

MATH 1050—College Algebra

Section 02, MTRF, 8:00–8:50 am, NIB 136, CRN: 40098
Fall 2009—4 credits

Instructor: Taylor Jensen

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Lecture Notes Webpage: http://new.dixie.edu/math/taylor_jensen.php

Office Hours: MTRF 10:00–11:00 am; TR 2:30–3:30 pm; W 8:00 am–12:00 noon

Additional Help: NIB 134 *or* Browning Learning Resource Center

Required Text: *College Algebra* (10th edition) by Lial, Hornsby, and Schneider

Calculator Requirement: You *must* have a graphing calculator. The TI–83 (any version) or TI–84 (any version) is recommended.

Prerequisite: You *must* meet at least one of the following minimum requirements:

- Passed Math 1010 with a “C” or better
- ACT math score of 23 or higher
- A suitable CPT score (check at the Testing Center)

Course Description

Math 1050 satisfies the mathematics general education requirement. The content of the course basically entails a review of fundamental algebra. Polynomial and rational functions will be explored. An introduction into exponential and logarithmic functions and their applications will be given. The course is a lecture course with homework assignments, tests, and a comprehensive final exam. Successful completion of the course prepares students for Math 1100 or Math 2010. Additionally, Math 1050 is necessary for Utah Teacher Certification.

Course Objectives

All classes in mathematics at Dixie State College of Utah support the general education goals of the college. Each mathematics class will:

- Require students to perform mathematical processes including fractions, percentages, decimals, proportions/ratios, algebraic equations, and/or calculus techniques
- Provide students with application problems that use a variety of methods including arithmetical, algebraic, and geometric methods
- Challenge students to make inferences from mathematical models that include formulas, graphs, and tables
- Provide students with real-life applications that use a variety of mathematical functions

Upon successful completion of Math 1050, a student will demonstrate the ability to:

- Apply functional notation to model real-life mathematical problems
- Solve equations for a variable and find zeros of functions
- Analyze the key components of the graph of polynomial and rational functions
- Correctly use conic sections in appropriate situations
- Find the composition and inverses of functions

- Graph exponential and logarithmic functions
- Apply properties of logarithms and exponents when it is expedient to do so
- Solve systems of equations using substitution, elimination, and matrices
- Compute matrix determinants
- Solve non-linear systems of equations and of inequalities
- Find terms of arithmetic and geometric sequences and series
- Perform binomial expansions
- Solve basic counting and probability problems

Behavior Policies

1. **Your attendance and behavior are expected to reflect your dedication to excellence as a university student.** You are expected to attend class, participate in discussions and group work, and to use class time for Math 1050 activities only.

2. **You must abide by all regulations set forth in the “Student Rights and Responsibilities Code” (DSC Policy 5.33).** These regulations can be found online at <http://www.dixie.edu/humanres/polstu.html> (then click on the link to DSC Policy 5.33). In particular, you should be aware of your obligations pertaining to academic performance (“Academic Performance Responsibilities,” DSC Policy 5.33.5).

Homework Policies

The goal of your doing homework should be to gain *understanding* of college-level algebra—above and beyond rote memorization and superficial knowledge of formulas and “facts”. My homework policies are designed to incite your full engagement when doing homework, so you feel it is to your benefit both to do the homework and to do it well. With that in mind, let me present the policies:

1. You will read a section from the textbook and the corresponding lecture notes as well as complete assigned “Classroom Examples” for that section *before* attending the scheduled lecture about that particular section. After actively participating in a classroom discussion, you will then complete all assigned “Exercises” from that section. Together, “Classroom Examples” and “Exercises” constitute the homework problems of Math 1050. Homework is due at the *beginning* of class on the due date scheduled. **Late homework will not be accepted for any reason.** If you are involved in extracurricular activities (such as an athletic team), and one of your scheduled events conflicts with a homework due date, it is your responsibility to finish the homework and turn it in *early*.

2. Five homework problems will be randomly selected from each assignment and graded. Three “Classroom Examples” and/or odd-numbered “Exercises” will be graded on *following directions only*. Two even-numbered “Exercises” will be graded on *correctness*. Each homework assignment will be worth ten points.

3. The two *lowest* homework scores you earn during the semester will be replaced by 10s.

4. Because exam dates and homework due dates often coincide (or nearly so), you should photocopy all homework assignments before turning them in. That way, you can use your completed homework assignments as study aids for exams.

