Course Guide: Math 121: College Algebra: Spring 2023:

	Topic	Text*	Recommended Homework	Lecture**
T: 1-17	introduction & solving and graphing linear eqns.	1.1, 2.5	1.1: 11,15,19,23,35,37,39-48,49,55 2.5: 11,15,19,23,25,34,35,39,45,51,53,55	Lecture 1
TR	solving systems of linear equations	5.1	5.1: 7,9,13,25,27,29,31,37,41,47,49,53,55	Lecture 2
T: 1-24	(Quiz 1) distance, absolute value and inequalities	1.8	1.8: 9,13,17,19,23,27,29,33,35,37,39,43, 45,47,55,59,65	Lecture 3
TR	completing the square and its applications	1.3, 1.4	1.3: 21,25,29,41,43,55,69 1.4: 13-25,25-36,37-48,51,55,59,65	Lecture 4
T: 1-30	(Quiz 2) quadratic equation graphs and applications	1.5, 3.1	1.5: 23,27,31,35,47 3.1: 23,25,27,29,31,33,71,75	Lecture 5
TR	polynomial multiplication & factoring	R5, R6, 3.3, 7.4	R5: 23,25,31,33,39,41,43,49,57,65 R6: 11,13,17,21,29,41,51,59,61,65,89,91 3.3: 47-52, 107,109,111 7.4: 31,41	Lecture 6
T: 2-7	(Quiz 3) polynomial equations and inequalities	3.3, 3.6, 1.7	3.6: 23,25,27,29,35,37,41,47 1.7: 39,41,43,45,47,49,51	Lecture 7
TR	equations of circle, ellipse and hyperbola	2.2, 6.2, 6.3	2.2: 11,15,21,25,27,29,33,35,39 6.2: 19,41,43,45,47 6.3: 31,33,35	Lecture 8
T: 2-14	(Quiz 4) Questions for Test 1		**Mission 1 due**	Lecture 9
TR	Test 1			
T: 2-21	algebra of rational expressions	R7	R7: 5,7,9,11,15,21,23,25,31,33,39,51, 57,67,71,73,75,77,79,85	Lecture 10
TR	rational equations and inequalities	1.6, 1.7, 3.6	1.6: 11,13,15,17,19,21,25,29,33,35, 1.7: 57,61,63,67,71,73,75,79,81,83,85 3.6: 33,43	Lecture 11
T: 2-28	(Quiz 5) rules for radicals	1.6	1.6: 45,49,51,53,55,57,59,61,65,71,79,83,85	Lecture 12
TR	functions and graphs, domain and examples	2.3, 2.6	2.3: 33,35,37,43,45,51,55,73,75,77,87,89 2.6: 1,3,5,7,9,17,21,25,31	Lecture 13
T: 3-7	(Quiz 6) symmetries and transformations	2.7	2.7: 12,13,14,15,45,49,51,57,61,71,85,95,97	Lecture 14
TR	function operations & polynomial long division	2.8	2.8: 1,3,11,15,19,23,33,37,43,73,79,85,87,92	Lecture 15
	SPRING BREAK (a.k.a. "the holidays", 3-13 to 3-17)			
T: 3-21	polynomial long division & the factor theorem	3.3	3.3: 21,23,25,33,37,39,41	Lecture 16
TR	(Quiz 7) graphs of polynomials	3.4	3.4: 29,31,33,35,37,41,43,47,49,51	Lecture 17
T: 3-28	(Quiz 8) graphs of rational functions	3.5	3.5: 37,39,41,43,45,51,53,55,57,61,63,65 67,69,71,73,75,79,81	Lecture 18
W: 3-29	Assessment Day			

Course Guide: Math 121: College Algebra: Spring 2023:

