

DEPARTMENT OF MATHEMATICS AND COMPUTING
LA SIERRA UNIVERSITY

MATH 121 - COLLEGE ALGEBRA (4 UNITS)

PRELIMINARY SYLLABUS

FALL 2008

Instructor Wil Clarke. Office: 256 Price Science Complex, Phone x2548; home phone 687-4556, please don't call after 10:00 p.m. e-mail: wclarke@lasierra.edu. Web page: <http://faculty.lasierra.edu/~wclarke> My office hours are listed below and posted on my office door. If those are inconvenient, please let me know and we'll find a time to meet that is convenient to each of us. Lecture notes for each section are also on my website.

Text 1. Required: Aufmann|Barker|Nation *College Algebra and Trigonometry* 6th ed. (2008) Houghton Mifflin, Boston.

2. Required: Scientific Calculator; preferably a graphing calculator. I am fairly fluent on TI calculators. I won't be much help to you if you have another brand.

3. Recommended: The student version of MathCAD[®] software if you have your own personal computer. There is a summary of useful MathCAD[®] features at my website. I encourage you to check it out.

Bulletin Description Manipulation techniques for polynomial, rational, exponential, and radical expressions. Properties of the exponential and logarithmic functions. Solutions of systems of equations and inequalities. Complex numbers, theory of equations, curve sketching, combinatorics, sequences and series, finite induction. Does not apply toward any math or computing program. Prerequisite: MATH 007 or high school algebra II.

Objective To develop skills in the classical areas of precalculus-algebra. To provide the student with the manipulative skills necessary for calculus. To introduce the student to appropriate uses of MathCAD[®]. College Algebra partially meets the mathematics requirements set by the California State Department of Education, for details see <http://inet.lasierra.edu/~wclarke/syllabi/colalgtop.pdf>, for elementary and middle school teacher certification.

Course Requirements 1. **Homework:** Homework will be assigned each class period and is due at the beginning of the next class period. Late homework will not be accepted. It is impossible to pass the class without turning in most of the homework. MathCAD[®] assignments made on Monday and Tuesday of any week are due on Thursday of that week. MathCAD[®] assignments made on Wednesday and Thursday are due on Tuesday of the following week. You will be required to demonstrate proficiency on MathCAD[®].

2. **Quizzes:** There will normally be a five minute quiz at the beginning of each class period. If you miss it, you will not be able to make up this quiz for any reason. Leaving class early may result in your losing quiz points.

3. **Tests:** Tests and exams determine most of your grade for this class. Make up tests will not be given. (See the note in the final exam paragraph.) Students who leave the room during a test or exam will not be permitted to return while it is in progress. Tests and exams will include MathCAD[®] topics. Cell phones and pagers must be turned off during tests and exams.

4. **Final Exam:** A score of 50% or more on the final exam is a necessary, but not sufficient, condition to pass the course. The final exam will be divided into five parts. The first three parts will correspond to the three tests listed below. If you do better on any part of the final exam than you did on the corresponding test, I will give you the higher of the two grades for that test. See the note about the final examination schedule below. The fourth

part of the final will cover chapters 4 and 10. The MathCAD[®] test will count as the fifth part of the final.

5. **Outside Reading:** Extra Credit: You may read up to six articles from current journals and report on these in the manner specified in class. You may also find two helpful web sites that feature college algebra topics, other than those listed in my "Helpful URL's" site. To report on the web sites you find, list the URL, write a brief summary of materials you found that were helpful to you, and print out several web pages as samples of what you found.

6. **Attendance** Attendance is expected and you are responsible for all material presented and assignments made in class. A portion of your grade is based on your participation in class. You are encouraged to ask questions in class. Asking questions can only help your participation grade. Changes in this syllabus become effective after being announced to the class. You are responsible for these, even if you were absent when the changes were announced. The participation grade is mine to give based only on my perception of your performance. Please have your cell phones, beepers, pagers, etc in silent mode during class. Do NOT answer these inside the classroom.

Plagiarism and Cheating You are encouraged to seek assistance from faculty or students in doing your homework. However work that is done primarily by someone else is unacceptable and may result in your failing the course. Plagiarism and/or cheating on tests, exams or papers means an automatic zero on that occasion, a letter to the dean, and possible further disciplinary action.

Final examination schedule note from the CAS bulletin "A four-day examination schedule allowing a two-hour period for each class is printed in the schedule of classes. Students are required to take the scheduled final examination at the appointed time and place in order to secure credit. . . . Exceptions to the examination schedule are granted only for emergency situations." You must contact the CAS Dean for permission to take the final exam at a non-scheduled time.

