

LAKESWOOD HIGH SCHOOL
Department of Mathematics

Algebra 2: Models & Applications - 2014-2015

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Required Texts:

The Consortium for Foundation Mathematics (2008). *Mathematical Models with Applications*. Boston, MA: Pearson Addison-Wesley.

Class Website:

<http://www.mathlore.net>

Our class website is the primary source for current information about schedules, assignments, additional resources, rules, and expectations. It parallels the content of this syllabus.

This syllabus is updated annually. Should a revision occur during the school year, changes are announced in class and in the news section of the class website. Revisions are also immediately reflected in the body of the class website; where a wide variety of other important and more detailed information may be found.

Short Description:

This course approaches Algebra 2 through practical application, and is centered on real-world problem solving using the construction of mathematical models. Problems are solved by choosing and using an appropriate mathematical model, such as: graphical, statistical, financial, exponential, trigonometric, geometric, or spatial. Writing and oral presentation are emphasized, as is the use of calculators and computers.

Students taking this course are *required* to have a TI-84+ or TI-nspire graphing calculator; and must also have access to a computer outside school, either at home or the library.

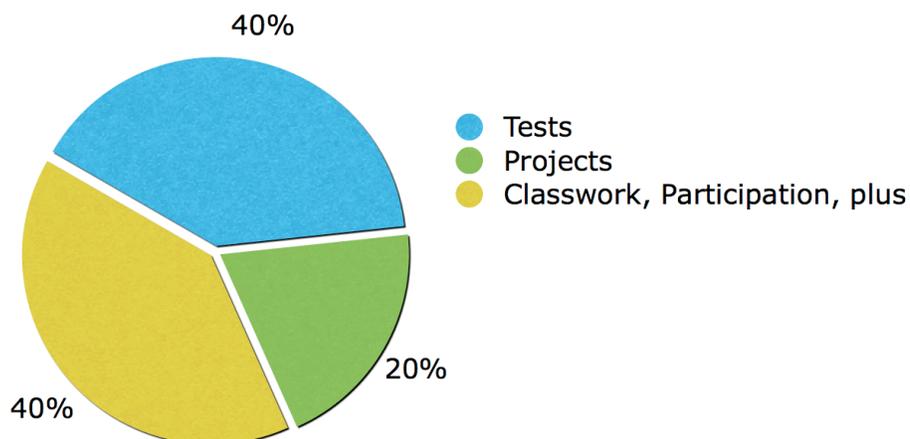
Class Rules and Procedures

All our class rules, procedures, and practices, conform to two fundamental guiding axioms or postulates, which I hope everyone will read and understand. They are:

1. We will work *together* to learn mathematics, and to learn how we can use math.
2. We will treat each other with courtesy and respect.

Work hard, be nice. Most rules boil down to either enforcement of good manners or promotion of something that helps learning; the most important ones follow below.

Quarterly Grading:



Tests and Quizzes

40%

More than one-third of each student's grade is determined by tests and quizzes. If a student is absent for a test, they are responsible for arranging a mutually convenient appointment with Mr. Petto to take it during one of the following periods: {2, 5, 8} or after school. Students must take *all* tests to receive a passing grade, regardless of the reason missing the test. Students may qualify and retake tests, with a 5% reduction in attainable points each time the test is reattempted. Typically qualification to retake a test is achieved by *completely* correcting the original test. In certain cases (i.e. certain tests) an opportunity to recover a portion of the points missed on the test will be available, by completely correcting the incorrect portion of the quiz on or before an assigned deadline.

Assignments

20%

Twenty percent of each student's grade is determined by project work, and other assigned work that may be started in class and completed (if necessary) as homework. These will be penalized 5% for each day that they are late. No late homework or project work will be accepted during the last eight days of any quarter.

Classwork & Participation

15%

More than one third of each student's grade is determined by warmup work, classwork, participation, and the like. If a student is absent for any class for any reason, they should do the make-up work from each unit's schedule for each missing day. For a missed day, this work is due the day *following* their return-to-class. (If it is turned in *on* the day-of-return, they will receive 10% scoring bonus.) Warmup work is not required from students on days when they have an authorized absence.

