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## Syllabus: *Math 187 Precalculus*

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### Course Information

Course Prefix/Number: Math 187	Credit Hours: 5
Semester: Fall 2016	Course Title: Precalculus
Class Days/Times: Monday & Wednesday 9:00 AM to 11:05 AM	Room: A 3

<b>Instructor Information:</b> Name: Jorge Guarin	Phone/Voice Mail: (520) 383-0101 E-mail: <a href="mailto:jguarin@tocc.edu">jguarin@tocc.edu</a> Office location: Main Campus Building A Office hours: To Be Determined
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### Course Description:

College-level algebra and trigonometry. Includes equations, algebraic and transcendental functions, inequalities, systems of equations, conic sections, sequences and series, trigonometric functions, polar form, calculator use, and partial fractions. Also includes intensive preparation for analytic geometry and calculus.

### Course Objectives:

#### During this course students will

1. Solve quadratic, quadratic in form, absolute value, polynomial, rational, literal, and radical equations.
2. Define a function by ordered pairs, a graph, and algebraically; use function operations and inverses; use transformations and determine symmetry.
3. Graph polynomial and rational functions; predict the nature of the zeros of a quadratic function, and reconstruct a polynomial from its given zeros.
4. Solve polynomial, rational, and absolute value inequalities.
5. Graph exponential and logarithmic functions; solve exponential and logarithmic equations; and use curve fitting for explanation of arithmetic models.
6. Convert between radians and degrees measures; define, graph, and evaluate the six trigonometric functions and their inverses; solve trigonometric equations algebraically; and use trigonometric identities to simplify expressions and solve equations.
7. Use the standard equations for conic sections and sketch their graphs; identify types of conic sections and determine their features.
8. Graph polar equations; convert between rectangular and polar coordinates; obtain polar form of complex numbers and convert between the polar form and the standard form.
9. Solve linear systems algebraically, graphically, and using matrices; solve nonlinear systems graphically and algebraically.
10. Find the  $n$ th term of a sequence; calculate partial sums of arithmetic and geometric sequences; and use the Binomial Theorem to expand powers of binomials.

**Student Learning Outcomes (SLOs) :**

**After completion of the course students will be able to**

- Perform operations with functions with/without the use of iPads.
- Create a mathematical project using PowerPoint.
- Employ technology to set up and solve real world situations.

**Texts and Materials: An iPad is required for this class.**

Required Text: Precalculus, 9<sup>th</sup> Edition, by Larson. ISBN: 13 978113394901. Publisher: Cengage Learning. **Checking out and returning an iPad is a requirement to obtain a grade in this class.**  
APPS: The "Free GraCalc" app is recommended.

**Evaluation and Grading & Assignments:****Attendance:**

The attendance policy for this class is simple. You are all adults who have in some form paid for this class. If you do not wish to come to any session, you do not have to attend. However, you are still responsible for completing work on time. If you are late for class, enter quietly and sit down. You will not be allowed to make up any quiz you miss because of tardiness. In case of a valid emergency, contact the instructor using the information given on the first page. After filling out an absence form, the instructor will decide whether or not the work missed can be made up.

**Academic Integrity:** Violations of scholastic ethics are considered serious offenses by Tohono O'odham Community College, the Mathematics Department, and by your instructor. Students may consult the TOCC Student Handbook sections on student code of conduct, on scholastic ethics and on the grade appeal procedure.

[a] All homework can be done independently or with other students. The purpose of homework is to develop critical thinking skills and also to develop specific skills related to teaching mathematics by repeated practice of these skills. Without this practice most students find it impossible to perform well in this class. No collaboration is tolerated during exams in-class exams.

[b] Students are expected to abide by the Student Code of Conduct and the Scholastic Code of Conduct found in the Tohono O'odham Community College Student Handbook. Copies are available at the main student bookstore.

**Course Feedback:**

All materials submitted will be graded and returned the next class period after they are submitted.

**Homework Policy:**

Homework will be assigned each class period and is due at the beginning of the next class period before the quiz. The solutions to all odd-numbered problems in the text are given in the back of the textbook. Homework sets will contain odd-numbered problems. Late homework will not be accepted unless the student has made an arrangement with the instructor before it is to be turned in.

**Withdrawals:**

Please be sure to withdraw yourself by **October 26, 2016** if you do not expect to complete the class, otherwise you may receive an "F" grade.

**Workload:**

Students are expected to spend an average of 18 hours per week attending class sessions, doing assignments and preparing for exams. The standard Carnegie Unit of college credit assigns one credit hour for each 15 hours of class time and assumes that students spend two hours working outside the classroom for each hour of classroom instruction. For a three-credit semester course, this translates to an average of 12 hours spent outside of class weekly for 8 weeks.

