MAC 1147 - Summer 2017

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The course home page is located in Canvas. Log in to Canvas at https://elearning.ufl.edu.

Course Content

College algebra, functions, coordinate geometry, exponential and logarithmic functions, and trigonometry. This **fast-paced course** is designed as a review of algebra and trigonometry to prepare the student for calculus. If you feel this course will be too fast paced, you can take it over two semesters by taking MAC 1140 Precalculus Algebra and then taking MAC1114 Trigonometry. You have until the end of add/drop to change your schedule.

A minimum grade of C (not C-) in MAC 1147 satisfies four hours of the general education requirement and also satisfies the pure math portion of the state Writing/Math requirement. Note: A student can receive at most four credits for taking both MAC 1147, and MAC 1140 or MAC 1114, and at most five credit hours for taking MAC 1147, MAC 1140, and MAC 1114. Students who successfully complete this course (C or better) can advance directly to MAC 2311, Calculus 1 (for engineers and scientists), or into MAC 2233, Survey of Calculus.

If your goal is to take MAC 2233, Survey of Calculus (for business majors), then you might want to talk to your advisor about taking MAC 1140, Precalculus Algebra, instead of this course (which includes trigonometry) since there is no trigonometry requirement for MAC 2233.

Students taking this course for general education credit or the pure math portion of the Math requirement, and who do not need precalculus for their major or as preparation for calculus, might consider taking MGF 1106 or MAC 1105. For more information on math courses and math advisors go to http://www.math.ufl.edu/.

Prerequisites

A minimum score of 50% on the ALEKS exam is suggested.

This course assumes prior knowledge of intermediate algebra (Algebra 2) and trigonometry. Students should be able to do arithmetic without a calculator.

MAC 1147 begins with a short review of high school algebra topics (appendices A1 – A7). **You should already be competent in working this material.**

Required Materials

The textbook: **Precalculus**, 9th edition, by Larson.

The solutions manual is NOT required.

E-Learning Canvas

Canvas is located at <u>https://elearning.ufl.edu</u> ; use your Gatorlink username and password to login. You can find your grades, announcements, lecture outlines, free help information, etc., at this site. You are responsible for verifying that your grades are accurate. **All grade concerns must be taken care of within one week of receiving the score.**

Lectures

The lecture presentations are an important aspect of the learning process. The lecture provides the main presentation of the course material. You are responsible for learning the material missed due to an absence. Lecture outlines can be printed from Canvas. It is suggested that you read the book, attend lecture or watch the pre-taped video and do the corresponding book homework.

You may print the lecture outlines which can be found on Canvas under Course Materials or you can purchase them at Target copy Center at 1412 West University Avenue for about $18.

Calculator Policy

A calculator may not be used on discussion quizzes nor on exams.

Help (free)

The Teaching Center Math Lab, located at SE Broward Hall, offers free informal tutoring. You may want to attend different hours to find the tutors with whom you feel most comfortable. Go to <u>www.teachingcenter.ufl.edu</u> to find their hours. You can also request free one-on-one tutoring.

The Little Hall Math Lab in room 215.

Supplemental Instructor (SI) is provided by the Teaching Center. Check your tab bar on Canvas's home page for a link to the SI.

Solutions, interactivity, videos, and tutorial help is available for free at <u>www.LarsonPrecalculus.com</u>.

Textbooks and solutions manuals are located at the reserve desk at the Marston Science Library and Smathers Library West.

Private Tutors: If after availing yourself of these aids, you feel you need more help, you may obtain a list of qualified tutors for hire at <u>www.math.ufl.edu</u>. Search "tutors".

For help resolving technical issues (computer problems, Gatorlink, etc.) contact the UF Computing Help Desk at <u>http://helpdesk.ufl.edu</u> , 352-392-help.

