

MESA COMMUNITY COLLEGE

DEPARTMENT OF MATHEMATICS

COURSE NUMBER: MAT150
SECTION NUMBER: 3634
INSTRUCTOR: DAVID JOHN
TEXT: COLLEGE ALGEBRA
PREREQUISITES: MAT120-122

COURSE TITLE: COLLEGE ALGEBRA
DAYS/TIME: MTWRF 7:00-7:50 in P208
OFFICE: PV221 654-7712 djohn@mail.mc.maricopa.edu
AUTHORS: SULLIVAN and SULLIVAN
OFFICE HOURS: 8:00-8:50

ATTENDANCE:

Attendance will be taken, and it is expected that students attend class regularly, arrive on time, and stay until the end of the class period. Hand in homework or a signed sheet of paper each day to verify attendance. Students who reach 6 or more unofficial absences may be withdrawn from the class and will earn a grade of W, Y, or F. Students who are more than 5 minutes late will be considered absent. Students are responsible for the college policies included in the college catalog and student handbook.

HOMEWORK/PROJECT PROBLEMS

Homework will be collected daily, unless otherwise specified. 3 points will be awarded for completion, while 2 problems will be graded for accuracy for an additional 2 points. Graded problems are to be done at the top of page 1. Homework should be neat and written in pencil. Late work will not be accepted. Homework will count **20 percent** of the final grade. Project problems will be assigned throughout the semester.

EXAMS:

There will be six exams during the grading period. They will count for **60 percent** of the final grade. A comprehensive final exam will be given at the end of the semester. It will count for **20 percent** of the final grade. There will be no makeup exams. All exams are to be done in pencil or no credit will be given. The final exam must be taken during the scheduled time.

GRADES;

Your grade will be based on a straight scale:

A (90%-100%), B (80%-89%), C (70%-79%), D (60%-69%), F (< 59%)

DISHONESTY:

If you do not do your own work on an exam you will receive a 0 percent for that exam.

CALCULATORS:

A calculator with graphing capability is required for this course. A TI-84 will be used for demos.

DISABILITIES:

If you have any disabilities that may hinder your learning, please inform me and complete the appropriate paperwork at special services as soon as possible. I will do everything reasonably possible to help you be successful in this class.

COMMENTS:

Present your work in a neat and organized manner. Use scratch paper when necessary. No credit will be given for nonexistent or incoherent work regardless of the answer.

Be prepared to learn new material in each class.

Read the book ahead of time and stay current. Do not fall behind.

Work with other students and get extra help when needed.

Course schedules, assignments, and exam dates are subject to change as circumstances dictate.

Cell phones and pagers must be turned off and all other MCC guidelines are to be followed.

College Algebra / Functions

Analysis and interpretation of the behavior and nature of functions including polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions; systems of equations, modeling and solving real world problems. Additional topics may include matrices, combinatorics, sequences and series, and conics. Prerequisites: Grade of "C" or better in MAT120, or MAT121, or MAT122 or equivalent, or satisfactory score on District placement exam.

MCCCD Official Course Competencies:

MAT150 20046-99999 **College Algebra / Functions**

1. Analyze and interpret the behavior of functions, including end behavior, increasing and decreasing, extrema, asymptotic behavior, and symmetry. (I, II, III)
2. Solve polynomial, rational, exponential, and logarithmic equations analytically and graphically. (I, II, III)
3. Find real and complex zeros of polynomial functions analytically and graphically. (II)
4. Graph polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions. (I, II, III)
5. Determine domain and range of polynomial, rational, exponential, logarithmic, power, absolute value, and piecewise-defined functions. (I, II, III)
6. Use transformations to graph functions. (I, II, III)
7. Perform operations, including compositions, on functions and state the domain of the resulting function. (I, II, III)
8. Determine whether a relation is a function when represented numerically, analytically, or graphically. (I, II, III)
9. Determine whether a function is one-to-one when represented numerically, analytically, or graphically. (I, II, III)
10. Determine the inverse of a relation when represented numerically, analytically, or graphically. (I, II, III)
11. Classify functions by name when represented numerically, analytically, or graphically. (I, II, III)
12. Determine regression models from data using appropriate technology and interpret results. (I, II, III)
13. Read and interpret quantitative information when presented numerically, analytically, or graphically. (I, II, III, IV)
14. Justify and interpret solutions to application problems. (I, II, III, IV, V)
15. Compare alternative solution strategies. (I, II, III, IV)
16. Calculate and interpret average rate of change. (I, II, III)
17. Model and solve real world problems. (I, II, III, IV, V)
18. Solve systems of three linear equations in three variables. (IV)
19. Solve systems of linear inequalities. (IV)
20. Communicate process and results in written and verbal formats. (I, II, III, IV, V)