Exam Policies

1. **Exams cannot be made up for any reason.** Midterm exams will be administered in the Testing Center, while the final exam will be administered in our regular classroom.
2. If you miss a midterm exam, your score on that exam will be extrapolated from the *next* midterm exam (or from the final exam, if necessary). Extrapolated midterm exam scores are subject to an automatic penalty of 30% of the total value of the missed exam.
3. If you miss a second midterm exam or the final exam, you will receive an automatic **zero** for that exam, regardless of excuse.
4. You are allowed to bring one “cheat sheet” (8½ by 11 inches, front and back) to each midterm exam. You should photocopy your cheat sheet before you take the corresponding midterm exam because the Testing Center staff will **not** allow you to take it with you after you complete the exam. You will be allowed to bring your accumulated collection of photocopied midterm exam cheat sheets to the final exam.

Grading

Assignments (10 pts. each)	150 points
Midterms (50 pts. each)	300 points
Final Exam (<i>comprehensive</i>)	100 points

There are 550 total points possible. Your grade will be determined according to the percentage of points you earn in this course.

≥ 92.0% A	≥ 89.0% A–	≥ 86.0% B+	≥ 82.0% B
≥ 79.0% B–	≥ 75.0% C+	≥ 70.0% C	≥ 67.0% C–
≥ 64.0% D+	≥ 60.0% D	< 60.0% F	

Disability Resource Center

If you are a student with a documented physical or mental impairment that will substantially limit a major life activity, please contact the Disability Resource Center on the main campus. The Center Coordinator and staff will assist you in evaluating your eligibility for services. If you are deemed eligible, reasonable accommodations that are appropriate for your disability will be assigned. If you have any questions concerning this process, please contact the Center at (435) 652–7516 or go to the Student Services Center, Room 201.

Website Resources

Library	http://library.dixie.edu/
Writing Center	http://new.dixie.edu/english/dsc_writing_center.php
Testing Center	http://new.dixie.edu/testing/
Tutoring	http://dsc.dixie.edu/tutoring/index.htm

Communication Policy

Important class and college information, including syllabus changes for this class, will be sent to either the preferred email account you submitted to Dixie State College when you began school here or to your “Dmail” account. This information includes your DSC bill, financial aid and scholarship notices, notification of dropped classes, reminders of important dates and events, and other information critical to your success in this class and at DSC in general. You will be held responsible for any emailed information sent to you by me or by DSC, so please check your email account often. When trying to get in contact with me, the best option is to call my office phone and leave a message. If you are not comfortable with that option, please email me.

My Teaching Philosophy

I believe every dedicated student, including **you**, can learn the material taught in this course. I am confident that learning this material will make a **vital** difference in your ability to apply algebraic reasoning to everyday problems. Learning about mathematics should be **fun!** If we’re not having fun while we learn, we’re not really learning! ☺

Lecture Schedule

MATH 1050—Fall 2009

<u>DATE</u>	<u>LESSON</u>	<u>DATE</u>	<u>LESSON</u>
8/24	Introduction	10/19*	Hmwk
8/25	R.3, R.4, & R.5	10/20	3.3 & 3.4
8/27	Hmwk	10/22	Hmwk
8/28	R.6 & R.7	10/23	3.5 & 3.6
8/31	Hmwk	10/26	Hmwk
9/1	<i>Review</i>	10/27	<i>Review</i>
9/3	1.1 & 1.2	10/29	4.1 & 4.2
9/4	Hmwk	10/30	Hmwk
9/7	Labor Day	11/2	4.3 & 4.4
9/8	1.3 & 1.4	11/3	Hmwk
9/10	Hmwk	11/5	4.5 & 4.6
9/11	1.5 & 1.6	11/6	Hmwk
9/14*	Hmwk	11/9	<i>Review</i>
9/15	1.7 & 1.8	11/10	5.1 & 5.3
9/17	Hmwk	11/12	NO CLASS (M1050 only)
9/18	<i>Review</i>	11/13	NO CLASS (M1050 only)
9/21	2.1 & 2.2	11/16	5.2
9/22	Hmwk	11/17	Career Day
9/24	2.3 & 2.4	11/19	Hmwk
9/25	Hmwk	11/20	5.5 & 5.6
9/28	2.5 & 2.6	11/23	Hmwk
9/29	Hmwk	11/24	7.1 & 7.2
10/1	2.7 & 2.8	11/26	Thanksgiving Break
10/2	Hmwk	11/27	Thanksgiving Break
10/5	<i>Review</i>	11/30	Hmwk
10/6	3.1 & 6.1	12/1	7.3 & 7.4
10/8	Hmwk	12/3	Hmwk
10/9	6.2 & 6.3	12/4	<i>Review</i>
10/12	Hmwk	12/7	7.6 & 7.7
10/13	6.4 & 3.2	12/8	Hmwk
10/15	Fall Break	12/10	<i>Review</i>
10/16	Fall Break	12/11	<i>Review</i>

* The last day you may drop the class without a “W” appearing on your transcript is Monday, September 14th. The last day you may drop the class is Monday, October 19th. Other important dates on the academic calendar for this semester can be found online at <http://new.dixie.edu/reg/?page=calendar&sid=200940>.