Additional Work

Students may request and receive assignments for additional work assignments. These are not available to students who disregard normal assignments. This additional work may be used to replace low scores in the assignment and participation categories. No amount of additional work can be used to change a poor quiz or test score. The only way to improve a poor test score is to qualify and retake the test.

Grading Scales:

A general description of grading scales, quality points, final exams, and more, can be found in the *2013-2014 Course Guide & Handbook*. We follow the rules and policies there. And in addition to that, the following:

Project scoring

Project turned in (on time, with name, date due, period)	30%
Project is substantially complete (all required elements present)	30%
Quality of work	up to 40%

Many particular projects may have their own scoring rubrics; provided with the assignment.

Work must be completed using a pencil

All bellwork, classwork, and testwork, must be completed using a pencil. Any work that is submitted in pen will be penalized 10%.

Extra Credit scoring

From time to time extra credit opportunities are offered to all students. These are counted as additional work. A maximum of 100 extra credit points may be awarded each quarter. If a student makes positive contributions that benefit the entire class or other students, they will be given one or more extra credit points. Evaluation of extra credit and other additional work is done as each quarterly grade is computed.

Demerit scoring

If a student is disruptive to the class, and distracts other students, they will be given one or more demerit points, which are the opposite of extra credit points. These can result in a reduced grade for the quarter, by as much as 10%. Evaluation of these is done as each quarterly grade is computed.

Verbal assignments

The overwhelming majority of assignments are posted to the class website, and will also be found on daily flipchart slides. Occasionally these assignments are modified verbally, based on class progress. Students absent at that time will not be penalized for submitting the originally-published assignment. Occasionally additional assignments are made verbally in class. These are not high-value assignments, although it is possible that performance on one or more of these might affect a student's grade. Legitimately-absent students will not be penalized for missing an additional assignment. Any student or parent with questions about this (or any) policy should contact Mr. Petto.

Penalties for Cheating

Violation of the rules for projects or doing such things as copying work or using “cheat sheets” will be viewed as an act of cheating and will result in a zero on the assignment or test. The rules in the LHS Student Handbook will be followed, including referrals. NHS will be informed if the student is a member of NHS; as will the Boy/Girl Scouts, and other organizations in which the student is a member (or under the supervision.) Multiple cases of cheating can result in failure of the course.

Daily Expectations

- (1) Every student should arrive in class every day with the following standard equipment:
 - at least one pencil, with an eraser
 - several sheets of paper
 - a TI-84+ graphing calculator, or TI-nspire graphing calculator
 - a three-ring binder
 - our course textbook

- (2) Any work due on a particular day should be given to Mr. Petto before the starting bell rings. Daily classwork should be placed in the inbox on Mr. Petto’s desk before leaving, or given to Mr. Petto before the starting bell rings the following day.

Changing the Rules

All class rules, practices, and norms are open to change. The procedure for initiating change follows:

- Suggestions for change are to be submitted to Mr. Petto in writing. Requests should include supportive and persuasive justification.

- Anyone suggesting or supporting a proposed change should be prepared to attend a general discussion meeting, which may be scheduled before or after school.

Extra Help

- Students who are confused are encouraged to request extra help.

- Students who are bored are encouraged to request alternative assignments.

- Individual and group tutoring is available before and after school most schooldays. It is OK to just drop in, but appointments are encouraged.

- Extra credit assignments are offered from time to time to all students, and assigned from time to time to students who would benefit from them; but may always be requested by anyone.

- Students may request Plato assignments.

The Standard Grading Rubric

- Full Credit: The solution is correct and complete. All calculations and explanations are shown and contain no logical or arithmetic errors. It is easy to follow the student's thinking.
- Partial Credit: The solution is incomplete. The calculation strategy is improper or the calculation contains mistakes. There are gaps in calculation or explanation, or the explanation is unclear.
- No Credit: The solution is missing or incorrect. Calculations and explanations are missing or incorrect. It is difficult or impossible to follow the student's thinking.

Please sign on the appropriate line to indicate that you have read the information contained in this syllabus. Please also indicate the best way to contact you, should it be necessary. Detach and return this acknowledgement to Mr. Petto by Tuesday, September 2nd. (Keep the syllabus in your notebook for reference during the school year.)

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Student _____

Parent or Guardian _____

Preferred Contact (phone or text or email or multiple):