MAT 150 - Fall 2008

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
AUG 25 <i>App. 2</i>	26 <i>App. 4</i>	27 <i>App. 8</i>	28 <i>Calculator Work</i>	29 <i>1.1</i>
Sept. 1 Labor Day	2 <i>1.1</i>	3 <i>1.2</i>	4 <i>1.3</i>	5 <i>1.3</i>
8 <i>1.4</i>	9 <i>1.4</i>	10 <i>1.5</i>	11 <i>1.5</i>	12 <i>1.6</i>
15 <i>1.6</i>	16 <i>Review</i>	17 Exam #1	18 <i>F3 Lines</i>	19 <i>2.1</i>
22 <i>2.2</i>	23 <i>2.3</i>	24 <i>2.4</i>	25 <i>2.5</i>	26 <i>2.6</i>
29 <i>2.7</i>	30 <i>2.8</i>	Oct. 1 <i>Review</i>	2 Exam #2	3 <i>3.1</i>
6 <i>3.5</i>	7 <i>3.6</i>	8 <i>3.2</i>	9 <i>3.2</i>	10 <i>3.3</i>
13 <i>3.3</i>	14 <i>3.4</i>	15 <i>3.4</i>	16 <i>Review</i>	17 Exam # 3
20 <i>4.1</i>	21 <i>4.2</i>	22 <i>4.3</i>	23 <i>4.3</i>	24 <i>4.4</i>
27 <i>4.5</i>	28 <i>4.6</i>	29 <i>4.7</i>	30 <i>4.8</i>	31 <i>4.9</i>
Nov. 3 <i>Applications</i>	4 <i>Review</i>	5 Exam #4	6 <i>F4 Circles</i>	7 <i>5.2</i>
10 <i>5.3</i>	11 Veterans Day	12 <i>5.4</i>	13 <i>Review</i>	14 <i>7.1</i>
17 <i>7.1</i>	18 <i>7.2</i>	19 <i>7.3</i>	20 <i>7.2/7.3</i>	21 <i>Review</i>
24 Exam #5	25 <i>6.1</i>	26 <i>6.2</i>	27 Thanksgiving	28 Thanksgiving
Dec. 1 <i>6.2</i>	2 <i>6.3</i>	3 <i>6.4</i>	4 <i>6.6</i>	5 <i>6.6</i>
8 <i>Review</i>	9 Exam #6	10 <i>Review</i>	11 <i>Review</i>	12 <i>Review</i>
15 Final Exam	16	17	18	19 FINAL GRADES DUE

MAT150 College Algebra Assigned Textbook Problems

Appendix A2: 1 – 10all; 12 – 45,3n; 49, 50 [18, 30] *graded problems*
Appendix A4: 3 – 132,3n [60, 90]
Appendix A8: 3 – 45,3n; 47 – 52 all [18, 36]
Section 1.1: Day 1: 1-5,10,17,24,30,37,40,47-60,68 [24, 52] Day 2: 73,77,75,79,81,85,87,89,90,91,98,100,102,103 [75, 90]
Section 1.2: 1-8,10,14,20,21,24,25,29,31,38,40,42 [10, 24]
Section 1.3: Day 1: 3,6,8,11-20,22,25,26,31,34,42,43,45-51odd [16, 22] Day 2: 53-61odd,64,66,67,70,72,75 [55, 66]
Section 1.4: Day 1: 4,5,9-16,17-24,26,27,33,37,38,43,44,49,57-60 [26, 38] Day 2: Worksheet
Section 1.5: 7-18,19-26,29,33,40,44, 48,49, 57,62 [12, 40] Day 2: 51, 60,65,68,74,76,82 [60, 68]
Section 1.6: Day 1: 1-3, 6,8,11,16,21,23,26,30 [8,26] Day 2 Worksheet