## Grading System/Policies:

<p>Your final grade will be calculated as follows:</p> <table><tr><td>5 homework assignments</td><td>200 points</td></tr><tr><td>5 quizzes</td><td>100 points</td></tr><tr><td>5 tests</td><td>400 points</td></tr><tr><td>1 project</td><td>100 points</td></tr><tr><td>1 final exam</td><td>200 points</td></tr><tr><td>Total possible</td><td>1000 points</td></tr></table>	5 homework assignments	200 points	5 quizzes	100 points	5 tests	400 points	1 project	100 points	1 final exam	200 points	Total possible	1000 points	<p><b>Grading Scale</b></p> <table><tr><td>A =</td><td>1000 - 900 points</td></tr><tr><td>B =</td><td>899 - 800 points</td></tr><tr><td>C =</td><td>799 - 700 points</td></tr><tr><td>D =</td><td>699 - 600 points</td></tr><tr><td>F =</td><td>less than 600 points</td></tr></table>	A =	1000 - 900 points	B =	899 - 800 points	C =	799 - 700 points	D =	699 - 600 points	F =	less than 600 points
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B =	899 - 800 points																						
C =	799 - 700 points																						
D =	699 - 600 points																						
F =	less than 600 points																						

### **Incomplete (I) grade:**

To receive an “ I “ grade, you must have finished at least 3/4 of the course requirements and specifically request the grade. Please call before the last week of class to be sure that there is sufficient time to consider your request. An incomplete grade generally implies that a student has shown sufficient initiative to complete the course on his or her own. You will receive a copy of the standard “I” form filed with the grade. This form details specifically what must be done to complete the course. A student has one year to complete the required work, after which the grade automatically reverts to an “F.”

### **Make-up Assignments:**

No make-up assignments will be given and no late assignments will be accepted unless the student has made prior arrangements with the instructor.

**Extra Credit Opportunities:** There is **NO** extra credit.

**Final Grades:** Students will receive a grade transcript from the college mailed to the address given with registration materials at the end of the semester when all grades have been recorded.

**SPECIAL NOTE TO STUDENT:** For privacy and security reasons, instructors are advised **NOT** to give grades over the telephone.

**DISCLAIMER:** This syllabus is designed to evolve and change throughout the semester based on class progress and interests. You will be notified of any changes as they occur.

#	Day	Date	Sections	Hw Due	Test
1	Monday	8/15/2016	1.1 - 1.2		
2	Wednesday	8/17/2016	1.3 - 1.4	1.1-1.2	
3	Monday	8/22/2016	1.5 - 1.6	1.3-1.4	
4	Wednesday	8/24/2016	1.7 - 1.8	1.5-1.6	
5	Monday	8/29/2016	1.9 - 1.10	1.7-1.8	
6	Wednesday	8/31/2016	Review Chap 1	1.9-1.10	<b>Quiz 1</b>
<b>T1</b>	<b>Wednesday</b>	<b>8/31/2016</b>	<b>1.1 - 1.10</b>	<b>Quiz 1</b>	<b>Chap 1</b>
<b>NC</b>	<b>Monday</b>	<b>9/5/2016</b>	<b>Labor Day-NoClass</b>		
7	Wednesday	9/7/2016	2.1		
8	Monday	9/12/2016	2.2 - 2.3		
9	Wednesday	9/14/2016	2.3 - 2.5	2.1-2.2	
10	Monday	9/19/2016	2.5 - 2.6	2.3-2.4	
11	Wednesday	9/21/2016	Review Chap 2	2.5-2.6	<b>Quiz 2</b>
<b>T2</b>	<b>Wednesday</b>	<b>9/21/2016</b>	<b>2.1 - 2.6</b>	<b>Quiz 2</b>	<b>Chap 2</b>
12	Monday	9/26/2016	3.1		
13	Wednesday	9/28/2016	3.2	3.1	
14	Monday	10/3/2016	3.3	3.2	
15	Wednesday	10/5/2016	3.4	3.3	
16	Monday	10/10/2016	3.5	3.4	
17	Wednesday	10/12/2016	Review Chap 3	3.5	<b>Quiz 3</b>
<b>T3</b>	<b>Wednesday</b>	<b>9/21/2016</b>	<b>3.1 - 3.5</b>	<b>Quiz 3</b>	<b>Chap 3</b>
18	Monday	10/17/2016	4.1		
19	Wednesday	10/19/2016	4.2	4.1	
20	Monday	10/24/2016	4.3	4.2	
21	Wednesday	10/26/2016	4.4	4.3	
22	Monday	10/31/2016	4.5	4.4	
23	Wednesday	11/2/2016	4.6	4.5	
24	Monday	11/7/2016	4.7	4.6	
25	Wednesday	11/9/2016	4.8	4.7	
26	Monday	11/14/2016	Review Chap 4	4.8	<b>Quiz 4</b>
<b>T4</b>	<b>Monday</b>	<b>11/14/2016</b>	<b>3.1 - 3.5</b>	<b>Quiz 4</b>	<b>Chap 3</b>
27	Wednesday	11/16/2016	5.1		
28	Monday	11/21/2016	5.2	5.1	
29	Wednesday	11/23/2016	5.3	5.2	
30	Monday	11/28/2016	Review Chap 5	5.3	<b>Quiz 5</b>
<b>T5</b>	<b>Monday</b>	<b>11/28/2016</b>	<b>5.1 - 5.3</b>	<b>Quiz 5</b>	<b>Chap 5</b>
31	Wednesday	11/30/2016	Review Final Exam		
32	Monday	12/5/2016	Review Final Exam		
<b>FE</b>	<b>Wednesday</b>	<b>12/7/2016</b>	<b>1.1 - 3.5</b>	<b>Part 1</b>	<b>Final Exam</b>
<b>FE</b>	<b>Wednesday</b>	<b>12/7/2016</b>	<b>4.1 - 5.3</b>	<b>Part 2</b>	<b>Final Exam</b>

