

**Syllabus MA 110 Section 001  
Precalculus Spring 2012**

**Instructor:** Seetha Subramanian (Professor Emeritus)

**Lecture:** MWF 9:00-9:50am in Classroom Building CB 337

**Recitation:** TR 8:30 – 9:20am “ “ “ CB 337

**Office Hours are held in the Mathskeller on MTWF 10:30 to 11:30 am**  
Other times available by appointment; send email to [abithamrao@gmail.com](mailto:abithamrao@gmail.com)  
**Since I do not have an office, this is the best way to reach me.**

**Course Materials:** You need to purchase exactly one of the following packages.

1. A new copy of the UK version of the 5th edition of the book Contemporary Precalculus: A Graphing Approach by Thomas W. Hungerford and Douglas J. Shaw

2. A used copy of the 5th edition of the book Contemporary Precalculus: A Graphing Approach by Thomas W. Hungerford and Douglas J. Shaw

You will also need to purchase a graphing calculator for this course. The calculator must conform to the calculator rules for the ACT. These rules can be found at <http://www.actstudent.org/faq/answers/calculator.html>.

Specifically, you may not use any calculator that has a computer algebra system (CAS) or a QWERTY keyboard. In particular, you may not use the TI-Nspire CAS, any TI-89, any TI-92, the HP 48GII, any HP 40G, any HP 49G, any HP 50G, the Casio Algebra fx 2.0, the Casio ClassPad 300, the Casio ClassPad 330, or any Casio CFX-9970G.

We reserve the right to have non-calculator portions of homework, quizzes, or exams. In class, I will be using a TI-83. If you already own a graphing calculator that conforms to the ACT calculator rules, you do not need to purchase a TI-83. I do not personally know how to use any calculator other than the TI-83, so I may not be able to help you with the specifics of other calculators. Nevertheless, most graphing calculators have the same basic functions, and you should be able to learn about your calculator by reading the manual.

**Course Objective:** The goal of this course is to equip students with the problem solving techniques and discipline required to succeed in the Calculus sequence.

**Overview of the Course:** This course is designed to prepare students for the calculus sequence. We will discuss functions including linear, quadratic, polynomial, rational, exponential, logarithmic, and trigonometric functions.

We will discuss the relationship between equations and graphs. We will investigate the graphs of functions and conic sections. We will also discuss parametric equations and polar coordinates.

**Student Learning Outcomes:** Students who successfully complete this course will be able to:

- Recognize that the equation of a line can take many forms. In particular, there are times when point-slope form is more appropriate than slope intercept form and vice-versa.
- Describe the connection between the slope of a line and a rate of change.
- Solve equations algebraically.
- Use the graphical method to approximate solutions of an equation.
- Understand that the graphical method is only used to approximate the solutions of an equation.
- Understand the appropriate use of technology in solving mathematical problems.
- Convert a verbal problem description into a symbolic problem description.
- Understand the Cartesian Coordinate system.
- Recognize the relationship between the solutions of an equation and the graph of an equation.
- Recognize the graphs of functions including linear, quadratic, polynomial, rational, step, exponential, logarithmic, and trigonometric functions.
- Know some fundamental trigonometric identities.
- Use fundamental trigonometric identities to prove other trigonometric identities.
- Recognize the equation of a conic section.
- Sketch the graph of an equation of a conic section.
- Understand the polar coordinate system.
- Sketch the graph of a polar equation.
- Utilize a variety of problem solving techniques to solve multistep problems.

**Homework:** Two problems and a concept question will be assigned everyday. It will be collected the next day as soon as you come to class and will be graded, and returned within two days. **Absolutely no homework will be accepted late or due to absenteeism.** There will be 68 of these assignments, out of which 13 of the lowest grades will be dropped. Each day's homework is worth 3 points for a total of 165 possible points. These points will be calculated to be a maximum of 100 points for your overall homework grade.

**Quizzes:** Either on Friday or Monday, there will be a quiz 10 to 15 minutes before the end of class. Each quiz is worth 5 points for a total of 50 points is possible. Quizzes cannot be made up. However, two lowest scores will be dropped.

**KEEP TRACK OF ALL YOUR GRADED WORK, SO THAT THERE IS NO DISCREPANCY AT THE END OF THE SEMESTER. IF ANY ERRORS ON MY PART IS JUSTIFIED, THEY WILL BE FIXED.**

**Attendance:** Attendance and class participation accounts for 25 points of your final grade. In order to earn the points, you must sign the attendance sheet that will be passed around at the beginning of each lecture and each recitation. You must also remain engaged by working problems in the recitation times. Your work will be looked at before you leave the class.

I expect students to attend each lecture and each recitation. I expect students to be

active in class discussion and activities. University excused absences are defined in 5.2.4.2 in Section IV of Student Rights and Responsibilities ([www.uky.edu/StudentAffairs/Code/part2.html](http://www.uky.edu/StudentAffairs/Code/part2.html)). If you have a university excused absence, you must notify your instructor of the excuse in writing no later than two weeks prior to the date of the absence. If you are absent because of an illness or a family emergency, the absence may be excused provided that you can give me written evidence of the illness or emergency and that you do so promptly. Furthermore, you should notify me about the illness or emergency by e-mail or phone as soon as possible. It is almost always possible to notify me immediately. If it truly is impossible for you to notify me, then ask a friend to do so. If you do not notify me of an illness or emergency in a timely manner, I reserve the right to deny your request for an excused absence. If you are late to class, if you leave class early, if you are disruptive, if you are sleeping, reading the newspaper, surfing the internet, texting, working on other homework, or for any other reason are not actively engaged in activities related to math class, you will not receive credit for participating in class that day.

