**Math 110 – Liberal Arts Mathematics**  
**Spring 2012 - Section 10, MH 438, MW 2:30-3:45 p.m.**

**Instructor:** Mortaza (Mori) Jamshidian, Professor  
**Office:** MH 182-I,  
**Phone:** 657-278-2398  
**Office Hours:** MW 4:00-5:00 p.m., or by appointment  
**Homepage:** [http://math.fullerton.edu/mori](http://math.fullerton.edu/mori)  
**E-mail:** mori@fullerton.edu

*Or equivalently*  

**WebAssign will NOT be used.**

**Software:** We will use R for the projects and homework assignments that require software (mainly Chapter 14). R is a free software environment for statistical computing and graphics. It compiles and runs on a wide variety of UNIX platforms, Windows and MacOS. To download R, go to [CRAN mirror](http://CRAN.R-project.org/). R is also available during business hours in the Math Department's computer lab MH 452 (except when classes are held there), and it is also available in MH 26. Please see [http://www.math.fullerton.edu/framesets/Simlab/simlab_set.htm](http://www.math.fullerton.edu/framesets/Simlab/simlab_set.htm) for open lab hours. I recommend that you also download and use Rstudio ([http://rstudio.org/](http://rstudio.org/)) which is a new integrated development environment for R. I will explain most of what you need to know about this software in an appropriate time in class.

**Calculator:** You will need a scientific calculator that includes the exponential and logarithmic functions, plus statistical functions. Calculators will be used for homework and exams.

**Your e-mail address wanted:** You are **required** to send e-mail containing the following information to me, no later than **tomorrow**, 5:00 p.m.  
The e-mail should contain the following information:  
1. The subject line should indicate Math 110, Section 10.  
The body should include:  
2. Your complete name (First and last name)  
3. An e-mail address that you check very regularly (not necessarily your school e-mail)  
4. Your major/concentration/minor  
5. Any comments or suggestions
I will send various communiqué through e-mail. A “test e-mail” will be sent to everyone before our next Wednesday class. If you do not receive this test e-mail, please see me ASAP to resolve any problems there may be. **Note:** Any credits that you lose due to not establishing your e-mail connection with me on time will be your responsibility.

**Course Objectives**  
Students in Math 110 are generally enrolled in the course in order to satisfy the University’s Quantitative General Education Requirement. Therefore the course will not represent a typical algebra
or geometry course. Instead, we will explore a range of mathematical topics including probability, statistics, and financial management. Problem solving will be a main focus of the course.

University Learning Goals:
This course satisfies the General Education learning goal of **UPS 411.201 Mathematics/Quantitative Learning: subarea B.4.** A grade of "C" or better is required to meet this General Education requirement.

- To understand and appreciate the varied ways in which mathematics is used in problem-solving.
- To understand and appreciate the varied applications of mathematics to real-world problems.
- To perform appropriate numerical calculations, with knowledge of the underlying mathematics, and draw conclusions from the results.
- To demonstrate knowledge of fundamental mathematical concepts, symbols, and principles.
- To solve problems that requires mathematical analysis and quantitative reasoning.
- To summarize and present mathematical information with graphs and other forms that enhance comprehension.
- To utilize inductive and deductive mathematical reasoning skills in finding solutions, and be able to explain how these skills were used.
- To explain the overall process and the particular steps by which a mathematical problem is solved.
- To demonstrate a sense of mastery and confidence in the ability to solve problems that requires mathematical concepts and quantitative reasoning.

These goals are assessed through the course work, including homework, classroom activities, exams, and projects reports.

Course Specific Learning Goals

- **Chapter 2:** Sets and set operations are fundamental to many mathematical problems. In particular we will see their use in probability and applications of probability in a later chapter.
- **Chapter 12:** Counting is one of the most fundamental ideas in mathematics and, along with language, is one of the most essential skills each child must master. But don’t let the fact that it is one of the first concepts learned by a child fool you. Counting can be as simple or as complicated as you like. In this course we will learn some of the fundamental ideas of counting. The risks and rewards of insurance, arguments involving the size of the universe, and the complexity of intelligent design all require that you have an advanced notion of counting. If you want to build a safer highway system or analyze the risks of hormone therapy, you will use the ideas of counting.
- **Chapter 13:** We see examples of probability every day. Weather forecasts, stock market analyses, contests, children’s games, political polls, game shows, and gambling all involve ideas of probability. Probability is the mathematics of uncertainty. If you have ever played the lottery (hundreds of billions are wagered legally each year) or bought a life insurance policy, you have indirectly used probability. Animals and plants are bred to enhance certain traits to be passed through generations, and these breeding techniques are directed by the probability to genetics. In this course we will investigate the definition of probability and some of the procedures for dealing with probability.
• **Chapter 14:** There are two main uses for the word *statistics*. First, we use the term to mean a mass of data, including charts and tables. This is the everyday, nontechnical use of the word. Second, the word refers to a methodology for collecting, analyzing, and interpreting data. In this course, we’ll examine some of these statistical methods. We do not intend to present a statistics course, but rather to prepare you to use statistics in your everyday life, as well as possibly to prepare you to take a college-level statistics course.