TR	constructing polynomials & rational functions	3.4, 3.5	3.4: 65,67,69 3.5: 101,103,105	Lecture 19
T: 4-4	(Quiz 9) Questions for Test 2		**Mission 2 due**	Lecture 20
TR	Test 2			
M: 4-10	Easter Monday			
T: 4-11	one-to-one functions and inverse functions	4.1	4.1: 11,13,15,17,23,25,29,37,39,41,43,47,55 57,59,61,63,65,67,71,73,77,79,81,83	Lecture 21
TR	exponentials and logs and their properties	4.2, 4.3	4.2: 27,29,35,39,45,47,51,57,61,63,67,69 4.3: 11,13,17,19-42,43-48,49,51,55,65,67,69 71,73,75,77,81,83-92,111,113,115	Lecture 22
T: 4-18	(Quiz 10) exponentials and logs and their properties	4.3, 4.4	4.3: 71,73,75,77,79,81,83,85,87,89,91,95 4.4: 45,49,53,61,79,81,85,91,93,95,97	Lecture 23
TR	solution of exponential equations	4.5	4.5: 11-40	Lecture 24
T: 4-25	(Quiz 11) solution of logarithmic equations	4.5	4.5: 41-84	Lecture 25
TR	further examples	4.5, 4.6	4.5: 87-98	Lecture 26
T: 5-2	(Quiz 12) Questions for Final Exam		**Mission 3 due**	Lecture 27
W: 5-3	Reading Day			
	Final Exam is given some day in May 4-9		see official university schedule	

*the text is by Lial, Hornsby, Schneider & Daniels: *College Algebra, 13th edition*, I'm not following the order of the text this Semester, but I have indicated the sections which correspond to the material in my lectures. My lectures will be self-contained, please take the lectures as primary and consider the textbook as a supplemental material. Mostly we need the textbook since it has tons of homework problems to practice. I have indicated the textbook problems which are likely relevant to each of my lectures in the above table. The problems in the Missions are of primary importance, problems in the text are for extra practice.

**I record my lectures and post them to You Tube in a playlist. A link to that playlist in in the first announcement in Canvas as well as the top of my personal website www.supermath.info. Keep this in mind if you miss class for whatever reason, you can catch up on what you missed before the next class on most days.

❖ This schedule is tentative, I will likely adhere closely, but sometimes life or weather may interfere. It is important for you to monitor your email so cancellations and modifications reach you as soon as possible (please turn on notifications in Canvas).

❖ **Tests, Quizzes, and Final:** closed book, closed notes, only a basic scientific calculator allowed (no graphing calculators, or phone-based apps etc.). However, I do allow you a page of notes, front and back, for Test 1 & Test 2. On the Final Exam you may bring 2 pages of notes. I believe the Math Department has a simple scientific

Course Guide: Math 121: College Algebra: Spring 2023:

calculator you may borrow if needed. See Karen Guthrie in the Math Department on the 4th floor of DeMoss. Alternatively, I recommend the Casio fx115 which is available at Walmart and other fine retail establishments. Do NOT buy the TI-business calculator, those are pure evil.

❖ **Grades:** Tests 1, 2 = 2(190pts)=380pts, Final Exam = 200pts, Missions = 300pts, Quizzes 120pts.

Instructions for Quizzes:
- Quizzes are timed in-class assignments which are based on lectures which came before the quiz
- Quizzes are likely to reflect some of the recommended homework problems from Essentials of College Algebra by Lial et al. I list all the recommended homework problems in the calendar in this document.
- Quizzes are open notes and open homework you solved. However, they are closed laptop and no phones are allowed. Only your paper notes and non-graphing calculator

Instructions for Missions:

- If uncertain how to solve a problem, probably try it on scratch paper first. The turned in work should be clear and if the grader has to sort through lots of wrong steps before finding the actual solution then it is unlikely they'll see the correct solution amidst the wrong steps.

- The Missions are long. It will take several days to finish them. I would estimate 10 hours per mission, but it could be more or less depending on how much you need to learn as you're solving it. Notice Mission 3 actually includes most of a Final Exam I gave in a previous term. I hope that helps you ramp-up for the Final Exam at the end of the Semester.

- Write solutions neatly on the single-side-printed copy Mission, use a pencil which writes dark enough to read easily (you can use a pen or marker if you prefer, they overall idea here is that it be neat and readable for the grader)

- If there is an answer to be found then box the answer. Use words and proper mathematical notations. Proofs or derivations should be complete without your reader needing to see the statement of the problem.

- Staple in top left corner

- Late Missions are usually awarded at most half-credit since solutions are likely posted on the day the Mission is collected.