Disability La Sierra University complies with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973. Any student with a documented disability (physical, learning, or psychological) needing academic accommodations should contact the Office of Disability Services (ODS) as early in the quarter as possible. All discussions will remain confidential. Please contact the ODS (La Sierra Hall, Suite 100 – x2450) for additional information. Students who qualify for accommodations, must bring their ODS paperwork to their instructor no less than 3 school days before they wish such accommodations to take effect.

Learning Support & Testing Center Tutors are available at the Learning Support Center. Videos and computer help is also available. Please make use of every aid provided.

Grading Scheme

Homework	12%	90—100%	A range
In-Class Tests	48%	80—89%	B range
Final Exam	25%	65—79%	C range
Participation	5%	50—64%	D range
Outside Reading	5%	0—49%	F
Quizzes	10%		

There are no such grades as "C–" or "D–" in this class.

Outline:

DATE		Sections	Paper and Pencil Homework	MathCAD® Homework
22-Sep	M	P.1-P.2	P.1: 7,14,21,28,..., end; P.2: 7,14,21,...,end	
23-Sep	T	P.3-P.4	P.3: 7,14,21,28,..., end; P.4: 7,14,21,...,end	
24-Sep	W	P.5-P.6	P.5: 7,14,21,28,..., end; P.6: 7,14,21,...,end	
25-Sep	R	MathCAD®		Handout
29-Sep	M	1.1	5,10,15,20,... end	8,14,18,24,28,42
30-Sep	T	1.2	2,5,7,10,13,19,26,34,41,54	1,4,8 [Hint: don't use subscripts]
1-Oct	W	1.3	2,7,12,17,22,27,34,39,50,61,69	1,11,21,31,41 [Use MC's Solve cmd.]
*2-Oct	R	1.4	3,8,12,13,20,27,35,43,49,55,61,69,76	4,17,22,32,44,54,55,67
6-Oct	M	1.5	3,9,16,20,21,33,41,48,62,72,78	17,24,35,43,69
7-Oct	T	1.6	2,7,12,14,17,20,27,31,41	13,16,36
8-Oct	W	2.1	3,7,12,20,25,29,36,47,56,63,72,82	26,30,32,43,46,
9-Oct	R	Test 1	Covering Ch P & 1	
13-Oct	M		Review of Test 1	
14-Oct	T	2.2	1,9,15,18,21,22,29,32,36,39,55–66,83,98	3,14,16,40,41,43,46,49
15-Oct	W	2.3	1,6,9,12,14,17,22,26,30,35,38,49,63,98	15,25,47,51,
16-Oct	R	2.4	1–9,16,19,26,38,39,50	11,42,43,53,63,74
20-Oct	M	2.5	1–14,19,21,43,46,58,60,71,85	31,36,41,50,52,75,78,81,84
21-Oct	T	2.6	1,4,9,11,,29,34,,40,45,51,60,72	5,12–28,37,42,47,52,57,
22-Oct	W	3.1	3,8,13,18,23,28,33,38,43,48,53,58,78	6,12,18,24,30,36
23-Oct	R	Test 2	Covering Ch 2	
27-Oct	M		Review of Test 2	
28-Oct	T	3.2	1, 2,6,19,21,23,33,36,43,46,61,70	13,15,18,24,26,39,44,47,54
29-Oct	W	3.3	4,12,22,30,41,44,49,54,64,70	37,47,57,53,79
30-Oct	R	11.1	7,14,21,28,35,44,51,56,63	40,45,48,52,56,59
3-Nov	M	11.5	1,8,15,22,29,36,43,45,50,57	4,12,19,20,28,32,40,47,49,58
4-Nov	T	3.4	5,13,19,27,3,42,45,50	6,22,28,32,43
5-Nov	W	3.5	3,11,16,25,32,39,45,54,63,74	12,19,33,46,56,60,71
6-Nov	R	9.1,2	9.2: 5,11,13,21,30,37,43	1,8,18,28,45,49
10-Nov	M	10.1	3,5,12,16,30,32,42,50,58–63	7,32,33,52
11-Nov	T	Test 3	Covering Ch 3, 9, & 11	
12-Nov	W	10.2	1,4,7,10,13,15,17,18,20,29	5,11,16,19,24,37,42,47
13-Nov	R	10.3	1,4,7,10,15,19,31	8,11,18,,33,36
17-Nov	M	4.1	1,4,7,9–16,18,27,34,37,43,46	17,20,22,38,44
18-Nov	T	4.2	1,4,7,10,14–17,24,49,54	3,6,11,18,23,30,35,45,48
19-Nov	W	4.3	1,6,11,16,21,26,31,36,41,46,51,73,74,88	77–79,84,91
§20-Nov	R	4.4	1,6,11,16,21,26,31, 36,41,59,62,73,79	35, 40,58,67,82
24-28 Nov			Thanksgiving Break	
1-Dec	M	4.5	4,9,14,19,24,29,34,41,46,59,75	2,8,15,22,28,35,42,49,52,55,58,59
2-Dec	T	4.6	2,7,12,17,22,27,32,37,42,47,52,56	6,10,18,23,29,39,55,56
3-Dec	W	Review		
4-Dec	R	Test 4	MathCAD Counted as part of the final	exam.

