Note: Student work submitted as part of this course may be reviewed by Oxford College and Emory College faculty and staff for the purposes of improving instruction and enhancing Emory education.

Fall 2015
MATH 100
Oxford College of Emory University

GENERAL INFORMATION

Instructors	Paul Oser	Christina Lee
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Office	Pierce Hall 120B	Pierce Hall 122A
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Office Hours   MWF 2:20-3:30PM (Oser), MWF 2:00-3:00PM (Lee) Students are also welcome to stop by if our office doors are open. Individual help is also available (for all math courses) in the Math Center from Christina Lee (as well as some student tutors), Mondays through Thursdays from 3:00 PM to 6:00 PM.

Textbook   None required. All notes, examples, and problem sets will be available online.

Class Website   Blackboard: `http://classes.emory.edu`
Math Center Website: `http://www.oxfordmathcenter.com/drupal7/node/510`

Course Content   Math 100 is designed to review algebra, trigonometry, exponential and logarithmic functions in order to prepare students for Math 110A.

COURSE GOALS AND OBJECTIVES

The purpose of MATH 100 is to prepare students for calculus by focusing on technical skills and conceptual understanding. Calculus combines various aspects of mathematical thinking. Having technical skills at one's fingertips will allow students to more easily focus on the important concepts of calculus without being distracted by algebraic calculations and other similar details. With this in mind, students should at the conclusion of the course be able to demonstrate proficiency with the following:

- Simplifying algebraic expressions

- Solving equations reducible to linear, quadratic, higher-degree polynomial equations

- Solving equations involving trigonometric, logarithmic, or exponential expressions

- Solving inequalities

- Graphing lines, parabolas, absolute value functions, circles and semi-circles, trigonometric and inverse trigonometric functions, logarithmic functions, and exponential functions

- Proving trigonometric identities

COURSE COMPONENTS

Online Readings & Videos
Notes, tutorial videos and problem sets can be found on the Math Center Website (see link above). Students are expected to read the assigned notes and handouts, watch the relevant videos, and attempt the related problem sets BEFORE the topics are discussed in class. The goal of reading ahead is for students to gain an understanding of the questions and the problems to be solved and to become familiar with new vocabulary. It will also allow the time spent in class to be more focused on student questions about the material and on actively reinforcing the concepts learned.

Homework
Homework will be assigned weekly. Students should expect to spend at least 2 productive hours of study for each class session, or about 6 to 8 hours per week. Students are encouraged to keep a thorough and organized set of notes and worked homework problems for the course.

Students are also encouraged to ask questions of the instructor about any problems with which they struggled in these assignments – either at appropriate times during class or during the instructor's office hours. Homework exercises usually will not be collected but are for the benefit of the student. That said, students should expect quizzes and in-class contributions that count towards their final grade that are based on the homework.

Quizzes
There will be some unspecified number of quizzes typically on problems similar to those seen in homework previously assigned. These quizzes may be announced or unannounced, although the latter is more likely. Students will not be allowed to make up quizzes missed due to absence. Instead, under the assumption that there are x quizzes given in the semester, $\lceil 0.10x \rceil$ quizzes will be dropped. (Note: the funny looking brackets represent an application of the "ceiling function", the smallest integer above or equal to what is inside the brackets.)

In-Class Contributions
Students will occasionally be randomly called upon to present (for credit) solutions to problems from the notes, video tutorials, or homework, to the rest of the class. Students should be aware – given the unique nature of these presentations, students that are selected to present, but happen to be absent that day, will not be given the opportunity to make up this work.

The famous mathematician Carl Friedrich Gauss said the purpose of calculation is insight. Insight is an understanding into why things work the way they do. This should be the goal of both working out problems and explaining their solutions.

To that end, whenever they are working a problem, <u>students should know why each step is correct and why each step was the right step to take.</u> Note, this is more than knowing that each step is correct. Students should expect that the instructor or peers will occasionally ask them during their presentations how they know a particular step in their solution was both a legitimate and good step to take, and be prepared to answer these questions.

| | | Exams | There will be three closed book, in-class exams. Examinations will be based on material presented in-class and problems done in class or on homework. All exams are cumulative in nature in so much as previous skills are often used in combination with new material. These exams are planned for the following dates: 9/25, 10/30, 12/4. The instructors reserve the right to change these dates should such a need arise. |

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Final Exam — There will be a comprehensive final exam. The final exam will be required for everyone.