**Grading Policy:**

Midterm Exams: We will have three midterm exams. Each midterm exam is worth 75 points.

Final Exam: We will have a comprehensive final exam. The final exam will be worth 100 points.

<b>Grading:</b>	Homework	20%	100 points
	Quizzes	10%	50 points
	Attendance	5%	25 points
	Exam 1	15%	75 points
	Exam 2	15%	75 points
	Exam 3	15%	75 points
	Exam 4	20%	100 points

Your grade will be based on the following point system:

A	450-500 points	B	400-449 points
C	350-399 points	D	300-349 points
E	0-299 points		

**Cheating:** See UK's Student Rights and Responsibilities for a description of cheating, plagiarism, and the penalties for cheating and plagiarism. Cheating and Plagiarism will not be tolerated in this class.

In this class we will definitely see the advantage of technology, and I fully support the appropriate use of technology. Sometimes the line between appropriate use and inappropriate use can be a bit blurry, so I will try to provide some guidance in what follows. You may use calculators on exams, but **YOU MAY NOT PROGRAM INFORMATION INTO YOUR CALCULATOR THAT WILL HELP YOU WITH THE EXAM.**

Moreover, the homework exists to improve your problem solving skills. Therefore, you may not search for solutions to homework problems online.

I believe that students can learn from each other, but there is also a time when each student must stand on his or her own two feet. You may work with other students to help you learn a concept, but it is important that you always step back and make sure that

you can do all of your homework by yourself without the help of others, textbooks, or notes. These resources will not be available to you during the exams, so you should not rely on them when you submit your final answers for the homework. When you complete written assignments, you must always step away from any notes that you took while working with others and write the solution completely on your own.

**Disability Accommodations:** If you have documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 859 257 2754, email address [jkarnes@email.uky.edu](mailto:jkarnes@email.uky.edu)) for coordination of campus disability services available to students with disabilities.

**Suggestions:** Constructive suggestions for this course are welcome at any time. I welcome suggestions that will improve the course both this semester and in semesters to come. If you have any concerns, please bring them to my attention first. Next contact Dr. Michael Shaw via email [shaw.math@uky.edu](mailto:shaw.math@uky.edu). Further recourse is available through the office of the Department Ombud and the Department Chair. Both the Ombud and the Chair can be reached from the main office in POT 715.

**Expectations:** I expect that you will not only attend class, but that you will participate in class. I expect that you will be respectful of yourself and others. Please turn off your cell phones when you enter class. Please do not work on other classes during class. Please do not surf the internet during class. Please do not read the newspaper during class, work on Sudoku, etc. during class. Please do not talk or whisper during lecture unless the instructor has given you the floor.

The schedule below shows class work that will be covered based on regular days of classes. Keep in mind that changes may have to be made in case of canceled classes due to inclement weather.

MA 110 – 001 TENTATIVE SCHEDULE OF COURSE WORK

SP 2012

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
		JAN 11 Introduction & Review	12 Recitation	13 LN 2 CH 1 Sec 2
16 M.L.K Academic Holiday	17 Quiz 1 Recitation	18 LN -3 CH 1 Sec 3	19 Recitation	20 LN-4 CH 1 Sec 4
23 LN 5 CH 2 Sec 1,2	24 Quiz 2 Recitation	25 LN – 6 CH 2 Sec 2,3	26 Quiz 3 Recitation	27 LN – 6 CH 2 Sec 3,4
30 LN – 7 CH 3	31 Recitation	FEB 1 <u>EXAM I – PART 1</u>	2 <u>EXAM I – PART 2</u>	3 LN – 7 CH 3
6 LN - 7 CH 3	7 Quiz 4 Recitation	8 LN – 7 CH 3	Recitation	10 LN – 7 CH 3
13 LN - 7 CH 3	14 Quiz 5 Recitation	15 LN – 7 CH 3	16 Recitation	17 LN – 8 CH 4
20 LN – 8 CH 4	21 Quiz 6 Recitation	22 LN – 8 CH 4	23 Quiz 7 Recitation	24 LN – 8,9 CH 4
27 LN -9,10 CH 4	28 Recitation	29 LN - 10 CH 4	March 1 <u>EXAM 2 – PART 1</u>	2 <u>EXAM 2 PART 2</u>
5 LN -11 CH 5	6 Quiz 8 Recitation	7 LN -11 CH 5	8 Recitation	9 LN - 11 CH 5
12 SPRING	13 BREAK	14 ACADEMIC	15 HOLIDAY	16 HOLIDAY
19 LN - 11 CH 5	20 LN - 11 CH 5	21 LN - 11 CH 5	22 Quiz 9 Recitation	23 LN – 11,12 CH 5
26 LN - 12 CH 6	27 Recitation	28 LN – 12 CH 6	29 Quiz 10 Recitation	30 LN – 12 CH 6
APR 2 LN – 12,13	3 LN – 13 CH 6	4 LN – 14 CH 7	5 Quiz 11 LN - 14	6 LN – 15 CH 7
9 LN - 16 CH 7	10 Quiz 12 Recitation	11 LN -16 CH 7	12 LN – 18 CH 8	13 LN – 17 CH 8
16 LN – 18 CH 8	Recitation	18 LN – 18 CH 8	19 <u>EXAM 3- PART 1</u>	20 <u>EXAM 3- PART 2</u>
23 LN - 19 CH 9	Recitation	25 LN – 19 CH 9	Recitation	27 LN 19 CH 9
30 FINALS WEEK	MAY 1	2	3	4