* Last day to drop a class with no record on transcript is Monday, October 3.

§ Last day to drop a class with a “W” grade is Thursday, November 21.

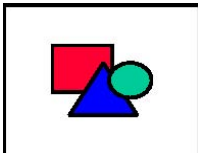
Final Exam: Thursday, December 11 at 2:00 p.m.

Topics covered:

DATE		SECTIONS	TOPIC
22-Sep	<i>M</i>	P.1,2	Real Numbers, Integers, Rationals
23-Sep	<i>T</i>	P.3,4	Polynomials, Factoring
24-Sep	<i>W</i>	P.5,6	Rational Expressions, Complex Numbers
25-Sep	<i>R</i>	MC	MathCAD
29-Sep	<i>M</i>	1.1	Linear, Abs Val Equations
30-Sep	<i>T</i>	1.2	Formulas, Applications
1-Oct	<i>W</i>	1.3	Quadratic Equations
2-Oct	<i>R</i>	1.4	Other Equations
6-Oct	<i>M</i>	1.5	Inequalities
7-Oct	<i>T</i>	1.6	Variation, Applications
8-Oct	<i>W</i>	2.1	Coordinate Systems
9-Oct	<i>R</i>	Test 1	
13-Oct	<i>M</i>		
14-Oct	<i>T</i>	2.2	Functions
15-Oct	<i>W</i>	2.3	Linear Functions
16-Oct	<i>R</i>	2.4	Quadratic Functions
20-Oct	<i>M</i>	2.5	Graphs
21-Oct	<i>T</i>	2.6	Algebra of Functions
22-Oct	<i>W</i>	3.1	Remainder & Factor Thm
23-Oct	<i>R</i>	Test 2	
27-Oct	<i>M</i>		
28-Oct	<i>T</i>	3.2	Polynomial Functions
29-Oct	<i>W</i>	3.3	Zeros of Poly Fns
30-Oct	<i>R</i>	11.1	Sequences and Summation
3-Nov	<i>M</i>	11.5	Binomial Thm
4-Nov	<i>T</i>	3.4	Fundamental Thm of Algebra
5-Nov	<i>W</i>	3.5	Rational Functions
6-Nov	<i>R</i>	9.1,2	Linear Equations
10-Nov	<i>M</i>	10.1	Gaussian Elimination
11-Nov	<i>T</i>	Test 3	
12-Nov	<i>W</i>	10.2	Algebra of Matrices
13-Nov	<i>R</i>	10.3	Matrix Inverse
17-Nov	<i>M</i>	4.1	Inverse Functions
18-Nov	<i>T</i>	4.2	Exponential Functions
19-Nov	<i>W</i>	4.3	Logarithmic Functions
20-Nov	<i>R</i>	4.4	Logarithms
24-28 Nov		Thanksgiving	
1-Dec	<i>M</i>	4.5	Exp & Log Equations
2-Dec	<i>T</i>	4.6	Exp Growth
3-Dec	<i>W</i>	Review	
4-Dec	<i>R</i>	Test 4	

Εἰ δὲ τις ὑμῶν λείπεται σοφίας,
 αἰτεῖτω παρὰ τοῦ δίδοντος Θεοῦ
 πᾶσιν ἁπλῶς καὶ μὴ ονειδίζοντος,
 καὶ δοθησεται αὐτῷ.

James 1:5 (Nestle & CEV)



If any of you need wisdom, you
 should ask God, and it will be
 given to you. God is generous
 and won't correct you for asking.

Hour	Monday	Tuesday	Wednesday	Thursday	Friday
8:00	Intro Linear Algebra	Intro Linear Algebra		Intro Linear Algebra	Intro Linear Algebra
9:00	Introductory Algebra	Introductory Algebra		Introductory Algebra	Introductory Algebra
10:00	Univ Studies	Office		Office	Office
11:00	Seminar	Assembly		Chapel	Dept Mtg
12:00	Lunch	Lunch	Lunch	Lunch	Lunch
1:00					
2:00	Office	Office	Office	Office	
3:00	College Algebra	College Algebra	College Algebra	College Algebra	
4:00					
5:00	CAS mtg				