SYLLABUS

COURSE: MATH 1101 "Introduction to Mathematical Modeling"
SEMESTER: Fall, 2006
CREDIT HOURS: 3 semester hours
DAYS & TIME   MW 12:00 - 13:15
ROOM   GCB 427
COMPUTER #   87014
INSTRUCTOR: Dr. Andrey Shilnikov
                     Office: 724 COE Building
                     Phone: 404 651-0655
                     email: ashilnikov@lgsu.edu
OFFICE HOURS: MW: 14:30 - 15:30 or by appointment.
TEXT: Explorations in College Algebra, 3d Ed., by Kime & Clark, Wiley & Sons, 2005.

Note: This course syllabus provides a tentative plan for the course; deviations may be necessary.

COURSE DESCRIPTION Mathematical modeling using graphical, numerical, symbolic, and verbal techniques to describe and explore real-world data and phenomena. Emphasis is on the use of elementary functions to investigate and analyze applied problems and questions, on the use of appropriate supporting technology, and on the effective communication of quantitative concepts and results. THIS COURSE IS NOT AN APPROPRIATE PREREQUISITE FOR PRECALCULUS OR CALCULUS. Students who must take precalculus must understand the implications of taking MATH 1101.

PREREQUISITE Knowledge of high school algebra II, or equivalent. This includes algebraic expressions, first degree equations and inequalities, exponents, radicals, solving and graphing linear equations, factoring quadratic expressions, and other topics.

COURSE COVERAGE

Chapter 1   Making Sense of Data and Function (1.1 - 1.4)
Chapter 2   Rates of Change and Linear Functions (2.1 - 2.8)
Chapter 3   When Lines Meet: Linear Systems (3.1 - 3.2, 3.4)
Chapter 4   The Laws of Exponents and Logarithms: Measuring the Universe (4.1 - 4.6)
Chapter 5   Growth and Decay: An Introduction to Exponential Functions (5.1 - 5.6)
Chapter 6   Logarithmic Links: Logarithmic and Exponential Functions (6.1 - 6.5)
Chapter 8   Quadratic and Other Polynomial Functions (8.1 - 8.4)

GRADE EVALUATION Your grade in the course will be determined as follows:

a. Tests (20% each). Three open book/open notes tests are scheduled on Sep 26, Nov 6 and Dec 4, 2006

b. Final Exam (30%). The final comprehensive exam partially open book/open notes is scheduled on Dec 11, 2006 @ 12:30

c. Quizzes and Bonus (10%). For up to 10 points, you may complete special projects and home-take quizzes that I will introduce *after* mid-term. Even more bonus points may become available for completing on-line surveys for the Department of Mathematics and Statistics.

We will use the following grading scale:

A: 90-00   **B+**: 87-89   **B**: 80-86   **C+**: 76-79   **C**: 70 – 76   **D**: 60-69   **F**: Below 60

CALCULATOR Students *may* have a scientific calculator.

ACADEMIC HONESTY During in-class quizzes, tests, and the final exam you will be instructed to do your own work, talk to nobody, and not share calculators. Violations of these instructions constitute dishonesty and will be handled in accordance with University policy, which permits assigning grades of zero or dismissal from the course. All work submitted for grading must be your own; I have the option of withholding or denying credit for answers not adequately supported by you. A first occurrence of cheating/plagiarism will result in a grade of "O" for all concerned parties, as well as a form indicating academic dishonesty will be filed with the Dean of Students. A second occurrence will result in a grade of "F" for the course for the concerned parties, with a ranscript.

CLASS ATTENDANCE Attending class is of utmost importance and is your responsibility and yours alone. During class I can clarify important or complex points for you, observe you working problems, and answer your questions. During class, you will periodically be called to the blackboard; when called, you must participate, but this work is ungraded. Much, and perhaps most, of what you learn during the course will occur outside of class; approximately two hours preparation over the course of the semester for each hour in class is the norm. Quizzes are not normally announced in advance. If you miss class, you are nonetheless responsible for everything that took place in your absence, so make it your practice to check with a colleague or me upon your return. You can always email me to obtain any information or materials you missed. You cannot withdraw from the course simply by ceasing to attend class; you must formally withdraw. If you intend to withdraw, do so before the **MIDTERM** 10/16/2006 to avoid a grade of "F" or "WF." Any student who withdraws prior to this date will be assigned a grade of "W" at the end of the semester.

Note: During the first two weeks of the semester the Department of Mathematics and Statistics checks the computer records to determine whether or not each student has met the prerequisites for this course. If you do not have the prerequisites, please inform me and change to another course right away. If our computer search finds that you do not have the prerequisites, you must drop this course or you will be dropped automatically.

If you do not attend class during the first two weeks you will be administratively dropped.

Makeup policy NO make-up exams or quizzes will be given. A missed exam may be made up only in the event of a verifiable, unavoidable absence (e.q., a doctor's note is necessary if illness is an excuse). Failure to take the final exam will result in a grade of "F" for the course.

ASSIGMENT

Schedule for Fall 2006			
August	21	1.1 - 1.2	
	23	1.2 - 1.3	
	28	1.3 - 1.4	
	30	1.4 - 2.1	
September	4	**Labor Day - no classes**	
	6	2.1 - 2.2	
	11	2.3 - 2.4	
	13	2.5 - 2.6	
	18	2.7	
	20	2.8	
	25	review	
	27	**Test 1**	
October	2	3.1 - 3.2	
	4	3.2 - 3.3	
	9	3.4-4.1	
	11	4.2 - 4.3	
	16	4.4 - 4.5	**W-day**
	18	4.5 - 4.6	
	23	5.1 - 5.2	
	25	5.2 - 5.3	
	30	5.4 - 5.5- 5.6	
November	1	5.6- review	
	6	**Test 2**	
	8	6.1 - 6.2	
	13	6.3 - 6.4 - 6.5	
	15	8.1 - 8.2	

	20	8.3-8.4
	22	**Thanks giving, no classes**
	27	
		review
December	4	**Test 3**
	6	review
	11	**Final**