Midterm exams open the class day on which we review the preceding material. They close *two days* later. The final exam will be at 7:30 am on Friday, December 18th.

Homework Assignments

MATH 1050—Fall 2009

<u>Due Date</u>	<u>Exs</u>	<u>Odds</u>	<u>Evens</u>
9/1	R.3: 4–10 R.4: 1–7 R.5: 1–4 R.6: 1–3, 5–8	R.3: 11–27 e.o.o., 33–89 e.o.o. R.4: 1–69 e.o.o., 79–103 e.o.o. R.5: 1–69 e.o.o. R.6: 1–97 e.o.o.	R.3: 18, 28, 48, 58, 90 R.4: 40, 60, 70, 80, 82 R.5: 32, 36, 56, 58, 66 R.6: 36, 68, 70, 78, 96
9/8	R.7: 4, 6, 7, 9–12 1.1: 1, 2, 4 1.2: 1–6	R.7: 1–85 e.o.o., 99, 101, 103 1.1: 1–9 odd, 13–65 e.o.o. 1.2: 1–11 odd, 15–19 odd, 23, 25, 27–39 e.o.o.	R.7: 18, 44, 54, 76, 90 1.1: 28, 36, 44, 50, 58 1.2: 16, 22, 28, 34, 40
9/15	1.3: 1–7 1.4: 1, 2, 4, 5, 7, 8 1.5: 1–4	1.3: 1–9 odd, 13–77 e.o.o., 83, 87 1.4: 1–9 odd, 13–29 e.o.o., 31, 33–77 e.o.o. 1.5: 1–5 odd, 9–45 e.o.o., 57	1.3: 36, 48, 54, 78, 88 1.4: 18, 30, 42, 58, 70 1.5: 16, 22, 30, 36, 58
9/18	1.6: 1–5, 7–9 1.7: 2, 3, 5, 6, 8, 9 1.8: 1–6	1.6: 1–25 e.o.o., 27, 29–77 e.o.o., 93, 97 1.7: 1–53 e.o.o., 55–59 all, 61–77 e.o.o., 95 1.8: 1–8 all, 9–65 e.o.o., 81–89 e.o.o.	1.6: 14, 16, 30, 50, 78 1.7: 22, 34, 52, 66, 82 1.8: 10, 20, 50, 52, 86
9/28	2.1: 2–5 2.2: 1, 2, 4, 6 2.3: 2–6, 9 2.4: 2–5, 7, 8	2.1: 13–37 e.o.o., 45–57 e.o.o. 2.2: 3–27 e.o.o., 37–49 e.o.o. 2.3: 1–13 e.o.o., 17–22 all, 23–83 e.o.o. 2.4: 1–6 all, 9–21 e.o.o., 25–28 all, 31–55 e.o.o., 59–65 all	2.1: 16(a), 16(b), 24, 30, 34 2.2: 8(a), 14(b), 24, 44, 50 2.3: 36, 38, 54, 56, 76 2.4: 12, 36, 54, 56, 76
10/5	2.5: 1–3, 5, 6 2.6: 1–4 2.7: 5, 8, 9	2.5: 1–4 all, 5–57 e.o.o., 59 2.6: 1–10 all, 11–43 e.o.o., 45–49 odd 2.7: 1–5 odd, 9, 13, 15, 17–29 e.o.o., 31, 33–65 e.o.o., 67–72 all	2.5: 8, 24, 38, 56(a), 56(b) 2.6: 20, 34, 40, 48, 50 2.7: 2, 36, 62, 64, 74
10/9	2.8: 2, 4, 6, 7, 9 3.1: 2–5 6.1: 2–5	2.8: 1–85 e.o.o. 3.1: 1, 3, 5–8 all, 12, 13–25 odd, 28, 30, 37–46 all, 47–59 e.o.o., 67 6.1: 1–9 e.o.o., 21–29 e.o.o., 31, 33, 37–41 odd, 51, 53	2.8: 14, 26, 40(c), 72(a), 86 3.1: 24, 26, 48, 50, 52 6.1: 30, 40, 42, 52(a), 54
10/20	6.2: 1, 2, 4 6.3: 1–3, 5 3.2: 1–3	6.2: 1–25 e.o.o., 43 6.3: 5, 13, 21, 31–39 e.o.o. 3.2: 1–13 e.o.o., 15, 17–33 e.o.o., 41–45 odd	6.2: 24, 44(a), 44(b), 46 (b), 48(a) 6.3: 6, 12, 22, 34, 40 3.2: 8, 12, 26, 34, 46
10/27	3.3: 1, 2, 4 3.4: 3, 7 3.5: 3, 4	3.3: 5–9 odd, 17–21 odd, 27, 49 3.4: 1–8 all, 21–27 odd, 65–69 odd 3.5: 9–17 all, 19, 21, 29–36 all, 37–45 odd	3.3: 16, 18, 22, 28, 50 3.4: 22, 26, 66, 68, 70 3.5: 38, 40, 42, 44, 46
11/2	3.6: 1–4 4.1: 1–5, 7 4.2: 4, 5, 7, 8, 10	3.6: 1, 3, 7–10 all, 11–23 e.o.o., 25, 27–39 e.o.o. 4.1: 1–17 odd, 19–26 all, 35–75 e.o.o., 77, 79 4.2: 1–25 e.o.o., 49–69 e.o.o., 71–77 odd, 83	3.6: 6, 20, 34, 40, 42 4.1: 16, 46, 50, 68(a), 70(a) 4.2: 60, 62, 64, 74, 78
11/9	4.3: 1, 4–6 4.4: 1, 3–7 4.5: 2, 3, 5, 6	4.3: 1–29 odd, 59–87 odd, 91 4.4: 1–9 odd, 13–53 e.o.o., 61–81 e.o.o. 4.5: 1–9 e.o.o., 12, 13–21 e.o.o., 23, 25–37 e.o.o., 39, 41–57 e.o.o., 60, 61–69 e.o.o., 71–77 odd	4.3: 24, 30, 70, 80, 88 4.4: 36, 48, 54, 56, 78 4.5: 26, 28, 44, 54, 66

