

PRECALCULUS ALGEBRA- MAC 1140 (TR)
COURSE SYLLABUS
FALL 2019

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Office Hours: M: 1-2pm (MMC), 5-6pm (MMC)
Tu: 12:30-2pm, 3:30-4:30pm
Th: 12:30-2pm, 3:30-4:30pm
F: noon-1pm

Phone #: TBD

NOTE: This syllabus is subject to change

COURSE BASICS

Prerequisites: a C or better in College Algebra, MAC 1105, or appropriate placement score

Course Description: MAC 1140 is a preparation for Calculus. The skills you learn in this course will also be relevant for your other science courses. The main topics include polynomial, rational, exponential and logarithmic functions, determinants, Cramer's Rule, conic sections, arithmetic and geometric sequences, and binomial theorem.

Course Objectives: After finishing this course you should: (1) have a good understanding of the concept of a function and its graph; (2) recognize, graph and discuss the properties of polynomial, rational, exponential and logarithmic functions; (3) apply different techniques, including Cramer's rule, to solve systems of equations; (4) recognize and graph a parabola, ellipse, and hyperbola (i.e. conics); (5) find a formula for a specific sequence of numbers, recognize arithmetic and geometric sequences, and compute the sum of the first n-terms of such sequences; and (6) expand a power of a binomial using the Binomial Theorem.

MATERIALS NEEDED

Textbook: Algebra & Trigonometry by R. Blitzer, 6th edition, packaged with MyLabsPlus access code OR MyLabsPlus Access Code alone (MyLabsPlus program contains an electronic textbook version). ISBN for textbook + access code : 9781323656495; ISBN for access code alone: 9781323739778

Access code for MyLabsPlus : (https://mathstat.fiu.edu/_assets/pdfs/mathematics-syllabi/mylabsplusnote.pdf)

If you took MAC 1105, MAC 1140, MAC 1114 or MAC 1147 at FIU in the last two last years and used the same textbook, you will have an automatic access to the program. Otherwise, you must purchase a code. You can purchase an access code at FIU bookstore together with the textbook or as standalone item. Or, you can purchase code online directly from Pearson while attempting to use the MyLabsPlus site (valid credit card required) - this is the cheapest option. **Please be advised that you MUST purchase a code with a specific ISBN or it will not work for the course.** *Note: Pearson can only support access codes purchased from the bookstore and directly through the publisher. Any issues that arise from materials purchased from a third-party vendor (Amazon, Chegg, eBay, etc) must be handled by that particular company. Access codes purchased through third-party vendors will not be replaced by Pearson. This policy includes standalone access codes and access codes included within a packaged bundle.*

If you are not able to purchase an access code immediately, you can use a **temporary access code**. A temporary access code can be obtained directly from the MyLabsPlus site. A temporary access code is valid for ONLY 14 calendar days and it allows you to get started with your assignments on the first day of classes. After the code expires you will be prompted to enter the permanent code or purchase the code using a credit card. You will not be allowed to continue your course until a permanent code is entered. You cannot buy/enter a permanent code until the temporary code expires.

MAC 1140 – Worksheets: You will receive (in the second week of classes) a set of worksheets required in this class. Pre-class worksheets will be collected at the beginning of the class and in-class worksheets will be collected at the end of each class meeting. Both will be graded.

Dedicated notebook (recommended): Use it for your class notes and homework assignments. It will be very helpful when preparing for the tests.

TEACHING METHODOLOGY AND KEYS TO SUCCESS

We will be using an interactive approach in this course, which has been shown to be beneficial for student learning and success in math. Mathematics is more than a set of rules; it is more like a language, a system for understanding the world around us. As such, we learn math by using it, communicating it to others, and practicing it in different contexts – which is what we are modeling in this course.