The Counseling Center has some informative information on developing math confidence. Go to <u>http://www.counseling.ufl.edu/cwc/Developing-Math-Confidence.aspx</u> for information on math confidence and information on joining the Academic Confidence Group

Success

Success in MAC 1147 depends largely on your attitude and effort. Keeping up with the material is critical. Most students find it beneficial to work daily on the material as opposed to saving it all for one day. It is not effective to sit and copy notes without following the thought processes involved in the lecture. For example, you should try to answer the questions posed by the lecturer. Students who actively participate have greater success.

Be aware that much of the learning of mathematics at the university level takes place outside of the classroom. You need to spend time reviewing the concepts of each lecture **before** you attempt homework problems. It is also important to spend some time looking over the textbook sections to be covered in the next lecture to become familiar with the vocabulary and main ideas beforehand so that

you will be better able to grasp the material presented in lecture. **You should expect to spend at least 12 hours per week working on this course – four in class hours and eight hours outside of class.**

It can also be very helpful to study with a group. This type of cooperative learning is encouraged, but be sure it leads to a better conceptual understanding. **You must be able to work through the problems on your own.**

Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. After the accommodation letter is given to Professor Tornwall, you will receive accommodations. Students with disabilities should follow this procedure as early as possible in the semester since the accommodations are not retroactive.

Academic Honesty

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Testing

The first three exams and the cumulative final are at 7:00 pm. See the home page for the dates and the locations.

Students are responsible for material covered in the lecture notes, including practice problems at the end of some lectures and all book homework problems.

There are sample exams under the Modules link on Canvas. Also, sample exams are available from the Teaching Center one week prior to the exam.

NO CALCULATORS ARE PERMITTED. All electronic devices must be put away. Scratch paper will be provided.

No one will be admitted to the test 30 minutes after the starting time of the test. No one will be permitted to leave the test until 30 minutes after the stated start time.

Grading

The course is based on 500 points accumulated as follows:

Discussion Quizzes - 10 pts each	60 points (12%)
3 Exams - 80 pts each	240 points (48%)
Cumulative Final Exam	200 points (40%)

The grading scale:

A = 450-500 points (90%)

A - = 435-449.5 points (87%)

B+ = 420-434.5 points (84%)

B = 400-419.5 points (80%)

B - = 385-399.5 points (77%)

C+ = 370-384.5 points (74%)

C = 350-369.5 points (70%)

C- = 335-349.5 points (67%)

D+ = 320-334.5 points (64%)

D = 300-319.5 points (60%)

D- = 285-299.5 points (57%)

E = below 285 points

Textbook Homework

You should do all the problems in each section. Some homework problems suggest the use of a graphing calculator. These are designed to help you visualize important concepts and to reinforce the mathematical processes involved. The use of a calculator when doing homework is not required. **Calculators are not permitted on quizzes nor on exams.**

Class Quizzes

These will be administered in last 15 minutes of class. Quizzes will be based on the previous lectures and homework assignments.

Make-up Policies

Exams – With a valid reason (UF sponsored event, an assembly exam in another course, sickness, etc.) you may be eligible for the make-up. It will be given at the end of the semester.

If other classes are scheduled during the exam time, University policy states that the assembly exam takes precedence over the evening class and the evening class instructor must provide make-up work and cannot penalize students who miss because of an assembly exam.

Quizzes - With the valid reason the make up will be given during the office hours in the following week.

Instructor Evaluation

Students are asked to provide feedback on the quality of instruction in this course based on ten criteria. These evaluations are conducted online at https://evaluations.ufl.edu.

Textbook Homework Assignments

You should read the textbook sections covered in each lecture before coming to lecture. After each lecture, review your notes and the text to make sure you understand the main ideas prior to working the exercises.

You should complete each homework before the next lecture, since the material in each lecture often builds on previous concepts.

L1 Real Numbers - May 8

Reading: Appendix A.1

Exercises (A.1).