<u>Due Date</u>	<u>Exs</u>	<u>Odds</u>	<u>Evens</u>
11/20	4.6: 2-6 5.1: 1-4, 6, 7 5.3: 1-3, 5, 6	4.6: 1-4 all, 5-13 e.o.o., 20, 21-41 e.o.o. 5.1: 9-53 e.o.o., 69-77 e.o.o., 87 5.3: 1-45 e.o.o., 61-65 odd, 75	4.6: 8, 18, 22, 42, 46(c) 5.1: 18, 28, 38, 46, 84 5.3: 42, 46, 66, 76, 90
11/24	5.2: 1, 2, 4 5.5: 1, 3, 4, 6 5.6: 1-4	5.2: 9, 15, 17-33 e.o.o., 35, 37, 41, 79 5.5: 1-37 e.o.o., 47-55 e.o.o. 5.6: 1-17 e.o.o., 29-45 e.o.o., 71-75 odd, 79, 81	5.2: 10, 28, 34, 36, 42 5.5: 36, 40, 48, 52, 56 5.6: 46, 48, 56, 78(a), 82
12/4	7.1: 1, 2, 5-7 7.2: 3-5, 7-9 7.3: 2, 3, 6, 8	7.1: 7-23 e.o.o., 25, 27-43 e.o.o., 53, 57, 73, 77 7.2: 1-21 e.o.o., 23, 25, 33-61 e.o.o., 69, 72, 73 7.3: 5-41 e.o.o., 57, 61, 64, 65	7.1: 10, 28, 46, 74, 80 7.2: 16, 40, 52, 58, 60 7.3: 16, 20, 32, 46, 66(b)
12/10	7.4: 2-5 7.6: 1-3, 5, 7-9 7.7: 1, 2, 4-6	7.4: 1-41 e.o.o., 42, 45-49 odd 7.6: 1-33 e.o.o., 35-41 odd, 45-53 e.o.o., 55, 57, 61 7.7: 1-33 e.o.o., 35	7.4: 28, 34, 42, 48, 50 7.6: 50, 56, 58, 60, 62 7.7: 2, 4, 6, 10, 24

Remember!

The final exam will be administered in NIB 136 at 7:30 am on Friday, December 18th.