



Math 1050: College Algebra

Fall Semester 2022

Mon-Wed, 6:00 – 8:00 PM; Room 107, [Sandy Center](#)

Instructor: John Nordstrom
Email: john.nordstrom@utah.edu
Office Hours: before and after class
Zoom Office Hours: TBD

Required Materials

The textbook for this course is available at no cost over Canvas.

Course Description

This course covers functions, inverses, and graphs; polynomial, rational, radical, exponential, and logarithmic functions; systems of equations and matrices; applications; arithmetic and geometric sequences and series.

Course Outcomes

1. Sketch the graphs of quadratic and cubic polynomials, 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. 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.
3. Perform composition of functions and operations on functions
4. Find the inverse of a function algebraically and graphically.
5. For polynomial, rational, exponential, and logarithmic functions, identify the x -intercepts, asymptotes, end behavior, and domain from algebraic and graphic representations. Convert back and forth between algebraic, graphical, and verbal representations.
6. Solve polynomial, rational, exponential, and logarithmic equations and inequalities.
7. Represent and interpret physical world situations using exponential and logarithmic functions.
8. Define i as the square root of -1 and know the complex arithmetic necessary for solving quadratic equations with complex roots.
9. Perform matrix arithmetic computations.
10. Solve systems of linear and non-linear equations in two or three variables, including the use of Gaussian elimination and matrix inverses in the linear case.
11. 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.
12. Understand series notation and know how to compute sums of finite arithmetic and finite and infinite geometric series.

Teaching and Learning Methods

The class schedule lists this class as being a lecture course, and that is true as far as it goes. But like any mathematics course, this course will require your active participation to be effective. You will have to do much of the heavy lifting yourself, both in and out of class. You are expected to do the assigned homework, not for any points you might earn, but because:

You *learn* math by *doing* math.

We will spend the first part of every class going over questions from the homework; if you haven't done the homework, you won't know what questions to ask. I will expect you to be active participants in the class, working on problems, and asking questions.

Please don't be afraid to ask questions, either in or out of class. If there is something you do not understand, you can be assured there are other students who are also lost and will appreciate your question.

University Policies

- 1. *The Americans with Disabilities Act.*** 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 this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.
- 2. *University Safety Statement.*** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.
- 3. *Addressing Sexual Misconduct.*** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).
- 4. *Undocumented Student Support Statement.*** Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific

course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801.213.3697 or visit dream.utah.edu.

5. **Drop/Withdrawal Policies.** Students may drop a course within the first two weeks of a given semester without any penalties. Students may officially withdraw (W) from a class or all classes after the drop deadline through the midpoint of a course. A “W” grade is recorded on the transcript and appropriate tuition/fees are assessed. The grade “W” is not used in calculating the student’s GPA. For deadlines to withdraw from full-term, first, and second session classes, see the U’s Academic Calendar.

Course Policies

As mentioned before,

You *learn* math by *doing* math.

To that end, I expect students to be active participants in the classroom. That means not only being attentive, but also not being distracting. While I encourage questions in the classroom, those questions should be addressed to me or the class as a whole. Talking with your neighbor, even about math, can be distracting to both myself and the rest of the class.

Food & Drink: I’m okay with a small amount of food and drink in the classroom, but it must be quiet and neat food and drink. Quiet because I find that random eating noises to be very distracting (and I suspect many of your fellow students do as well). Neat because the Sandy Center is a nice environment for learning and we want to keep it that way. In particular, the Sandy Center requests any drinks be in bottles with secure caps to reduce the chances of damaging spills.

Electronic Devices in Class: Since your textbook is provided in electronic form on Canvas, it seems pretty unreasonable to ban all electronic devices. This is not to say that all activity on electronic devices is allowed. In general, you should limit your use of such devices to taking notes and referencing the textbook. In particular, any activity not directly related to our class and the current lecture is strictly forbidden. Also, class time is *not* the time to be doing your homework.

Communication:

- Most of the course materials, such as lecture slides, assignments, solutions, grades, etc. will be posted on the Course Canvas site. Class announcements will be done via Canvas. You will be responsible for any information contained in them as well as the information announced in class.
- It is also your responsibility to check your Canvas messages regularly. There will be occasions during the semester when we may need to reach out to you individually (e.g. regarding a grade or assignment) and it is in your best interest to respond promptly.

