

**MAC 2233: SURVEY OF CALCULUS
SYLLABUS
SUMMER 2022**

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1. Course Content

MAC 2233 is the first in the two semester sequence MAC 2233 and MAC 2234 surveying the important ideas of calculus but emphasizing its applications to business, economics, life and social sciences. The course covers important precalculus topics: basics of functions and graphing, specific functions and their applications as models (linear, quadratic, rational, exponential and logarithmic) as well as calculus: limits, differentiation, applications of the derivative, introduction to integration and its applications including area.

A minimum grade of C (**not** C-) in MAC 2233 satisfies three credits of the university General Education quantitative requirement.

2. Prerequisites

MAC 2233 assumes that you have essential precalculus skills necessary to succeed in calculus. This course does not cover trigonometry.

To enroll in MAC 2233, you must have earned a grade of C or better in MAC 1140, precalculus algebra, or MAC 1147, precalculus; earned calculus credit through an exam or earlier coursework; or have taken the ALEKS placement assessment and attained the required minimum score. You may take the ALEKS assessment through the ONE.UF homepage <https://one.uf.edu>; click on Placement under My Online Services. For more complete information, check the page <https://student.ufl.edu/>. Note the following paragraph: “The Department of Mathematics encourages you to take the assessment even if you have met one of the prerequisites for MAC 2233. You may need to review your algebra skills and your placement assessment can provide information and specific areas for additional study.”

You can check with either an advisor in your college, the MAC 2233 course coordinator, or an advisor in the math department (the main office is Little 358) to be sure that you are eligible for MAC 2233.

The textbook for MAC 2233 begins with a short review of precalculus topics. **You should already be competent in working this material.** We strongly recommend that students who are having difficulty with this review material consider first taking MAC 1140, a three credit review of Precalculus Algebra. You may switch courses on ONE.UF during the drop-add period. **If you feel you are not ready for MAC 2233 after you attempt the Precalculus Review in MyMathLab, you should consider dropping by June 28, 2022 and taking MAC 1140.**

3. Required Materials

3.1 Textbook

Calculus with Applications, Eleventh Edition by Lial, Greenwall and Richey. The text may be accessed as an ebook through the online homework system MyMathLab.

There are two ways to purchase MyMathLab, which will be available at the start of the semester.

- UF All Access will give you access to MyMathLab and the ebook. This gives you MyMathLab access for a reduced price which is added as a charge to your student account. This is the lowest priced option for purchasing MyMathLab.

It is not required, but some students prefer a hard copy of the text. If so, you may purchase from the UF bookstore a loose leaf “print upgrade” version of the ebook for \$41.25. You may also be able to find a new or used copy of the text online. But note the following:

DO NOT TRY to purchase your MyMathLab code online or directly from Pearson. Those codes will not provide access to our MyMathLab course which is accessed through CANVAS. If you are having problems accessing MyMathLab through Canvas or if your access code is showing as invalid, please contact the publisher at: allaccess@bsd.ufl.edu.

3.2 Other Required Materials

As indicated, you must purchase an access code for MyMathLab, which will include the text as an ebook.

Calculators: For text and homework problems, a scientific calculator doing basic statistics is required. A graphing calculator or computer program such as Wolfram Alpha can be useful study and learning tools when used appropriately, but are not essential.

Remember that calculus is a collection of concepts and ideas that are not mastered through calculator skills.

4. MAC 2233 Homepage

All course materials including lecture notes and announcements will be posted on Canvas.

5. Canvas

UF's course management system Canvas is accessed at <http://elearning.ufl.edu/>. Use your Gatorlink username and password to log in. All course information including homework assignments, lecture notes and reviews are posted on this site. Canvas provides a mail tool and discussion forum for communication.

All grades are posted in the Canvas gradebook. You are responsible to verify that those grades are accurate. **You have one week after a score has been posted to resolve any grade concerns. We will not consider grading disputes at the end of the semester.** Be sure to save all original documents in case of grading questions.

Please note: Important course information is clearly communicated through this syllabus, and the MAC 2233 Canvas homepage. I will update with announcements both in lecture and through Canvas. **Check regularly for announcements! These are also sent to your email so you can access on your smartphone.** Due to the volume of email your instructors receive, I cannot reply to each request for information that is already posted online. Always check those resources first!

There is a **discussion forum** in Canvas. Please use this to post questions and to supply answers to your fellow students. Your instructor will check the discussion forum regularly and respond to questions as a way to communicate to the whole class.

6. Lectures

Students are expected to come to every class, as attendance is mandatory (and is a component of your final grade). We will be covering an entire semester of Calculus in just 6 weeks, so the pace of this course is very quick. It is imperative that you come to class and engage in discussion and take notes, so you do not fall behind. Students will have assignments each day through MyLab Math. If you are not doing a little bit of work each day, you will quickly fall behind. You are responsible for learning lecture material missed due to an excused absence.

Students can print out the lecture notes from Canvas. You may also purchase a hard copy from Target Copy Center. This will make it easier to take notes and to participate in lecture. Within a day after class, completed lecture notes will be available on Canvas.

Note: The lecture notes and other documents posted on Canvas are in PDF format which requires the Acrobat Reader. You may download the latest version through <http://get.adobe.com/reader/>

7. Free Help and Resources

- **OFFICE HOURS.** My office hours will be announced in class and posted on the MAC 2233 homepage on Canvas. These are open hours; you do not need to make an appointment. Office hours are NOT a time to reteach course material. If you must miss class, first review the lecture material from your text and class notes (available on Canvas as indicated above) and then bring specific questions to office hours.

- **TEACHING CENTER (MATH LAB)**, located in SE Broward Hall, is a tutorial service staffed by trained math and science students to provide help with your calculus questions and homework. All tutoring is available online and by appointment at this time. More information visit <http://teachingcenter.ufl.edu/tutoring/tutoring-schedule/>

The Teaching Center tutors hold reviews evenings before each exam. They also provide videos of review and sample test problems. Check the webpage, <http://teachingcenter.ufl.edu/tutoring/test-reviews/> for additional information.

- **OFFICE OF ACADEMIC SUPPORT** offers free one-on-one and small group tutoring to UF students. See <http://oas.aa.ufl.edu/tutoring.aspx> for details.

- Textbooks are available on reserve at the Library. The solutions manual for the odd numbered textbook exercises is available in MyMathLab.

- **Private tutors:** If you feel that you need more individual help, you may obtain a list of qualified tutors for hire at www.math.ufl.edu. Search for “tutors”.

- **Computer and Technical Difficulties** For difficulties with computer problems, Gatorlink, etc. contact the UF Computing Help Desk at <http://helpdesk.ufl.edu> , 352-392-help.

- **UF COUNSELING CENTER** provides information and workshops on developing Math Confidence. Go to <http://www.counseling.ufl.edu/cwc/Developing-Math-Confidence.aspx> for more information or to join the Academic Confidence Group.

The center also offers counseling support in case of issues with academics, adjusting to the stress of college life, or personal challenges. You may contact the center at www.counseling.ufl.edu/cwc/ or 352-392-1575. In the case of emergency you may contact the University Police Department: 392-1111 or 9-1-1 for emergencies.

- **U Matter, We Care** Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to help. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center.

Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

8. Success

Other than having a strong precalculus background, success in MAC 2233 depends largely on your attitude and effort. Attendance and participation in class is critical. 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 your lecturer. Students who do not actively participate have much more difficulty.

However, be aware that much of the learning of mathematics at the university 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 look over the textbook sections to be covered in the next lecture to become familiar with the vocabulary and main ideas before class. That way you will better be able to grasp the material presented by your lecturer. As with most college courses, you should expect to spend a **minimum** of 2 hours working on your own for every hour of classroom instruction (at least 6 hours per week).

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.** Even if you work together, **each student must turn in his or her own work, not a copied solution, on any collected assignments.**

In studying calculus, you must be careful not to let a tutor, friend, or calculator “think” for you. Be sure that you can work problems completely on your own, without help, by the time of a quiz or exam.

USE THE RESOURCES AVAILABLE AS YOU STUDY! We encourage you to seek help from your lecturer during office hours or by appointment. We also encourage you to use the Broward Teaching Center and OAS for group and private tutoring. MyMathLab offers videos and other teaching aids.

If you are having difficulty with calculus, do not get discouraged! See your lecturer right away when you have questions.

Our hope is that through focused study and practice you will gain a real appreciation for the important concepts of calculus and their application. We want you to succeed in this class! But you must keep up with the course material and take the initiative to see us and get help in time, before you get too far behind. Students with a positive attitude who are intellectually engaged in learning the material will get the most from the course.

9. Students with Learning Disabilities

Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center(DRC), www.dso.ufl.edu/drc/. That office will provide a documentation letter to the student to present to the Lecturer, Heshan, in Little 473. This must be done as early as possible in the semester, **at least one week before the first exam**, so there is adequate time to make proper accommodations.

10. Academic Honesty

Remember that you committed yourself to academic honesty when you registered at the University of Florida. All students are bound to

The Honor Pledge

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty 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.”

Academic Honesty Guidelines: “All students are required to abide by the Academic Honesty Guidelines which have been accepted by the University. The academic community of students and faculty at the University of Florida strives to develop, sustain and protect an environment of honesty, trust and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XIV of the Student Code of Conduct.”

The Mathematics Department expects you to follow the Student Honor Code. We are bound by university policy to report any instance of suspected cheating to the proper authorities. This includes clicker points submitted in lecture. Each student must enter his or her own response; clicking for another student is a violation of the Academic Honesty Guidelines and will be reported. Minimum penalty: zero for Class Participation Points.

You may find the Student Honor Code and read more about student rights and responsibilities concerning academic honesty at the link www.dso.ufl.edu/sccr/.

In addition, we remind you that lectures given in this class are the property of the University/faculty member and may not be taped without prior permission from the lecturer and may not be used for any commercial purpose. Students found to be in violation may be subject to discipline under the Student Conduct Code.

11. Grading and Course Requirements

4a. COURSE GRADE.

Assignments	
MyMathLab Homework	15%
MyMathLab Quizzes (Prerequisite MML Homework)	15%
Lecture participation points	10%
3 semester exam scores (20% each)	60%
Total:	100%

A	90% - 100%	C	67% - 72.8%
A-	87% - 89.8%	C-*	64% - 66.8%
B+	84% - 86.8%	D+	62% - 63.8%
B	80% - 83.8%	D	57% - 61.8%
B-	76% - 79.8%	D-	56% - 56.8%
C+	73% - 75.8%	E	less than or below 56%

There will be no additional curve in this course.

***NOTE** A grade of C- DOES NOT give Gordon Rule or General Education credit!

Approval of the S-U option must be obtained from your instructor. The deadline for filing an application with the Registrar and further restrictions on the S-U option are given in the UF undergraduate catalogue.

NOTE: For information about dropping and course withdrawals go to <https://catalog.ufl.edu/ugrad/current/regulations/info/drops.aspx#drop>
A complete explanation of current grade policies is found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled within one week of the return of the paper. You must retain all returned papers in case of any discrepancy with your course grade. We cannot correct mistakes in grading or recording of scores without the original document.

12. Graded Assignments

Your overall course grade will be based on your performance on the following assignments:

12.1 MyMathLab Homework

The online homework administered in MyMathLab is planned to reinforce learning and to provide practice of course material. Homework assignments will be posted with each module and the due dates are posted in the course Calendar. The homework problems are graded by the software and you see your score immediately after submitting your work. **You will have six attempts for each problem (except multiple choice or true/false)**; there are aids and a link to the ebook to help you solve each question. **There are no makeups for online homework. Do not try to complete an assignment in one sitting; start early instead of waiting until the due date to avoid missing the deadline.** There is a prerequisite of 80% to be able to access online quizzes.

You will need a scientific calculator for homework. Some problems may also suggest the use of a graphing calculator to help you visualize important concepts and to reinforce the mathematical processes involved. The use of a calculator is recommended but not required. Remember you will not be allowed a graphing calculator on exams.

If you are having difficulty with any assignment, you may seek help from me during scheduled office hours as well as the tutors at the Broward Teaching Center. Be sure to start problems early so you have time to get your questions answered! The multimedia section of MyMathLab also provides valuable resources, including a solutions manual for the odd problems in the textbook.

12.2 MyMathLab Quizzes

You will also have a total of 8 MymathLab (MML) Quizzes. Their due dates are posted on the course calendar. You have 90 minutes for each quiz and 3 submissions. Your highest grade will be recorded.

12.3 Lecture Participation

Attendance in lecture and completing problems in class (without advance notice). **YOU MAY NOT TURN IN WORK FOR A STUDENT WHO IS NOT IN CLASS.**

12.4 Exam and Exam Policies

There are three exams worth 20 % each.

- **The following applies to all exams:**

(1) Students are responsible for material covered in lectures, reading assignments, and text problems. Questions will test mastery of concepts and include challenging calculation problems. **A command of related algebraic concepts is assumed** (see the Prerequisites, page 18, in this guide). Sample tests are available from the Teaching Center one week before each exam.

(2) Calculators are not permitted.

(3) Your exam grade will be posted on Canvas.

Following university policy, you may expect a penalty (additional lost points) for attending fewer than 75% of your classes. In addition, you will lose the opportunity to earn bonus points if available at the end of the semester.

12.5 EXTRA CREDIT

Opportunities to earn extra credit will be offered throughout the semester in form of bonus points on the quizzes and other. Also there are two Precalculus review assignment and quiz due the end of the first week of the classes. Make sure you read all announcements in order not to miss these extra credit opportunities.

13. Make-up Policies

All makeup work must be approved by me, during office hours. You must provide documentation of your absence.

- **Exam Time Conflicts:**

You may take a make-up exam if you are participating in a UF sponsored event during the regular exam time. You must provide documentation of the conflict to me in person at least ONE WEEK in advance of the exam date to sign up.

- **Makeup Exams:** If you are participating in a UF sponsored event or religious observance, you may make up an exam only if you make arrangements with me at least ONE WEEK PRIOR to the event. You must present documentation of a UF sponsored event.

If illness or other extenuating circumstances cause you to miss an exam, contact the course coordinator before the exam. Then, as soon as possible send the

appropriate documentation to me. You will be allowed to sign up to take a makeup exam as scheduled during the semester.

- **Makeup Online Homework:** With the extended availability of online homework, we do not provide makeups for online work. Exception: if you must miss class for an extended period of time due to illness or a family emergency, see me to discuss an extension of the due date for online assignments.
- **Makeup Quizzes** Since two quizzes are dropped, no make-ups are given for online quizzes. There is a prerequisite for each quiz. You are required to achieve an 85% on the weeks homework to unlock the weeks quiz. Exception: if you must miss class for an extended period of time due to illness or a family emergency, see me to discuss other options.
- **Makeup Class Participation Points:** There are no makeups for class participation points. We collect extra points to allow for technical difficulties with your clicker or occasional absence from lecture.

14. Incomplete Grade

A student who has completed a major portion of the course with a passing grade but is unable to complete the final exam or other course requirements due to illness or emergency may be granted an incomplete, indicated by a grade of “I”. This allows the student to complete the course within the first six weeks of the following semester. The student must contact me before finals week to sign a departmental incomplete contract, and must provide documentation of the extenuating circumstances preventing him or her from taking the final exam. **The grade of “I” is never used to avoid an undesirable grade, and does not allow a student to redo work already graded or to retake the course.** See the official policy at <http://www.math.ufl.edu/department/incomplete-grades/>

Missing a final exam due to negligence, however, will result in a **minimum** 25%-point penalty.

15. Diversity Statement

I am committed to diversity and inclusion of all students in this course. I acknowledge, respect, and value the diverse nature, background and perspective of students and believe that it furthers academic achievements

It is my intent to present materials and activities that are respectful of diversity: race, color, creed, gender, gender identity, sexual orientation, age, religious status, national origin, ethnicity, disability, socioeconomic status, and any other distinguishing qualities.

16. Prerequisite concepts

This course assumes that you have a sound precalculus background. The following is a summary of some important concepts used in solving calculus problems. The textbook provide a more complete review of these essential topics.

ALGEBRA

1. Basic Geometric Formulas: (b = base, l = length, h = height, w = width)

Triangle: area = $\frac{1}{2}bh$

Circle: area = πr^2 ; circumference = $2\pi r$

Parallelogram: area = bh

Rectangular box: volume = lwh

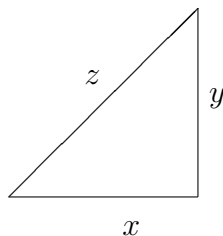
Sphere: volume = $\frac{4}{3}\pi r^3$; surface area = $4\pi r^2$

Right circular cylinder: volume = πr^2h ; surface area = $2\pi rh + 2\pi r^2$

Right circular cone: volume = $\frac{1}{3}\pi r^2h$; surface area = $\pi r\sqrt{r^2 + h^2}$

Facts about similar triangles

Pythagorean theorem: for the right triangle below, $x^2 + y^2 = z^2$



2. Basic Functions and their graphs:

$$f(x) = x; f(x) = x^2; f(x) = x^3; f(x) = |x|; f(x) = \sqrt{x}; f(x) = 1/x;$$

$$f(x) = b^x, b > 0 \text{ and } b \neq 1, \text{ such as } f(x) = 2^x$$

3. Factoring:

$$x^3 + y^3 = (x + y)(x^2 - xy + y^2); x^3 - y^3 = (x - y)(x^2 + xy + y^2); \text{ etc.}$$

4. Fractions: $\frac{a}{b} + \frac{c}{d} = \frac{ad + bc}{bd}$, etc.

5. Exponents: For appropriate values of x , m and n ,

$$x^n y^n = (xy)^n; x^n x^m = x^{n+m}; \frac{x^n}{x^m} = x^{n-m}; (x^n)^m = x^{nm}$$

6. Roots, including rationalizing the denominator or numerator (for appropriate values of x , m and n).

$$\sqrt[n]{x} = x^{\frac{1}{n}}; x^{-n} = \frac{1}{x^n}, \text{ etc.}$$

7. Inequalities and absolute values:

$$|x| \leq a \quad -a \leq x \leq a; \quad |x| > a \quad x > a \text{ or } x < -a$$

8. Equation solving: Finding solutions for x if

$$ax + b = 0; ax^2 + bx + c = 0; \text{ etc.}$$

9. Logarithms: If $x > 0$, $\log_a x = y$ if and only if $x = a^y$

If $m > 0$, $n > 0$, and c is constant, then

$$\log(nm) = \log(n) + \log(m) \quad \log\left(\frac{n}{m}\right) = \log(n) - \log(m)$$

$$\log(n^c) = c \log(n)$$