L2 Exponents and Radicals - May 9

Reading: Appendix A.2

Exercises (A.2)

L3 Polynomials and Factoring - May 11

Reading: Appendix A.3

Exercises (A.3)

L4 Rational Expressions - May 15

Reading: Appendix A.4

Exercises (A.4)

L5 Solving Equations - May 16

Reading: Appendix A.5

Exercises (A.5)

L6 Linear Inequalities and Algebraic Errors - May 18

Reading: Appendices A.6 and A.7

Exercises (A.6)

Exercises (A.7)

L7 Rectangular Coordinates and Graphs - May 22

Reading: Sections 1.1 and 1.2

Exercises (1.1)

Exercises (1.2)

L8 Linear Equations and Functions - May 23

Reading: Sections 1.3 and 1.4

Exercises (1.3)

Exercises (1.4)

L9 Analyzing Graphs of Functions - May 25

Reading: Section 1.5

Exercises (1.5)

L10 A Library of Functions and Transformations of Functions - May 30

Reading: Sections 1.6 and 1.7

Exercises (1.6)

Exercises (1.7)

L11 Combinations of Functions - June 1

Reading: Section 1.8

Exercises (1.8)

L12 Inverse Functions - June 2

Reading: Section 1.9

Exercises (1.9)

L13 Quadratic Functions - June 5

Reading: Section 2.1

Exercises (2.1)

L14 Polynomial Functions of Higher Degree and Division of Polynomials - June 6

Reading: Sections 2.2 and 2.3

Exercises (2.2)

Exercises (2.3)

L15 Complex Numbers - June 8

Reading: Section 2.4

Exercises (2.4)

L16 Zeros of Polynomial Functions - June 12

Reading: Sections 2.5 and 2.6

Exercises (2.5)

Exercises (2.6), page 177: 2, 3, 7

L17 Rational Functions - June 13

Reading: Section 2.6

Exercises (2.6)

L18 Nonlinear Inequalities - June 15

Reading: Section 2.7

Exercises (2.7)

L19 Linear and Nonlinear Systems of Equations - June 26

Reading: Sections 7.1 and 7.2

Exercises (7.1)

Exercises (7.2)

L20 Exponential Functions - June 27

Reading: Section 3.1

Exercises (3.1)

L21 Logarithmic Functions - June 29

Reading: Section 3.2

Exercises (3.2)

L22 Properties of Logarithms - June 30

Reading: Section 3.3

Exercises (3.3)

L23 Exponential and Logarithmic Equations - July 3

Reading: Section 3.4

Exercises (3.4)

L24 Exponential and Logarithmic Models - July 6

Reading: Section 3.5

Exercises (3.5)

L25 Radian and Degree Measure - July 7

Reading: Section 4.1

Exercises (4.1)

L26 Trigonometric Functions and the Unit Circle - July 10

Reading: Section 4.2

Exercises (4.2)

L27 Right Triangle Trigonometry and Trig Functions of Any Angle - July 11

Reading: Sections 4.3 and 4.4

Exercises (4.3)

Exercises (4.4)

L28 Graphs of Sine and Cosine Functions - July 13

Reading: Section 4.5

Exercises (4.5)

L29 Graphs of Other Trigonometric Functions - July 17

Reading: Section 4.6

Exercises (4.6)

L30 Inverse Trigonometric Functions - July 18

Reading: Section 4.7

Exercises (4.7)

L31 Applications - July 20

Reading: Section 4.8

Exercises (4.8)

L32 Using Fundamental Identities - July 24

Reading: Section 5.1

Exercises (5.1)

L33 Verifying Trigonometric Identities - July 25

Reading: Section 5.2

Exercises (5.2)

L34 Solving Trigonometric Equations - July 27

Reading: Section 5.3

Exercises (5.3)

L35 Sum and Difference Formulas - July 31

Reading: Section 5.4

Exercises (5.4)

L36 Multiple-Angle and Product-to-Sum Formulas - Aug 1

Reading: Section 5.5

Exercises (5.5)