Section F3: 5 – 115, 5n; 117, 120, 123, 128 [60, 120]
Section 2.1: 10-12, 18,22,27-34,38,48,49,51,54,60 [22, 38]
Section 2.2: 7-12,16,19,21,29,30 [16, 30]
Section 2.3: 8-10,16,24,30,32,42,54,62,65,68,73,87,89,96,103 [24, 68]
Section 2.4: 5-10,11-18,27,30,45,48,54,57,60,65,72,77 [18,48]
Section 2.5: 3-6,8,18,23,24,30,33,35,40 [8, 24]
Section 2.6: 2,3,4,6,10,14,16,19,22,24,27,3740 [14, 24]
Section 2.7: 1-8,9-30,3n; 32 [12, 18]
Section 2.8: 4,6,10,14,16,18,24,30,38,40,41,49,51,63,65,79 [14, 38]

Section 3.1: 8,23,31,48,62,71,78,88,91,99 [48, 88]
Section 3.2: Day 1: 8,10,14,16,17,27,33,41,42,43,44,54 [14,42] Day 2: Worksheet
Section 3.3: Day 1: 7,18,21,33,38,45 [18,38] Day 2: 23,26,50,51,52,53,56,60 [26,52]
Section 3.4: Day 1: 5,10,15,20,25,30,35,43-46,47,51 [20,30] Day 2: 8, 12, 18, 31, 34, 40, 49 [12, 40]
Section 3.5: 1-4,13,33,59,61,77,78,95,104,119 [33,78]
Section 3.6: 2,5,6,12,16,17,22,29,34,38,42,44 [12,38]

Section 4.1: 1-3,7-10,13,18,21,23,27,31,40,53-58,59,63,64,67,69,70,72 [18,64]
Section 4.2: 2,3,7,8,10,13,15,25,34,36,38,42,49,54,63,76,86,87,88,99,101,102 [36, 88]
Section 4.3: 1-5,8,9,16,21-28,29-36,38,43,51,52,57-70,71-76,77,82,84,87-92,99,106,109,118,120 [38, 84]
Section 4.4: 1-3,7,9-36,39,43,45,49,55,59,63-70,72,85,87-106,111,114,120,124 [18, 72]
Section 4.5: 1-7,16,18,23,26,30,32,37,44,51,57,64,67,75,79,81,88,91,92,105,107 [26, 44]
Section 4.6: 1-4 ,6-48,3n 51,54,62,74,80,85,88 [18,30]
Section 4.7: 1,2,4,9,14,27,33,36,39,42,49,54,57,58 [14,54]
Section 4.8: 1,5,7,9,13,15,24 [9, 24]
Section 4.9: 3,5,6,9,12 [6,12]

Section F4: 2,10,11,16,25,31,41-44,45,49,53,56 [16,44]
Section 5.2: 1-5,7,11-18,21,24,29,37,45,48,56,62,64,69,72,73 [18, 64]
Section 5.3: 1-16,19,24,29,34,39,45,50,57,69,72,77 [16,50]
Section 5.4: 1-16,21,24,29,38,39,44,51,56,66 [8, 44]
Section 7.1: Day 1: 3 – 81,3n [18, 72] Day 2: 2-80,3n-1, 82, 85, 88 [44, 82]
Section 7.2: Day 1: 1,2,3-48,3n; [18,66] Day 3: 49,50,51,52,53,54,55,56 [50]
Section 7.3: Day 2: 1,2,3,6-66,3n; [24, 60] Day3: 70,71,72,74,75,77,81,86,88,90 [70]

Section 6.1: 16,20,23,34,39,45,48,58,60,67,70,77 [20, 48]
Section 6.2: Day 1: 23,31,40,45,50,55,60,65,70 [40,60] Day 2(with Calc.): 53,75,78,80,81,82,87 [78, 82]
Section 6.3: 3 – 33,3n; 43 – 46 [18, 30]
Section 6.4: 7,11,15,19,39,43,54,56,69,71,74 [19, 56]
Section 6.6: 1-4,8,10,17,26,37,44,53,57,62,67,71,77,83,84,85,86,90,91 [44, 84]
Section 6.7: 13,17,20,27, 35,43,57 [20,35]

All chapter reviews are highly recommended, but will not be collected for credit.
Homework will be turned in daily unless otherwise specified.
Graded problems are in brackets []. They are to be worked out at the top of page 1.