

MATH 123 05 Math as a Liberal Art Spring 2012

INSTRUCTOR: Ed Miller
CREDITS: 3
PREREQUISITE: A grade of "C" or better in MATH 025 Basic Algebra or placement (ACT 19, SAT 470, Compass Algebra 46)
TEXT: *Mathematical Thinking and Quantitative Reasoning*, Richard N. Aufmann, et. al., 978-0-618-77737-2
OFFICE HOURS: MWF 9:00 A.M. – 11:00 A.M.
Also by appointment
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COURSE DESCRIPTION:

After a very brief algebra review, MATH 123 will unfold in a cyclic pattern. First, students will examine a process or situation which occurs in the “real world” and has value outside of any applications of mathematics. Next, students will develop or be exposed to questions within the situation where some kind of mathematical structure or model might be useful. The instructor will then lead students through the mathematics which helps model the situation or solve the problem. The students will then apply the mathematics appropriately in the original situation and extend to similar applications.

MATH 123 fulfills the mathematics portion of the Skills Component of the General Education Core curriculum. MATH 123 is not a mathematics content course with applications – it is designed from scratch to “help students understand how mathematics both reflects and models the observable world, give students the ability to generalize these ideas and modify them to solve quantitative problems in a changing world.” Unlike the other general education math courses like Finite Math or Calculus, the topics are not chosen to be of particular use in successor courses or individual majors. Rather, it is an opportunity to study mathematics as it has functioned in western society and continues to do so. Mathematics, like any other human construct, is both a tool and worthy of study in its own right; it also both reflects and shapes the society that uses it.

To facilitate your learning, you will be issued a Voyage 200 handheld computer algebra system for use during the course. These machines can do almost all of the mechanical algebra contained in the course, so their use will be restricted in many portions of the course.

If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible.

CATALOG DESCRIPTION:

This course introduces students to the form and function of mathematics and its relationship to other studies. Students will examine a topic outside of mathematics, study the formal properties of the mathematics employed, and apply the mathematics to the original and similar areas of potential interest. Sample topics include apportionment, cryptography, finance, operations management, population growth, public opinion surveys, land surveying, and voting methods and strategies. Prerequisite: A Grade of "C" or better in MATH 024 or MATH 025, or satisfactory placement score.

METHODS OF EVALUATION:

The following table lists the evaluation categories, the approximate number of each type, and the percent of the course grade which each category comprises:

<u>Type</u>	<u>Number</u>	<u>Weight</u>
Exams	4	55%
Exercise Sets	42	20%
In Class Exercises	~12	5%
Final Exam	1	20%

Exams are extensive checks of your knowledge and understanding of the course material. Exams will occupy an entire class period; use of electronic technology will be necessary in some sections of exams and prohibited in others. Make ups for Exams will be given only for legitimate reasons. If you are going to miss an exam, call or email me in advance. No Exam will be given early.

Exercise Sets happen daily and are due at the beginning of class. Late work will not be graded. Your best 38 grades will count toward your grade. See the "About Exercise Sets" handout for more information.

In Class Exercises are just that. They are due at the completion of the particular exercise. No make-ups will be given for missed exercises.

The **Final Exam** is a comprehensive check of both skills and concepts. It is on **Monday, May 7, 3:40 PM PDT**. This is not the time listed in the final exam schedule. If you have a conflict with a regularly scheduled final exam for another class, please contact me as soon as possible so that I can make accommodations for you. No final exam will be given early.

GRADE CRITERIA:

Your grade for the course will be determined by your final weighted average for the course. The table below indicates the minimum grade that you will receive for the percentages listed.

A	A-	B+	B	B-	C+	C	D
93%	90%	87%	83%	80%	75%	70%	60%

OTHER STUFF

The last day to drop the course without notation is Monday, January 30. The last day to withdraw from the course without a written petition is Friday, March 30.

Attendance is not mandatory for this class, but is highly recommended. Evidence indicates that there is a positive correlation between attendance and academic success.

While in class, it is best to stay on task and focused on the math. Also, please be courteous and respectful to those around you. Discourteous students may be asked to leave.

Feel free to stop me at any time during class to ask questions. If you are having difficulties which cannot be solved during class time, come to my office during office hours. If my office hours are difficult for you, we can make other mutually agreeable arrangements.

The Math/Science Tutoring Center is located in MLH 320. The Math Lab is a good place to go for help and support if you are having difficulties, or even if you are not. 208.792.2320.

Lewis-Clark State College recognizes LCMail as an official means of communication with students; you are responsible for monitoring your LCMail account. You have received information for logging in to this account as well as your WarriorWeb account. If you are unsure how to access these important resources, visit <http://www.lcsc.edu> and click on the appropriate links.

The use of cell phones in class is discourteous. Cell phones should remain off and stowed during class.

In order to protect the privacy of other students, video and/or audio recordings may not be made during class.

ENROLLMENT VERIFICATION

New federal regulations require institutions to verify that each student has attended each course for which he or she has received federal financial aid. LCSC will be verifying attendance for students in each of the first two weeks of the semester.

In class exercises and homework will be used as evidence that you have attended class. You must be present for at least one of the attendance events for me to verify that you have attended for that week.

ACADEMIC DISHONESTY:

In the event of academic dishonesty, those involved will receive an "F" grade for the course and the violation of the Student Code of Conduct will be referred to the appropriate campus official for judicial action. As defined in the LCSC catalog, Academic Dishonesty is:

Cheating - intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term "academic exercise" includes all forms of work submitted for credit hours.

Fabrication - intentional and/or unauthorized falsification or invention of any information or the source of any information in an academic exercise.

Collusion facilitating academic dishonesty – intentionally or knowingly helping or attempting to help another to commit an act of Academic Dishonesty.

Plagiarism - the deliberate adoption or reproduction of ideas or words or statement of another person as one's own without acknowledgment.

The sanctions imposed for a violation of this section of the Code are independent of, and in addition to, any adverse academic evaluation which results from the student's conduct. The course instructor is responsible for academic evaluation of a student's work and shall make that evaluation without regard to any disciplinary action which may or may not be taken against a student under the Student Code of Conduct.

(<http://www.lcsc.edu/Catalog/ss/code-of-conduct.htm>)

The use of cell phones or similar communication devices for *any* purpose during an exam or skill quiz is prohibited, and as such constitutes cheating.

SOME LAST WORDS

Although we work as a team in this course, I want to make it clear where the responsibility for learning and motivation rests – squarely on your shoulders.

My job in this endeavor is to sort through the broad spectrum of topics available and pick out a cohesive set of topics of study, knit those topics into a picture which contains both an overall image and fine details, and present these to you variously through lectures and directed exercises. I accomplish this through the choice of the text and text exercises, choice of the kinds of exercises I will ask you to do outside the text, construction of tests and quizzes, and of course, construction and delivery of lectures.

Your job in this endeavor is to watch and listen to my exposition, read the text, work the various exercises, study the details, and reflect on the big picture of which the details are a part. Solid mechanics alone will not be enough to do well in this course; you must also have some understanding of the underlying principles. Many of the exercises, despite having short answers, will take time to think through and understand before the light comes on, and it may only be a flickering light at first. This is a normal occurrence; what you need to provide, which I cannot, is persistence. The best advice I can give for success is to accept that a fair amount of confusion will likely come before (and after) you really understand what is going on.

The bottom line is that you have to learn this material. I can show it to you, give help and hints and moral support, but both the final responsibility and the credit for the learning is yours.