The structure and resources in this course are designed to help you learn, understand, and apply the concepts. Through this process, you will be supported by your instructor and a team of Learning Assistants, who want you to succeed. You will be working in teams every class and practicing the skills that you need to succeed in college and beyond – including essential interpersonal skills that employers seek. This course will help you develop effective team-work skills that will help you learn the content better and form a support network of peers.

To be successful in this course you need to:

- **Complete all the pre-class assignment (worksheets and videos) before coming to class** – this is essential to your success. Only if you are prepared for class you will take full advantage of the in-class activities.
- **Be an active participant in the classroom** – work *with* your team, monitor your understanding, ask questions, take full advantage of the in-class time.
- **Be consistent with your work and study time** – math takes practice and time to process. Make it a habit (early in the semester) to set time to work *regularly* on the course assignments and material. Work with a friend. Form a study group. An hour every day is better than cramming for 4 hours at a time.
- **Get help early and often:** If you are having difficulties or need support, reach out to the instructor and your classmates. Use e-mail or stop by office hours. **Go** to campus tutoring sessions. **All** students need help at some point, do not be shy about getting the help you need. **We want you to succeed!**
- **Take advantage of campus resources:** Visit the University Learning Center (GL 120 in MMC/ AC1 160 in BBC) or the AAA Tutorial Program for free tutoring (GC 267 in MMC/ WUC 253 in BBC). Look at sample tests and reviews in the Math Department website: <http://mathstat.fiu.edu/useful-information/math-resources/pre-calculus-algebra/>

COURSE DETAILS

Pre-Class Assignments (7% of grade): Before you come to class, you should acquire the background knowledge you need to effectively contribute to your team and to your own learning. Every class has a pre-class assignment worksheet that you must turn in at the beginning of the class. **Late work will not be accepted.** These worksheets will be graded for completion and correctness – make sure you show complete work and make a meaningful attempt to answer all the worksheet problems. One or more problems may be randomly selected to be graded for correctness. We recommend that you take a picture of the pre-class worksheet for reference in class. At the end of the semester, two lowest scores in this category will be dropped.

In-Class Worksheets (5% of grade): In class, you will be learning math by doing math. You will be completing a worksheet for every class, which will be collected at the end of the class period. You will be

working in teams, but submitting an individual worksheet. Worksheets will be graded for completion and correctness. One or more problems may be randomly selected to be graded for correctness. At the end of the semester, two lowest scores in this category will be dropped.

Online Homework (8% of the grade): Your online course assignments are available at <https://fiu-mlpui.openclass.com/> Your **username is your panther ID**. Use “Forgot your password?” link to create your password. You will be able to access the site, but to gain access to assignments you must purchase an access code for MyLabsPlus. Online problems can be attempted an infinite number of times, but must be completed by 11:59 PM on the assigned due date. It is your responsibility to track the due dates. **Late submissions will not be accepted under any circumstances** (a grade of 0 will be assigned), so please plan accordingly and don’t wait until the last minute. At the end of the semester, the homework with the lowest grade will be dropped.

Online Quizzes (7% of the grade): To take a quiz you have to complete associated homework assignment(s) (usually two per week) with a score of 80% or more. If you do not score **at least 80% on EACH homework assignment, you will not be able to take the associated quiz** and therefore you will receive a 0% on that quiz. You can take each quiz up to 3 times and only the highest score will be recorded. At the end of the semester, the quiz with the lowest grade will be dropped.

Participation (3% of the grade): Each class will start with 1-2 questions quiz based on Pre-class assignment due that day. Participation grade will include your overall score on these quizzes as well as class/group engagement.

Exams (70% of the grade): There will be four tests (see the schedule for dates, worth 12.5% each) and a comprehensive final exam (worth 20%).

Note: **Deadlines will not be extended.** All online assignments are due at midnight on the due day. Do not wait till the last moment to complete the assignments since you don’t know what problems, technical or not, you might encounter along the way.