- Feel free to contact me by email or Canvas message. I will do my best to answer emails promptly. I would like to encourage you to email me only if it is something personal that requires individual attention. If instead, you have questions about the logistics of the class, course material and assignments, and anything else your classmates may wonder as well, please post a question on the Discussions Board instead. This way the information is shared quickly with the entire class and each of you can benefit from seeing other classmates' questions.
- I will always do my best to ensure the communication relevant to the course is clear and transparent, it is your responsibility as well to keep yourself updated by regularly checking: the announcements on Canvas, your Umail, the posts on the Discussions Board, and pay attention to the announcements given in class and Discussion Section.
- Students are expected to log in and check Canvas every day for posted announcements and assignments. Students are also strongly advised to set up notifications for Canvas so they do not miss any important notifications.

Exam Dates: There are three planned midterms and a comprehensive final. Their planned dates and scope of material covered are

- Exam 1 Monday, September 25 (chapters 1 and 2)
- Exam 2 Monday, November 6 (chapters 3 and 4)
- Exam 3 Monday, November 27 (chapter 6)
- Final Friday, December 15, 1:00 – 3:00 PM (Comprehensive)

All sections of Math 1050 take the final at the same time. The *only* possible conflicts with this schedule occur if you are also taking Business Core 3020 or French 1010, 1020, 2010, or 2020. If you are in one of these classes, work out final exam arrangements with your two instructors *within the first two weeks of the semester.*

Official Drop/Withdraw Dates: The last day to drop classes is Friday, September 1; the last day to withdraw from this class is Friday, October 20. Please check the academic calendar for more information pertaining to dropping and withdrawing from a course. Withdrawing from a course and other matters of registration are the student's responsibility.

Important Dates

Last day to add without a permission code	Friday, August 25
Last day to add, drop (delete), elect CR/NC, or audit classes	Friday, September 1
Last day to withdraw from classes	Friday, October 20
Last day to reverse CR/NC option	Friday, December 1
Classes end	Thursday, December 7
Labor Day	Monday, September 4
Fall Break	Sun.-Sun., October 8-15
Thanksgiving Break	Thurs.-Sun., November 23-26

Rough Outline:

Week #	Monday	Wednesday	Schedule Notes	Sections	Assessments
1	8/21	8/23		1.1 – 1.3	Syllabus Quiz
2	8/28	8/30		1.3-1.5	Quiz 1
3	9/4	9/6	No class on Monday	2.1-2.2	Quiz 2
4	9/11	9/13		2.3-2.5	Quiz 3
5	9/18	9/20	Review on Wednesday	3.1	Quiz 4
6	9/25	9/27	Exam on Monday	3.1-3.2	Exam 1
7	10/2	10/4		3.3-3.4	Quiz 5
Fall Break: October 9 – 13					
8	10/16	10/18		4.1-4.3	Quiz 6
9	10/23	10/25		4.4-4.5	Quiz 7
10	10/30	11/1	Review on Wednesday	6.1	Quiz 8
11	11/6	11/8		6.2-6.3	Exam 2
12	11/13	11/15		6.4-6.5	Quiz 9
13	11/20	11/22	Review on Wednesday		Quiz 10
14	11/27	11/29		7.1-7.2	Exam 3
15	12/4	12/6		Review	
Final Exam: Friday, December 15, 1:00–3:00 pm					

Grading Policy (Evaluation Methods & Criteria): The grading scale is the standard one as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
≥93%	90-93%	87-90%	83-87%	80-83%	77-80%	73-77%	70-73%	67-70%	63-67%	60-63%	<60%

The course grade consists of several components:

- Homework 15%
- Quizzes 15%
- Midterms 45%
- Final 25%

The details of these components are as follows:

- Homework is delivered online through the IMathAS system. These homework assignments will be linked through Canvas and are fully online (no file uploads)

needed). If you think you have caught a mistake in the online homework, please email me with an explanation of what you think is wrong.

- There will be weekly quizzes taken in class on most weeks. There are 10 quizzes in total and the two lowest quiz scores will be dropped. Quizzes may not be retaken.
- There will be three midterm exams that are longer than quizzes. These are also taken in class. The lowest midterm exam score may be dropped and replaced by a higher final exam grade. Each midterm is worth 15%. If you do not take an exam, that score will not be dropped, so it's best for you in the course to attempt all the assigned work.
- The final exam is a comprehensive exam covering all topics in the course. You must take the final to pass the course. The final exam grade will replace the lowest midterm score.

It is the student's responsibility to ensure the accuracy of all recorded homework, quizzes, online assignments, and exam grades. Also, you should keep as record all your graded assignments. If you see any error in your grades on Canvas, reach out to the instructor as soon as possible, or at the latest within two weeks from when the assignment was returned.

Syllabus subject to change: This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas.