Mathematics 101
Fall, 1998

Textbook: Larson and Hostetler, *Precalculus*, 4th edition.

Instructors:

Dr. Michael Rogers (Seney 116c, x4-8419)
Dr. Karen Rogers (Few 104, x4-8472)
Dr. William McKibben (Seney 303, x4-8333)

Office Hours: To be announced by the instructor.

Course Goals: The purpose of this course is to prepare students for academic success in college calculus (Mathematics 111). It also provides the mathematical skills necessary for Chemistry 141. Students who are not in this course to fulfill a prerequisite should reconsider enrolling in this course.

Course Content: The first half of the course concentrates on general techniques involving algebraic simplification, equations, inequalities, functions and graphs. The second half of the course concentrates on special functions (trigonometric, inverse trigonometric, exponential and logarithmic functions); it also involves some miscellaneous topics of importance in calculus. A calendar of topics is included at the end of this syllabus.

Classes: There are 41 class meetings. In addition four tests are scheduled (see below). Students are expected to attend all classes since they are responsible for work covered in class. Furthermore they are expected to have done the reading for each class. The ability to get the most out of the instructor and each class is greatly diminished by a failure to be prepared.

Evaluation: Evaluation will be based on the following written work:

Tests (4 @ 100 pts)	400 points
Quizzes	160 points
Final	200 points
Total	760 points

A rough guide to letter grades:

A	675 points and up	C	525–599 points
B	600–674 points	D	450–524 points
		F	below 450 points

Credit and Advancement: (1) **Math 101 is for elective credit only; this course does not count towards satifying the distribution requirement in Natural Science/Mathematics in the Uniform Requirements of Oxford College.** (2) Students who pass Math 100C and Math 101 will receive a total of four semester-hours for the combination of Math 100C and Math 101 toward the 64 academic hours required for the A.A. degree and continuation to Emory College. Both courses, however, count in the student's total number of semester-hours and in computing the student's grade point average. (3) A grade of "C" or higher is required for continuation to Math 111.

Tests: The four tests will be given on the following days:

8:00 a.m., Thursday, September 17
8:00 a.m., Thursday, October 8
8:00 a.m., Thursday, November 5
8:00 a.m., Thursday, December 3

Calculators will not be allowed on tests.

The First Test: The first test, given in two parts, covers some prerequisite algebra which will be reviewed in the first few weeks. The first part is given at the very beginning of the course in order to give the student an idea of what is expected and how the student stands in relation to those expectations. The second part is given at the time scheduled above. The student is given the following chance to make up for the performance on the first part, **provided that the student improves**: If a student improves on the second part, the difference in the scores on the second and first parts will be added to the score on the first part. Thus through diligent work, the student can make up a poor grade on the first part.

Test attendence: Students are expected to take tests at the scheduled times. Any conflicts or problems will be handled on an individual basis by the instructor. If a student has an excuse deemed legitimate by the instructor, arrangements will be made for the student to take a test **prior to** the testing time.

Quizzes: Each instructor will determine his or her own quiz policy:

Homework: Assignments from the text and from handouts are given in the calendar of topics included at the end of this syllabus. The most important factor to contributing to success in the course is the **regular, successful** completion of the exercises. **Regular**: done at least every other day. **Successful**: problems must be completed correctly and with some degree of confidence. The goal is to be able to solve problems unaided by books, notes, tutors, or calculators. Use good style on homework. Daily practice will cure lazy mental habits. In general the student should expect to spend at least two hours on homework assignments for every hour in class.

Tutoring/Help Sessions: Student tutors will be in the Gregory Room of the JRC. A schedule will be announced. Help sessions will be scheduled as there is demand for them. Attendance is optional.

HONOR CODE: The Honor Code of Oxford College applies to all work submitted for credit in this course. All such work will be pledged to be yours and yours alone. This is the case when you place your name on work submitted.

Topics by Date:

Date	Topic	Section(s)
26 Aug.	**Test 1, Part A**	—
28 Aug.	Algebra, Exponents, and Radicals	P.1, P.2
31 Aug.	Polynomials, Factoring, Algebraic Fractions	P.3, P.4
2 Sep.	Review of Basic Properties of Algebra	Handout
4 Sep.	Equations	P.5
7 Sep.	*Labor Day Holiday*	
9 Sep.	Inequalities	P.6
11 Sep.	Common Errors	P.7
14 Sep.	Review of Equations and Inequalities	Handout
16 Sep.	Review	—
17 Sep.	**Test 1, Part B at 8:00 a.m.**	
18 Sep.	Graphs	P.8, 1.1
21 Sep.	Lines, Secant Lines	1.2, Handout
23 Sep.	Functions	1.3
25 Sep.	Graphs of Functions	1.4
28 Sep.	Translations and Combinations	1.5
30 Sep.	Inverse Functions	1.6
2 Oct.	Quadratic and Polynomial Functions	2.1, 2.2
5 Oct.	Conic Sections	10.2, 10.3, 10.4
7 Oct.	Review	—
8 Oct.	**Test 2 at 8:00 a.m.**	
9 Oct.	Radians, Degrees, and Trig. Functions	4.1, 4.2
12 Oct.	*Midsemester Break*	
14 Oct.	Right Angle Trigonometry	4.3
16 Oct.	General Trigonometric Functions	4.4
19 Oct.	Graphs of Sine and Cosine	4.5
21 Oct.	Review; Graphs of the Other Trig. Functions	4.6
23 Oct.	Inverse Trigonometric Functions	4.7
26 Oct.	Fundamental Identities	5.1,5.2
28 Oct.	Trigonometric Equations	5.3
30 Oct.	Sum and Difference Formulas	5.4
2 Nov.	Double Angle Formulas	5.5
4 Nov.	Review	—
5 Nov.	**Test 3 at 8:00 a.m.**	

6 Nov.	Exponential Functions	3.1
9 Nov.	Logarithmic Functions	3.2
11 Nov.	Properties of Logarithms	3.3
13 Nov.	Exponential and Logarithmic Equations	3.4
16 Nov.	Systems of Equations	7.1
18 Nov.	Systems of Linear Equations	7.2, 7.3
20 Nov.	Sequences and Summation Notation	9.1
23 Nov.	Arithmetic and Geometric Sequences	9.2,9.3
25 Nov.	*Thanksgiving Recess*	
27 Nov.	*Thanksgiving Recess*	
30 Nov.	The Binomial Theorem	9.5
2 Dec.	Review	—
3 Dec.	**Test 4 at 8:00 a.m.**	
4 Dec.	Review for Final	—
7 Dec.	Review for Final	—