

Course Syllabus
MATH 1050, Sections 004 & 007, Spring 2017
College Algebra

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Class Hours: MTWF 9:40am - 10:30am, SFEBB 160 (Spencer Fox Eccles Business Building)

Office Hours: Monday, Wednesday 11:00am - 12:00pm (tentative)

Text: *Precalculus*, 9th Edition, 2013 Larson. The University of Utah has negotiated special pricing for the text and Webassign.

- For \$75 you may purchase the online version of the text with Enhanced Webassign. This price covers both 1050 and 1060.
- If you would like, you may also purchase a loose leaf version of the text for \$40. The cheapest place to purchase the text is at: <http://www.cengagebrain.com/course/1603486>

Calculators: Calculators will be useful for homework, but will **not** be permitted on quizzes or exams

Prerequisites: "C" or better in (MATH 1010 OR MATH 1060 OR MATH 1080 OR MATH 1090) OR Accuplacer CLM score of 60 or better OR ACT Math score of 23 or better OR SAT Math score of 540 or better.

Course: Math 1050 is a course that will improve quantitative reasoning and prepare for future math learning in calculus, linear algebra, and discrete mathematics. The following topics will be covered: Numbers, functions, sequences, series, counting problems, graphs of functions, inverse functions, polynomials, rational functions, n -th roots, exponential functions, logarithms, piecewise defined functions, matrices, and matrix equations. We will cover Chapters 1-3, 7-9. Below are the expected learning outcomes:

- Sketch the graph of basic polynomials (second and third order), rational, radical, exponential, logarithmic, and piecewise functions with or without transformations. Be able to identify important points such as x and y intercepts, maximum or minimum values; domain and range; and any symmetry.
- For rational functions, identify x and y intercepts, vertical, horizontal and oblique asymptotes (end behavior), and domain. Use information to sketch graphs of functions.
- For polynomial functions identify all zeros (real and complex), factors, x and y intercepts, end behavior and where the function is positive or negative. Use information to sketch graphs.
- Understand the connections between graphic, algebraic, and verbal descriptions of functions.
- Given the graph of a function, be able to identify the domain, range, any asymptotes and/or symmetry, x and y intercepts, as well as find a rule for the function if it is obtained from a standard function through transformations.
- Define i as the square root of -1 and know the complex arithmetic necessary for solving quadratic equations with complex roots.
- Solve absolute value, linear, polynomial, rational, radical, exponential and logarithmic equations and inequalities.
- Find the inverse of a function algebraically and graphically.
- Perform composition of functions and operations on functions.
- Understand sequences and be able to differentiate between geometric, arithmetic and others such as Fibonacci-type sequences, giving direct formulas where available.
- Understand series notation and know how to compute sums of finite or infinite arithmetic or geometric series.
- Solve systems of equations (3×3 linear) and non-linear equations in two variables.

- Make sense of algebraic expressions and explain relationship among algebraic quantities including quadratic, exponential, logarithmic, rational, radical, and polynomial expressions, equations and functions.
- Represent and interpret “real world” situations using quadratic, exponential, logarithmic, rational, radical, and polynomial expressions, equations, and functions.
- Recognize the formulas for parabolas, hyperbolas and ellipses (including circles). Be able to manipulate these basic conics to find foci, any asymptotes, and important points and to graph these conics. Use conics in real world context situation.

Homework: All homework is to be completed on Webassign. Due dates for homework assignments can also be found on Webassign. *Late homework will not be accepted.* You will be given ample time to do your assignments, you may ask me questions or you may work with others on assignments. You may submit up to 100 answers for each prompt. Please note, homework is a substantial part of your grade for the course (15%), it is to your benefit to do all your homework. Partial credit is better than no credit.

Quizzes: There will be a total of about 9 weekly quizzes (Fridays when there is no midterm other than the first Friday of the semester.) You must be in attendance to take the quiz, however the three lowest quiz scores will be dropped. There are no “make-up” quizzes. Students who miss a quiz will receive a “0” on the missed quiz.

Exams: You will have three midterm exams (50 minutes each). There are no “make-up” exams. Students who miss an exam will receive a “0” on the missed exam. Absence from an exam will be excused only if you can provide verifiable and convincing evidence that you have a significant illness or serious family crisis that will prevent you from attending. Except under extremely unusual circumstances, you must inform me **in advance** of the missed test.

Final Exam: There will be a *comprehensive* departmental final exam. The final exam is on Thursday, April 27th, 1-3 PM

Canvas Course Page: The course has a Canvas page where all essential information will be kept including the link to Webassign, information about lecture videos, and reviews for exams.

Course lecture videos: For additional instruction, the math department provides lecture videos for Math 1050 content. They can be found at <http://www.math.utah.edu/lectures/math1050.html>

Grading Policy: Your grade will be based on:

Homework	15%
Quizzes	7%
Midterm 1	18%
Midterm 2	18%
Midterm 3	18%
Final Exam	24%

The three lowest quiz scores will be dropped. Your score on the final exam will replace your lowest midterm score or you will receive a 2% bonus to your final exam grade, whichever results in the highest grade. You may NOT drop the final.

Grades (Evaluation and criteria): Final letter grades will be determined by overall percentage as follows:

A	93% – 100%	B-	80% – 82.9%	D+	68% – 69.9%
A-	90% – 92.9%	C+	78% – 79.9%	D	63% – 67.9%
B+	88% – 89.9%	C	73% – 77.9%	D-	60% – 62.9%
B	83% – 87.9%	C-	70% – 72.9%	E	below 60%

Some important dates for this class:

January 9	First day of classes
January 16	MLK Jr. Day (no class)
January 20	Last day to drop (delete) classes
February 3	First midterm (in class)
February 20	Presidents' Day (no class)
March 3	Second midterm, last day to withdraw from classes
March 13–17	Spring break (no class)
April 7	Third midterm (in class)
April 24	Last day of this class
April 27	Final examination

ADA Statement: The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020 (V/TDD). CDS will work with you and the instructor to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to the Center for Disability Services.

Tutoring: The Rushing Math Center offers free drop-in tutoring, a computer lab, and study 2 areas for undergraduates. The Rushing Student Center is adjacent to the LCB and JWB. The hours for the Fall semester are: 8 am – 8 pm Monday to Thursday and 8 am – 6 pm on Friday. The tutoring center will open the second week of classes.

Class policies:

- I reserve the right to modify the class structure and syllabus at any time but I will notify you if and when any changes are made
- Please silence your technology at the start of class. If you are repeatedly disrupting the learning environment, you will be asked to leave.
- If an emergency arises that prevents your from making it to an exam or turning in a homework it is your responsibility to communicate that information to me as soon as possible. I will do my best to accommodate any situation that comes up.
- If you are struggling with a concept please come talk to me or visit the tutoring center as soon as possible. I am more than happy to meet with you outside of my office hours if my schedule permits it.
- I encourage you to work with others on the homework but anything that you turn in must be your own work.
- Regrade requests can only be made the class after the homework/quiz/exam was returned and in writing with an explanation why more credit is due.