Logarithmic/Quadratic	Test 2 (Wednesday???)
November 4	Chapter 5 & 6 Quadratic/Polynomial	
November 11	Chapter 6 Polynomial	Test 3 (Friday???)

November 18	Chapter 7 Logistic	
November 25	Chapter 8 Trigonometric	
December 2	Chapter 8 Trigonometric, Final Project Presentations	Final Project Presentations December 5 and 6
December 11, Wednesday	<b>FINAL EXAM 8:00 – 10:00</b>	<b>Final Exam</b>

10. **Notebook:** You are expected to keep a well-organized binder with dividers labeled Notes, Labs, Activities, Project, and Homework. The Notes section will consist of notes either given in class or notes that you take during class. The Labs section will consist of all of the labs done during class. The Activities section will consist of any in-class or out-of class activities. Your final project will be placed in the project section of the notebook. The Homework section will contain all daily assignments. Your notebook will be turned in the day of each test where it will be checked for completeness. Your name, the name and number of the course and my name should be clearly written either on the front or the inside cover of the notebook.
  
11. **Homework:** To be successful in this course it is important that you practice applying the skills you learn in class daily. The following is a list of assignments for the quarter. Once they are completed, place them in your notebook in the section labeled homework. Each assignment should be done on a separate sheet of paper, in pencil with the page number clearly marked at the top. Graphs should be done on graph paper and placed immediately after the homework section they are part of. Your homework will be graded for completeness not correctness. All necessary work must be shown to receive credit. Single answers (unless this is what is asked), sloppy work, incomplete solutions, etc. will receive no credit. Students will receive 1 point for a completed problem, ½ point for a real attempt at a problem, and 0 points for no effort or nonsense math.
  
12. **FIRE!** In the event of a fire alarm signal students will exit the building in a quick and orderly manner through the nearest hallway exit. Learn the floor plan and exits of this building. Do not use elevators. Crawl on the floor if you encounter heavy smoke. Assist disabled persons and others if possible without endangering your own life.

## Homework Problems

**Please complete each problem in pencil and show supporting work as necessary. Be sure each section is on a separate sheet of paper and is labeled with the section and page number.**

Section	Problems
1.1	1-14
1.2	1,2,5,6,7,8,9,10, 11,14, 16, 17
1.3	1,3, 5,8,9,12,13,14, 16,17,18,19,20, 21, 23
1.4	3,4,5,7,9,11
2.1	1, 3, 6,8, 9,12,15, 17, 20, 23, 26, 29, 32
2.2	1,4,5,6,7,8,9,11,13,19, 23,25
2.3	1,2,3,4,6,7,9,12, 13, 16, 19, 21,24,
2.4	1,3, 5,7, 10, 13,14, 19, 20, 23
DUE	Chapters 1 and 2 are due the date of test one.
3.1	3,7,10, 13, 14, 17, 21, 24, 27
3.2	1,5, 7, 11, 13, 15, 18, 21, 23
3.3	1,4, 5,8, 9, 11, 13, 17, 21, 23, 25, 26, 29
3.4	1,5,9,13, 15,17, 21, 23
4.1	1, 5, 9, 13, 17, 19, 23, 25, 27
4.2	1, 3, 5, 7, 9, 10,11, 12, 13, 15, 16, 17, 19, 21, 23, 25, 27, 29
4.3	1, 5, 7, 11, 16,17,18, 19, 20, 23
DUE	Chapters 3 and 4 are due the date of test two.
5.1	1, 3, 5, 7, 9-14, 15, 17, 19, 21, 23, 26, 29
5.2	1, 3, 5, 7, 9, 11, 13, 18, 21
5.3	3, 5, 9, 11, 13, 17, 19, 23
6.1	1,3, 5, 7, 10, 11, 13, 15, 17,
6.2	1, 5, 9, 11, 15, 19, 21, 23
6.3	1, 3, 5, 7, 9, 11, 13, 15, 19, 21
6.4	1, 5, 11, 15, 19, 23, 27, 29
DUE	Chapters 5 and 6 are due the date of test three
7.1	1, 3, 7, 9, 11, 13, 15, 17, 21
7.2	1, 5, 7, 11, 13, 17, 21, 23
7.3	1, 5, 9, 11, 15, 17
8.1	3, 7, 9, 11, 13-20, 21, 23, 29, 33
8.2	3,5, 7, 10, 11, 13, 17, 19, 23, 27