

# Advanced Mathematics Level 1 Course Guide 2009-2010

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## Course Description: 252 – Level 1 Advanced Mathematics (4 credits)

This course provides students with an in-depth study of families of functions including polynomial and rational, exponential and logarithmic, and trigonometric and circular functions. Emphasis is placed on both conceptual understanding and practical problem solving. An introduction to probability and statistics is also an integral part of the course. These courses will enable students to continue their mathematics education in statistics, calculus or a related field. (From *LHS Program of Studies*)

A more detailed list of topics is on the Math Department Web Site: <http://lhs.lexingtonma.org/Dept/Math/25x/outlineam.html>.

## Expectations of Level 1 Students

The following is quoted from the complete description of a Level 1 mathematics course in the *LHS Program of Studies* (emphasis added):

Students will be expected to solve routine problems independently and solve open-ended and non-routine problems with teacher support.

Students will be expected to use the textbook as a resource and occasionally to learn new material independently.

Students are expected to be self-motivated, taking responsibility for their own learning and seeking help when needed.

## Course Materials

The text for the course is *Precalculus: Graphical, Algebraic, Numeric*, by Demana, Waits, Foley, and Kennedy (Addison Wesley). In addition to the text, you will need:

- A 3-ring binder (for organizing handouts, tests, etc.),
- A notebook (this can be either the 3-ring binder or a separate notebook) The notebook should allow sheets to be neatly removed for handing in.
- Graph paper (a graph-paper notebook is a good way to cover both this requirement and the previous one).
- A TI-83 or TI-84 graphing calculator.

Work done in class and for homework should be done in your math notebook. Since homework may be collected in class, you should do homework on a separate sheet of paper (not the same sheet as notes) that can be removed from the notebook.

I will expect you to bring your math notebook, any current handouts, your calculator, and several pens or pre-sharpened pencils to class every day. I will advise you when and if to bring the text.

## Classroom Behavior and Attendance

I expect your classroom behavior will be characterized by *respect*. Respect for yourself, your classmates, your teacher, and your school. Detailed rules are in your Student Handbook.

I strictly adhere to the attendance policy for class tardiness. There is no “grace” time for first-period classes; you are expected to be in your seat when the bell rings at 7:45 (8:35 on Wednesday). I will grant a brief (2 minutes) grace at other times. If you are tardy, I expect you will enter the room and take your seat quietly.

## Teacher Absence

The following, quoted from the Student/Parent Handbook, applies if I should be unexpectedly absent from class:

There is no “10 minute rule” after which students may dismiss themselves. If no teacher appears, one student should go to the nearest office to report the absence of the teacher and await instructions.

## Grading

Everything counts! Tests, quizzes, homework, note taking, and in-class problem assignments (such as warm-up problems), will all count toward your grade in the course. For at least Quarter 1, grades will be based 85% on tests and quizzes, and 15% on homework, note taking and in-class assignments. I may adjust these percentages in later quarters, with notice at the start of the quarter. The full-year will be based on your four quarter grades (85%—90%) and the final exam (10%—15%).

## Homework

Diligent completion of daily homework is essential for success in this course. Unless explicitly stated otherwise, homework assignments are due at the beginning of the next class. I may collect or inspect homework on any day. I may also call on you to present your work in class at any time. I will accept late homework at the next class meeting after the due date (that is, 1 class late) for ½ credit. I will grant no credit after that.

Since homework is primarily for student practice, you will be given full credit for a good faith effort to complete *all* of the assigned problems. A good faith effort means you must do one of two things for every assigned problem:

- Copy the problem into your notebook, and give a worked-out solution (*not* just the answer). If the problem is odd-numbered, check your answer in the back of the text.
- If you cannot solve the problem, you must still copy the problem into your notebook. You must also identify (by page and number) the example problem in the text that is most like the problem you can't solve, or write a statement or question that explains where you got stuck.

Any problem that involves graphing must be done on graph paper.

### ***Making up missed assignments***

You are responsible for learning of and making up assignments missed due to any absence. You must also learn if homework was checked or collected on any day you were absent, and show me that homework. Assignments originally due on the first day of an excused absence are due when you return. Per LHS policy, for assignments given on days you were absent, you will have the same number of days as you were absent to make up the assignment. I will grant extensions for unusual circumstances, but you must speak with me on your return to class and agree to a revised due date.

### ***Tests and Quizzes***

“Homework quizzes” may be given without advance notice. Homework quizzes will contain 1 to 3 problems similar (or even identical) to recent homework problems. Longer quizzes and tests will be given every two to three weeks, and will always be announced in advance. Numerical grades will be used to grade all tests and quizzes. Tests will be worth between 50 and 100 points, and quizzes will be worth between 5 and 50 points (depending on the amount of material on the quiz). The point values for individual questions will be indicated on the test or quiz. Partial credit will be given on longer questions, based on the amount of correct work shown. You must show your work. No credit will be given if you do not, even if you give a correct answer. If you are unsure how much work is expected on any problem, ask for clarification. Extra time will not be allowed on tests and quizzes unless you have an individualized education plan that specifies extra time.

When I return tests, any grading mistakes must be brought to my attention before you leave the classroom.

No make-ups will be given unless you are absent-excused from class on the day of the test or quiz. Make-ups may or may not be the same test/quiz as the original. You may take a make-up in the math testing center during any of your free blocks, or with me after school by appointment.

Cheating will not be tolerated and will result in an automatic zero.

### ***My Web Site***

My web site includes an assignment blog where I post daily assignments and announcements such as upcoming test dates. There are also copies of my schedule, this course guide, and links to other useful math-oriented web sites. The assignment blog is primarily for the convenience of absent students and parents. If you are in class, copy the assignment from the board—you are responsible for the assignment even if the web site is not updated or not accessible for any reason

### ***Extra Help and Outside Web Sites***

If you need extra help, please seek it as early as possible. DO NOT wait until just before a test or quiz. You have at least four options for extra help:

- A meeting with me. My schedule will be posted in the classroom. You can drop by during any of my free blocks, although I recommend you make an appointment. You can usually find me either in the Math Teacher Office (room 713) or my classroom (room 810).
- The Math Tutoring Center. The center is staffed by community volunteers, and is open during the school day (not after school). I will announce in class when the center reopens for the 09-10 year.
- The National Honor Society Peer Tutoring Program. Information is on flyers posted around the school and in the library.
- Paid tutors. The Math Department secretary has a list of paid tutors. The department maintains this list as a convenience for students and parents. The department HAS NOT screened or qualified these tutors, and DOES NOT recommend or endorse any tutor. *Caveat emptor*.

My web site includes a document with links to useful mathematics web sites. These include both content-oriented sites, as well as several sites with good summaries of math study and test-taking skills, including dealing with test anxiety.