COURSE POLICIES

Grading policy:

Your grade will depend on your performance on tests and the online and offline homework and quizzes. Keep in mind that 70% of your grade is determined by your performance on tests

Course Requirements	Number of Items	Weight
Online Homework Assignments	25	8%
Online Quizzes	14	7%
Pre-class Assignments	24	7%
In-class Assignments	24	5%
Participation		3%
Tests	4	50%
Final Exam	1	20%
Total		100%

- To get a full credit for a problem on a test you **must show your work**. **An answer alone, even correct, will get no credit.**

- The lowest scores on quizzes and homework assignments will be dropped at the end of the semester.
- Final is mandatory and will count for 20% of your grade
- The score on the final will replace the lowest test score, if it is to your advantage.
- The final will NOT replace a 0 that you get for missing a test.

Your final grade will be assigned according to the following scale. All grades will be available in Mylabsplus, so you can monitor your progress.

Letter	Range (%)	Letter	Range (%)	Letter	Range (%)
A	Above 93	B-	79 - 82		
A-	89 - 92	C+	75 - 78	D	59 - 67
B+	86 - 88	C	68 - 74	F	0 - 58
B	83 - 85				

Make-up Policy: There will be no make-up tests. If you miss a test due to illness or other emergency and provide supporting documentation, your final exam will count in place of the missed test. In this case, the option of replacing the lowest test score **will not be applied**. There **are no make-ups for online and offline assignments**.

Class Attendance Policy: You are expected to attend all classes. It has been shown that students who attend classes do better on class assessments. Remember also that your group members will need you. Complete pre-class assignments and come to class. In-class worksheets must be turned in at the end of a class meeting. If you are not in class, you will not be able to turn in your worksheet!

Early Alert: In an effort to help you succeed in your academic courses, FIU utilizes an Early Alert system. Instructors are now able to notify your academic advisor if there are concerns about class performance. If an alert is submitted, your academic advisor will send you a message via your Student Dashboard (accessed via your MYFIU page) to discuss ways to improve your performance. Please respond to any communication you receive from your academic advisor about an early alert. Our goal with this program is to help you succeed by identifying any issues as early as possible and working to address them.

Incomplete Grade Policy: The incomplete grade is given to a student who has substantially and successfully completed most of the course work but is unable to finish an exam or other work because of circumstances beyond the student's control. An IN grade cannot be given if it is necessary for the student to repeat the course. An incomplete grade must be made up within two semesters. There is no extension of the two semester deadline. The student must not register again for the course to make up the incomplete. Every incomplete grade must be approved by the Mathematics Department.

NC grade: The purpose of the NC grade is to assist “first time in college” students in their transition to FIU. This policy allows students to maintain progress towards their degree by allowing them an opportunity to recover from any academic difficulties they may have experienced during their first year. A No-credit (NC) grade will be entered for **earned** grades of “D”, or “F” in any University Core Curriculum (UCC) course taken within one year of the first enrollment date.

Drop Date: The last day to drop a course with a DR grade is November 4.

Academic Misconduct: Includes (but is not limited to) giving or receiving assistance on a test, quiz, or homework assignment for which such assistance is not permitted, falsifying a document to obtain an excuse from a test, and using unauthorized notes on a test or quiz. A more complete definition of Academic Misconduct is given in the Student Handbook. Penalties for Academic Misconduct range from an F in the course to expulsion from the University.

Classroom Etiquette: To create and preserve a classroom atmosphere that optimizes teaching and learning, students are expected to conduct themselves at all times in a manner that does not disrupt teaching or learning. You are expected to come prepared to class, be on time and remain in the classroom for the duration of the class period. Eating, using a phone or laptop, preparing for another class, packing up early is disruptive to others around you and to the instructor. All classroom participation must be relevant to the topic at hand. Electronic devices such as cell phones, iPods, tablets and computers must be turned off and put away during class. Student conduct which disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class.