GRADING

Students' grades will be computed by one of the two schema presented below. The **final grade** will be determined in whichever of the following two ways produces the highest grade:

	Option A	Option B
Quizzes	10%	10%
In-Class Contributions	10%	10%
Lowest Exam	18%	10%
2 Exams	36%	36%
Final Exam	26%	34%

Grade Assignment

Letter grades will be given in accordance with the following: A: 90-100%; B: 80-89%; C: 70-79%; D: 60-69%; F: 0-60%. Letter grades of A-, B+, B-, C+, C-, D+, and D- may be given for percentages near these cutoffs at the discretion of the instructor.

COURSE POLICIES

Websites & Email — Announcements, homework assignments, corrections, hints for problems, and other material will be posted on Blackboard. Students are also expected to check their Emory email address and blackboard website regularly to obtain course related information.

Calculators & other Devices — NO calculators or other devices (e.g., cell phones, iPads, etc.) will be allowed on exams or quizzes. All written solutions must be legibly written and sufficiently justified to receive full credit.

Attendance — Students are responsible for any information given out in class. If a student knows ahead of time they will not be in class, please make arrangements to find out what you missed. Again, exams will be based on material presented in-class, in text, and in homework, and there are no make-up quizzes or in-class contributions (which constitute a significant portion of students' grades). Therefore it is in students' best interest to attend every class and take detailed notes.

Written Style	Expressing complete thoughts and arguments require complete sentences. In mathematics, where clarity of thought is paramount, this is no less true. Granted, with mathematical symbols one can write these sentences very efficiently – but they are sentences nonetheless. Consider "$1 + 1 = 2$". This is a complete sentence. (It has a subject "$1 + 1$", verb "$=$" and predicate "2")
	To this end, written work in this class should be in complete sentences. One should use mathematical symbols wherever appropriate. Student work should also be neat and orderly to be intelligible. With all honesty, "clean style helps to clean up messy thinking."
	To emphasize the importance the instructors attach to good style when writing mathematics, written work in this class (exams & quizzes) will be graded not only on the correctness of the calculations shown, but also on the quality of their presentation.
Late Policy	Students are expected to be present for all scheduled tests. Any conflicts should be brought to the instructor's attention as soon as possible. If a legitimate reason exists for missing a test – as determined by the instructor – then the test must be taken prior to the regularly scheduled date. In the unusual circumstance where taking the test early is not possible, **students should be aware that any make-up tests given will be designed to be more difficult to offset the additional time given for study.** The final exam cannot be rescheduled.
	Students must provide written documentation in advance of any special accommodations required for testing (or for any other activities). This includes additional time or other needs.
Academic Integrity	THE HONOR CODE OF OXFORD COLLEGE APPLIES TO ALL WORK SUBMITTED FOR CREDIT IN THIS COURSE. TO RECEIVE CREDIT FOR WORK SUBMITTED YOU MUST PLACE YOUR NAME ON IT. BY PLACING YOUR NAME ON SUCH WORK, YOU PLEDGE THAT THE WORK HAS BEEN DONE IN ACCORDANCE WITH THE GIVEN INSTRUCTIONS AND THAT YOU HAVE WITNESSED NO HONOR CODE VIOLATIONS IN THE CONDUCT OF THE ASSIGNMENT.

TIPS FOR SUCCESS

- While collaboration in learning the material is encouraged, each student should be sure that ultimately he or she can solve problems unaided by notes, the textbook, a calculator, or other people.

- In general the student should expect to study at least six good hours per week in addition to time spent reviewing for tests.

- Tests are performances, similar to those by athletes, musicians, and dancers. Students should prepare for them in similar ways – starting with practicing for them weeks in advance.

- Success in this course will require diligence and hard work. Students should be sure to keep up with the assignments and to attend class. Students encountering difficulties with the material should talk to the instructor as soon as possible. They should not wait to do so until the week of a test.

- Students may always ask the instructor any question about an assignment. The instructor will answer at his or her discretion.