

**MATH K186****PRECALCULUS****Spring 2016**

INSTRUCTOR: Joe Amarello

(860) 383-9326 - (C)  
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COURSE DESCRIPTION: This course a detailed study of functions and relations, including circular functions, operations on functions and their graphs. Students will study polynomial, power, rational, exponential, logarithmic, and trigonometric functions, trigonometric identities and applications, introductory sequences and series

PREREQUISITE: MAT 172 College Algebra.

TEXTBOOK: Precalculus 9<sup>th</sup> Edition by Ron Larson

## COURSE SCHEDULE:

Jan 21 - 1.1 to 1.3	March 15- 4.6
Jan 26 – 1.4 to 1.6	March 17- Quiz 7, 4.7
Jan 28 – Quiz 1, 1.7 – 1.8	March 29- 4.8
Feb 2 – 1.9 – 1.10	March 31- Exam 2
Feb 4 – Quiz 2, 2.2	April 5 - Quiz 8, 5.1
Feb 9 – 2.4 and 2.6	April 7 – 5.2
Feb 11 – Quiz 3, 3.1, 3.2	April 12 – Quiz 9, 5.3
Feb 16 – 3.4, 3.5	April 14 – 5.4
Feb 18 – Exam 1	April 19 – Quiz 10, 5.5
Feb 23 – 4.1	April 21 – Exam 3
Feb 25- Quiz 4, 4.2	April 26 – 6.1
March 1- 4.3	April 28 – Bonus Quiz, 6.2
March 3 – Quiz 5, 4.4	May 3 – 6.5
March 8 – 4.5	May 5 – Intro to 9.1, 9.2, 9.3
March 10 – Quiz 6, 4.5	May 10 or 12 Final Exam

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**OFFICE HOURS:** I will be available to meet with the students at the school in the evenings as needed.

**ATTENDANCE:** Attendance will be taken at each class. Your attendance record will be considered for borderline grades. I look forward to seeing you at each class.

**HOMEWORK:** An assignment will be given at the end of each class. You are expected to have completed the assignment for the next class session. Questions on the homework will be discussed at the beginning of each class.

**EXAMS:** There will be three progress exams and a final exam in this course. You are required to take all exams. Any schedule conflicts should be resolved prior to exam day.

**GRADES:** Your grade will be determined as follows:  
Three Exams - 20% each  
Final Exam - 20%  
Quiz Grade - 20%

**COLLEGE WITHDRAWAL POLICY:** As stated in college catalog

**DISABILITIES AND LEARNING DIFFERENCE STATEMENT:** As stated in college catalog (See me if you have any questions or concerns).

## **Homework Assignments**

Homework( odd numbers): This is a guide only. Assignments may vary.

Chapter 1:	1.1	p.8	17, 21, 25, 27, 29	review
	1.2	p.19	19-39, 41-51, 69	review
	1.3	p.31	15, 21,43,55,65	review
	1.4	p.44	9, 11,21,25,31, 37-41, 45, 47, 49-59, 71, 75, 93	
	1.5	p.56	7-17, 33-37, 55, 57, 71- 81,	
	1.6	p.65	11,13,21,25, 35-39	
	1.7	p.72	9 -19, 27 - 37, 55-63	
	1.8	p.81	7-11, 13-23, 31, 33, 35-41, 43-53, 61	
	1.9	p. 90	7-15, 17, 19, 23-29, 37,39, 45-55, 61-65, 73, 75, 79, 83-91	
Chapter 2:	2.2.	p. 133	9-13, 19-27, 35-49, 59-63, 77-83	review
	2.4	p. 152	9, 11, 17, 23, 27, 33, 39, 45. 47, 55, 81	
	2.6	p. 177	5, 7, 11-15, 25-35, 45-47, 67-69	review
Chapter 3:	3.1	p.208	13, 15, 23, 25, 51, 53	review
	3.2	p. 218	25, 31, 37, 39, 41, 45 49-55	review
	3.4	p.235	17 - 61	
	3.5	p.245	33 – 37	
Chapter 4:	4.1	p.269	1-47, 51-57	
	4.2	p.277	5 - 41, 43-49	
	4.3	p.286	5 - 29, 33-37,47-55,57-61,63-71	
	4.4	p.296	9-17, 19-31, 33-43, 45-67, 69-73	
	4.5	p.306	5, 15, 19-25, 31,35	
	4.6	p.317	15, 19, 23,33	
	4.7	p.327	5-17, 21-27, 41-45, 109	
	4.8	p.336	5-15, 21,23, 27,29	
Chapter 5:	5.1	p. 355	7, 11, 13, 21-27, 41, 47, 53, 55	
	5.2	p. 362	1-19	
	5.3	p.371	5,7, 11-19,39, 41	
	5.4	p.379	7- 9, 13-19, 35-39, 41,43	
Chapter 6:	6.1	p.408	5,7,9,13,17, 31,41	
	6.2	p. 415	5,9,13, 17, 2131,33,35, 37, 39	
	6.5	p. 448	5-19, 31-39	
Chapter 9:	9.1	p.613	7,9,15, 23,37-41, 49-51, 59, 61, 67,69	
	9.2	p.622	5,13,23	
	9.3	p.631	7, 9, 17, 23,29,55, 73, 75	

## **COURSE OUTCOMES**

After the successful completion of the course the student must be able to:

1. Evaluate a function at any given value of  $x$ .
2. Find the domain and range of the function.
3. Graph the functions, using the tables, transformations.
4. Graph the piece-wise defined functions.
5. Determine whether the function is even, odd, or neither.
6. Identify local maxima, minima on the graphs of functions, and intervals of increase/decrease.
7. Model with functions.
8. Combine the functions, find their compositions, inverses.
9. Graph polynomials, find their zeroes, the  $x$  - intercepts, analyze their end behavior. Factor Theorem.
10. Graph rational functions, find the asymptotes.
11. Perform the operations with complex numbers.
12. Find trigonometric form of a complex number.
13. Evaluate, graph exponential and logarithmic functions.
14. Solve exponential and logarithmic equations, model with exponential and logarithmic equations.
15. Find the angle measure in radian, degree.
16. Find all trigonometric ratios in a right triangle.
17. Find the values of trigonometric functions from the information given.
18. Solve a right triangle.
19. Solve a triangle using the Law of Sines, the Law of Cosines.
20. Find trigonometric functions of real numbers using unit circle approach.
21. Graph the trigonometric functions.
22. Use the trigonometric identities, addition, subtraction, double, half-angle formula.
23. Evaluate inverse trigonometric functions.
24. Solve trigonometric equations.
25. Plot the complex numbers on the complex plane
26. Write the trigonometric form of a complex number
27. Use sequence notation to write the terms of sequences
28. Use factorial notation.
29. Use summation notation to write sums.
30. Model the real-life problems with arithmetic, geometric sequences.