Tentative Daily Class Schedule

NEW schedule:

Fall 2019	Date	Sections covered	Assignments
Week - 1	8/27	Class policies; 2.1- Functions: domain;	HW 2.1 (32 problems) due 9/8
	8/29	2.1- Functions: difference quotient; graphs of functions	Quiz 1 (10 problems) due 9/8
Week – 2	9/3	Hurricane Dorian- classes canceled	HW 2.2 (29 problems) due 9/9
	9/5	2.2- Graphs of functions; Piecewise functions	Quiz 2 (5 problems) due 9/10
Week – 3	9/10	2.5 – Graphing using transformations	HW 2.5 (27 problems) due 9/12 HW 2.6 (24 problems) due 9/16
	9/12	2.6 – composition, de-composing functions	Quiz 3 (9 problems) due 9/17
Week – 4	9/17	2.7 –One-to-one functions; Inverse functions- finding the inverse and its graph	HW 2.7 (20 problems) due 9/19 HW 3.3 (23 problems) due 9/23
	9/19	3.3 – Dividing polynomials: long division, synthetic division; Factor Theorem	Quiz 4 (10 problems) due 9/24
Week – 5	9/24	TEST 1	HW 3.2(33 problems) due 9/30
	9/26	3.2- Polynomial functions: definition, end behavior, definition of a zero and its multiplicity; graphing	Quiz 5 (5 problems) due 10/1
Week - 6	10/1	3.5A – Rational Functions; domain; arrow notation; asymptotes	HW 3.5A (29 problems) due 10/3 HW 3.5B(15 problems) due 10/7
	10/3	3.5B – Graphing Rational functions (include transformations)	Quiz 6 (9 problems) due 10/8

Week – 7	10/8	3.6- Polynomial and Rational inequalities	HW 3.6 (19 problems) due 10/10
	10/10	4.1 – Exponential functions: definition and graphing using transformations	HW 4.1(28 problems) due 10/14 Quiz 7 (10 problems) due 10/15
Week – 8	10/15	Test 2	HW 4.2A (26 problems) due 10/21
	10/17	4.2A- Logarithmic Functions- definition, basic properties, domain	Quiz 8 (5 problems) due 10/22
Week – 9	10/22	4.2B – Logarithmic functions-Graphs	HW 4.2B (17 problems) due 10/24 HW 4.3 (28 problems) due 10/28
	10/24	4.3- Properties of logarithms	Quiz 9 (8 problems) due 10/29
Week - 10	10/29	4.4 –Exponential and Logarithmic equations	HW 4.4(29 problems) due 10/31 HW 10.1(25 problems) due 11/4
	10/31	10.1 - Ellipse	Quiz 10 (10 problems) due 11/5
Week – 11	11/5	Test 3	HW 10.2 (27problems) due 11/11
	11/7	10.2- Hyperbola	Quiz 11 (6 problems) due 11/12
Week -12	11/12	10.3 - Parabola	HW 10.3 (27 problems) due 11/14 HW 11.1 (34 problems) due 11/18
	11/14	11.1 -Sequences and sigma notation	Quiz 12 (10 problems) due 11/19
Week -13	11/19	11.2 Arithmetic sequences	HW 11.2(19 problems) due 11/21 HW 11.3(21 problems) due 11/25
	11/21	11.3- Geometric Sequences	Quiz 13 (9 problems) due 11/26
Week -14	11/26	11.5- The Binomial theorem	HW 11.5 (20 problems) due 11/25
	11/28	Thanksgiving	Quiz 14 (3 problems) due 12/3
Week -15	12/3	Test 4	HW 8.1 (12 problems) due 12/9 HW 9.5 (9 problems) due 12/9
	12/5	8.1- Systems of linear equations: substitution and elimination method; 9.5 – 2x2 Determinants and Cramer’s Rule	Quiz 15 (4 problems) due 12/9
Week-16		Final Exam	

OLD schedule:

