

Course Syllabus
Mathematics 1050, Section 003, Spring 2018
College Algebra

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Class Hours: T,H / 6-8PM, JWB 335

Office Hours: Held in my office JWB 206. Tuesday, Thursday 5pm-6pm, or by appointment.

Text: *PRECALCULUS* 9th Edition, 2013 Larson. The University of Utah has negotiated special pricing for the text and Webassign. **You will need to buy Webassign access.**

- For \$75 you may purchase the online version of the text with Enhanced Webassign. This price covers both 1050 and 1060.
- **OPTIONAL:** if you would like, you may also purchase a loose-leaf version of the text for \$40.

The text may be purchased at: <http://www.cengagebrain.com/course/2765767>

Course description: 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.

Expected Learning Outcomes: Upon successful completion of this course, a student should be able to:

1. 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.
2. For rational functions, identify x and y intercepts, vertical, horizontal and oblique asymptotes (end behavior), and domain. Use information to sketch graphs of functions.
3. 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.
4. Understand the relationships between graphic, algebraic, and verbal descriptions of functions.
5. 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.
6. Define i as the square root of -1 and know the complex arithmetic necessary for solving quadratic equations with complex roots.
7. Solve absolute value, linear, polynomial, rational, radical, exponential and logarithmic equations and inequalities.
8. Find the inverse of a function algebraically and graphically.
9. Perform composition of functions and operations on functions.
10. Understand sequences and be able to differentiate between geometric, arithmetic and others such as Fibonacci-type sequences, giving direct formulas where available or a numeric representation.
11. Understand series notation and know how to compute sums of finite arithmetic and finite and infinite geometric series.
12. Solve systems of equations (3×3 linear) and non-linear equations in two variables.
13. Make sense of algebraic expressions and explain relationship among algebraic quantities including quadratic, exponential, logarithmic, rational, radical, and polynomial expressions, equations and functions.

14. Represent and interpret “real world” situations using quadratic, exponential, logarithmic, rational, radical, and polynomial expressions, equations, and functions.

Class structure: Before each class, you will watch a lecture video(s) about the topics that we will be discussing. During class time I will answer questions and we will work on problems related to lecture videos.

Lecture videos and schedule: The schedule for when to watch each lecture video by will be posted on canvas. The lecture videos may be found here:

<http://www.math.utah.edu/lectures/math1050.html>

Calculators: Calculators will be useful for homework, but will not be permitted on exams.

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, the SI, or TAs questions or you may work with others on assignments. You may submit unlimited 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 quizzes weekly on Thursdays, except for spring break and weeks with midterms. The quizzes will cover the material from previously assigned lecture videos. **No make-up quizzes will be given**, you will get a score of zero for the quizzes that you miss, but I will drop the three lowest quizzes. I reserve the right to give the quiz at any time during the lecture.

Mid-term exams: You will have three mid-term exams, which will take place in the usual classroom. You **MUST** bring a valid ID to the 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. You must inform me in advance of the missed test. **There will be no make up exams.** Under these circumstances, the grade you receive for your missing midterm will be the grade you get for your final. The dates for the midterms are:

Thursday February 8, 2018

Thursday March 8, 2018

Thursday April 12, 2018

Final: The final exam will be comprehensive. **You must attend the final, there will be no make ups.** If you don't show up for the final exam, you will receive a zero on the exam. Please consider this when making travel plans. The date and time of the final exam is:

1:00pm - 3:00pm, Friday April 27, 2018

If have other final exams that are scheduled at the same or overlapping time with this final exam, you have until April 13th to let me know and we can figure something out. After that date, we will not accommodate you (and the other professor will have to deal with the scheduling conflict).

Grading Policy: Your grade will be based on:

Homework	15 %
Quizzes	7 %
Mid-term exams	18 % each
Final Exam	24%

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

A	93% – 100%	B-	80% – 82.9%	D+	67% – 69.9%
A-	90% – 92.9%	C+	77% – 79.9%	D	63% – 66.9%
B+	87% – 89.9%	C	73% – 76.9%	D-	60% – 62.9%
B	83% – 86.9%	C-	70% – 72.9%	E	0% – 59.9%

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

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 and Access (CDA), 162 Olpin Union Building, 581- 5020 (V/TDD). CDA will work with you and me to make arrangements for accommodations. All information in this course can be made available in alternative format with prior notification to CDA.

Classroom Etiquette: I will expect respectful behavior in my classroom. If I think that your behavior is disrespectful or distracting, I will ask you to leave the class. In particular:

- Please turn off your cell phones while you are in class.
- The use of laptop computers is not allowed in the classroom.

Cheating: If you cheat on any homework, quiz, project or exam, I will give you a grade of zero for that work. Depending on the severity of the cheating, I may decide to fail you from the class. In all cases, I will report the incident to the Dean of Students, and to the International Students Office in the case of an international student.

Webpage: All information concerning this class will be posted on the Canvas webpage of the class. Any important information will be given in class and on the Canvas webpage. **You are responsible for checking the webpage on a regular basis** (you can have the communication from Canvas forwarded to your email address).

Disclaimer: This syllabus may change during the semester. If I do any modification to this syllabus, I will let you know in class and post the new syllabus on the Canvas webpage.