• **Chapter 10:** Logarithms and exponential functions, and their applications to growth and decay models.

• **Chapter 11:** Strengthen problem solving skills—not the classroom type of problems, but those problems that you may encounter as an employee, a manager, or in everyday living. You can apply your problem-solving ability to your financial life, perhaps even put some money into your bank account that you would not have if you had not taken this class.

**Course requirements and Grading Policy:**

**Homework:** There will be weekly homework assignments, due every Wednesday, except for the exam days (see [http://math.fullerton.edu/mori](http://math.fullerton.edu/mori)). You will do your homework over the weekend, ask questions about the homework on Monday and submit your homework on Wednesday.

**Projects/Group-Work:** We will have both in-class and outside class projects/group-work. To get credit for the projects/group-work you must be present in class the day the project/group-work is given. The projects/group-work dates will not be announced in advance. These will be used to assess your understanding of the course material as well as to satisfy the course’s writing requirement.

**Exams:** There will be two an 75-minute exams, and a two-hour final exam. All the exams will be closed book and closed notes, but depending on the exam, you may be allowed to use a crib-sheet.

**Percentages and Exam Dates:**

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<thead>
<tr>
<th>Homework</th>
<th>Class Work</th>
<th>Exam I</th>
<th>Exam II</th>
<th>Final Exam</th>
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</thead>
<tbody>
<tr>
<td>10%</td>
<td>10%</td>
<td>25%</td>
<td>25%</td>
<td>30%</td>
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<td></td>
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<td>Wed. 2/22</td>
<td>Wed. 4/11</td>
<td>Wed. 5/16</td>
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<td>2:30-4:20</td>
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**Letter Grades:**

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
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<tbody>
<tr>
<td>97-100</td>
<td>A+</td>
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<tr>
<td>90-96</td>
<td>A</td>
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<tr>
<td>88-89</td>
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<td>85-87</td>
<td>B+</td>
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<td>80-84</td>
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<td>78-79</td>
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<td>67-69</td>
<td>D+</td>
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<td>60-66</td>
<td>D</td>
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<td>00-59</td>
<td>F</td>
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Make-up exams will be given only in extreme instances and only with advanced permission of the instructor. Any student who does not take an exam at the scheduled time without prior consent of the instructor will receive a grade of zero on that exam. If any student feels that a sudden illness is sufficiently extreme to warrant a make-up exam, the instructor must be provided with documentation prepared by an appropriate authority.

**Accommodations for Students with Special Needs**

On the CSUF campus, the Office of Disabled Student Services (DSS) has been delegated the authority to certify disabilities and to prescribe specific accommodations for students with documented disabilities. DSS provides support services for students with mobility limitations, learning disabilities, hearing or
visual impairments, and other disabilities. Counselors are available to help students plan a CSUF experience to meet their individual needs. If you feel that you require such support services, contact the Office of Disabled Students Services, located in UH 101, at (714) 278-3117.

**Academic Integrity:** Students who violate university standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the university. Since dishonesty in any form harms the individual, other students and the university, policies on academic integrity are strictly enforced. I expect that you will familiarize yourself with the academic integrity guidelines found in the current student handbook (see http://www.fullerton.edu/deanofstudents/judicial/policies.htm).

Examples of actions that constitute academic dishonesty include, but are not limited to:

1. Unacceptable examination behavior – communicating with fellow students, copying material from another student’s exam or allowing another student to copy from an exam, possessing or using unauthorized materials, or any behavior that defeats the intent of an exam.
2. Plagiarism – taking the work of another and offering it as one’s own without giving credit to that source, whether that material is paraphrased or copied in verbatim or near-verbatim form.
3. Unauthorized collaboration on a project, homework or other assignment.
4. Documentary falsification including forgery, altering of campus documents or records, tampering with grading procedures, fabricating lab assignments, or altering medical excuses.

**Emergency Evacuation:** In the event of an emergency such as earthquake or fire:
- Take all your personal belongings and leave the classroom. Use the stairways located at the east, west, or center of the building.
- Do not use the elevator. They may not be working once the alarm sounds.
- Go to the lawn area towards Nutwood Avenue. Stay with class members for further instruction.
- For additional information on exits, fire alarms and telephones, **Building Evacuation Maps** are located near each elevator.
- Anyone who may have difficulty evacuating the building, please see the instructor.

**MATH DEPARTMENT ADD / DROP DATES**

*February 6* (Monday): Last day for students to ADD with a permit. All permits expire at midnight on February 6.

*February 6* (Monday): Last day for students to DROP without a grade of “W”. Students drop using Titan Online.

*March 2* (Friday): Last day the Math Department will be flexible on the approval of late withdrawal requests. Beginning Monday, March 5, students must have a serious and compelling reason for withdrawing (e.g. medical reason) and must provide supporting documentation for their reason.

*April 20* (Friday): Last day to withdraw with a truly serious and compelling reason that is clearly beyond the student’s control. Students must document their reason. See Math Department for more info.