Fall 2019	Date	Sections covered	Assignments
Week – 1	8/27	Class policies; 2.1- Functions: domain;	HW 2.1 (32 problems) due 9/2
	8/29	2.1- Functions: difference quotient; graphs of functions	Quiz 1 (10 problems) due 9/2

Week – 2	9/3	2.2- Graphs of functions; Piecewise functions	HW 2.2 (29 problems) due 9/5 HW 2.5 (27 problems) due 9/9
	9/5	2.5 – Graphing using transformations	Quiz 2 (10 problems) due 9/10
Week – 3	9/10	2.6 – composition, de-composing functions	HW 2.6 (24 problems) due 9/12 HW 2.7 (20 problems) due 9/16
	9/12	2.7 – One-to-one functions; Inverse functions- finding the inverse and its graph	Quiz 3 (10 problems) due 9/17
Week – 4	9/17	TEST 1 (Chapter 2)	HW 3.3 (23 problems) due 9/23
	9/19	3.3 – Dividing polynomials: long division, synthetic division; Factor Theorem	Quiz 4 (5 problems) due 9/24
Week – 5	9/24	3.2 Polynomial functions: definition, end behavior, definition of a zero and its multiplicity; graphing	HW 3.2(33 problems) due 9/26 HW 3.5A (29 problems) due 9/30
	9/26	3.5A – Rational Functions; domain; arrow notation; asymptotes	Quiz 5 (10 problems) due 10/1
Week – 6	10/1	3.5B – Graphing Rational functions (include transformations)	HW 3.5B(15 problems) due 10/3 HW 3.6 (19 problems) due 10/7
	10/3	3.6 Polynomial and Rational inequalities	Quiz 6 (10 problems) due 10/8
Week – 7	10/8	Test 2 (chapter 3)	HW 4.1(28 problems) due 10/14
	10/10	4.1 – Exponential functions: definition and graphing using transformations	Quiz 7 (6 problems) due 10/15
Week – 8	10/15	4.2A Logarithmic Functions – definition, basic properties, domain	HW 4.2A (26 problems) due 10/17 HW 4.2B (17 problems) due 10/21
	10/17	4.2B – Logarithmic functions-Graphs	Quiz 8 (7 problems) due 10/22
Week – 9	10/22	4.3 – Properties of logarithms	HW 4.3 (28 problems) due 10/24 HW 4.4(29 problems) due 10/28
	10/24	4.4 – Exponential and Logarithmic equations	Quiz 9 (10 problems) due 10/29
Week – 10	10/29	Test 3 (Chapter 4)	HW 10.1(25 problems) due 11/4
	10/31	10.1 – Ellipse	Quiz 10 (5 problems) due 11/5
Week – 11	11/5	10.2- Hyperbola	HW 10.2 (27problems) due 11/7 HW 10.3 (27 problems) due 11/11
	11/7	10.3 – Parabola	Quiz 11 (10 problems) due 11/12
Week – 12	11/12	11.1 –Sequences and sigma notation	HW 11.1 (34 problems) due 11/14 HW 11.2(19 problems) due 11/18
	11/14	11.2 Arithmetic sequences	Quiz 12 (10 problems) due 11/19

Week -13	11/19	11.3 Geometric Sequences	HW 11.3(21 problems) due 11/21 HW 11.5 (20 problems) due 11/25
	11/21	11.5 The Binomial theorem	Quiz 13 (7 problems) due 11/26
Week -14	11/26	Test 4 (Chapter 10 & 11)	
	11/28	Thanksgiving	
Week -15	12/3	8.1 Systems of linear equations: substitution and elimination method; 9.5 – 2x2 Determinants and Cramer’s Rule	HW 8.1 (12 problems) due 12/5 HW 9.5 (9 problems) due 12/5 HW 8.4(13 problems) due 12/9
	12/5	8.4 Non linear systems	Quiz 14 (7 problems) due 12/9
Week -16		Final Exam	