Hw #	Quiz	Chapter	Section	Page	Numbers	Score
<b>Pre Ch 1</b>		<b>laronprecalculus.com</b>			1-20 ALL	
Hw 1		1	1.1	106	1-6 ALL	
			1.2	106	7-28 ALL	
			1.3	106	29-42 ALL	
			1.4	107	43-54 ALL	
			1.5	107	55-68 ALL	
			1.6	107	69-74 ALL	
			1.7	108	75-84 ALL	
			1.8	108	85-90 ALL	
			1.9	108	91-98 ALL	
			1.10	108	99-101 ALL	
	Q 1	1	Chapter 1 Test	109	1 - 26 ALL	
Test 1		1				
<b>Pre Ch 2</b>		<b>laronprecalculus.com</b>			1-20 ALL	
Hw 2		2	2.1	192	1-10 ALL	
			2.2	192	11-22 ALL	
			2.3	192	23-28 ALL	
			2.4	192	29-38 ALL	
			2.5	193	39-46 ALL	
			2.6	193	47-58 ALL	
	Q 2	2	Chapter 2 Test	194	1 - 16 ALL	
Test 2		2				
<b>Pre Ch 3</b>		<b>laronprecalculus.com</b>			1-20 ALL	
Hw 3		3	3.1	252	1-32 All	
			3.2	252	33-38 All	
			3.3	253	59-80 All	
			3.4	253	81-106 All	
			3.5	254	107-117 All	
	Q 3	3	Chapter 3 Test	255	1 - 29 ALL	
Test 3		3				
<b>Pre Ch 4</b>		<b>laronprecalculus.com</b>			1-20 ALL	
Hw 4		4	4.1	342	1-18 ALL	
			4.2	342	19-32 ALL	
			4.3	342	33-42 ALL	
			4.4	343	43-62 ALL	
			4.5	343	63-70 ALL	
			4.6	343	71-76 ALL	
			4.7	344	77-920 ALL	
			4.8	344	93-96 ALL	
	Q 4	4	Chapter 3 Test	345	1 - 20 ALL	
Test 4		4				
<b>Pre Ch 5</b>		<b>laronprecalculus.com</b>			1-20 ALL	
Hw 5		5	5.1	393	1-18 ALL	
			5.2	393	19-26 ALL	
			5.3	393	27-46 ALL	
	Q 5	5	Chapter 5 Test	395	1 - 18 ALL	
Test 5		5	5.1 - 5.3	417	1 - 29 ALL	
Final Exam		1 to 3	Cumm Test 1-3	256	1-42 ALL	
Final Exam		4 to 5	Cumm Test 4-5	457	1-18 ALL	

### Homework

## Acknowledgment of Receipt of Syllabus

Date: \_\_\_\_\_

Please read, sign and return the following acknowledgment to me in class, *or* return to me at the following address:

Jorge Guarin  
Tohono O'odham Community College  
P.O. Box 3129  
Sells, AZ 85634

- I have received my MAT 187 syllabus (including course objectives, policies, requirements and schedule) and have read and understood all the enclosed materials
- I have no objection to receiving an occasional call from the instructor at the number given with my registration materials.
- I prefer that the instructor not call or contact me by phone anytime during the semester.

My reason(s) for taking this course:

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My background in this area includes:

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I would like to be contacted by the instructor regarding the following concerns:

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Print Name Clearly Here

Sign Name Here

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Student ID Number

Telephone Number

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Current Mailing Address/City/State/Zip

E-mail Address