

**MAC 2233: Survey of Calculus  
COURSE GUIDE  
Fall 2016**

**Contact Information**

**Course Coordinator and Lecturer:** Dr. Jason Harrington

**Office:** 371 Little Hall

**Office Hours:** M6, T4, W7, F5 and by appointment

**Phone:** (352) 294-2320

**Email:** mathguy@ufl.edu

**Adjunct Lecturer for MAC 2233:**

**Marjorie Crittenden**

**Office:** 467 Little Hall

**Office Hours:** \_\_\_\_\_

**Phone:** (352) 294-2346

**Email:** mcrittenden@ufl.edu

**MAC 2233**  
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MAC 2233 Fall 2016

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY		
Aug 22nd Lecture 1	1	23rd	24th Lecture 2	25th	26th Lecture 3 <small>Last Day to ADD/DROP</small>	3
29th Lecture 4	4	30th	31st Lecture 5	Sep 1st	2nd Lecture 6	6
5th <u>Labor Day</u>	6th QUIZ 1	7th Lecture 7	7	8th	9th Lecture 8	8
12th Lecture 9	9	13th QUIZ 2	14th Lecture 10	15th	16th Lecture 11 <small>Withdrawal with 25% Refund</small>	11
19th Lecture 12	12	20th QUIZ 3	21st Review for Exam 1	22nd Exam 1 8:20pm-10:10pm	23rd Lecture 13	14
26th Lecture 14	15	27th QUIZ 4	28th Lecture 15	29th	30th Lecture 16	17
Oct 3rd Lecture 17	18	4th QUIZ 5	5th Lecture 18	6th	7th Lecture 19	20
10th Lecture 20	21	11th QUIZ 6	12th Lecture 20 (cont.)	13th	14th <u>Homecoming</u>	
17th Lecture 21	23	18th QUIZ 7	19th Review for Exam 2	20th Exam 2 8:20pm-10:10pm	21st Lecture 22	25
24th Lecture 23	26	25th QUIZ 8	26th Lecture 24	27th	28th Lecture 25	28
31st Lecture 26	29	Nov 1st QUIZ 9	2nd Lecture 26 (cont.)	3rd	4th Lecture 27	31
7th Lecture 28	32	8th QUIZ 10	9th Lecture 29	10th	11th <u>Veteran's Day</u>	
14th Lecture 30	34	15th QUIZ 11	16th Review for Exam 3	17th	18th Exam 3 8:20pm-10:10pm	36
21st Lecture 31 <small>Drop Deadline for W</small>	37	22nd QUIZ 12	23rd <u>Thanksgiving break</u>	24th <u>Thanksgiving break</u>	25th <u>Thanksgiving break</u>	
28th Lecture 32	38	29th	30th Lecture 33	Dec 1st	2nd Lecture 34	40
5th Lecture 35	41	6th QUIZ 13	7th Classes End Final Exam Review	8th <u>Reading Day</u>	9th <u>Reading Day</u>	
12th Final Exam 7:30-9:30AM		13th	14th	15th	16th	

## 2. INTRODUCTION

**2a. 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.

**2b. 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 ISIS homepage [isis.ufl.edu](http://isis.ufl.edu); click on Placement under My Online Services. For more complete information, check the page [isis.ufl.edu/aleksinfo.html](http://isis.ufl.edu/aleksinfo.html). 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 ISIS during the drop-add period. In an agreement with the registrar’s office, you have one additional week to drop back to MAC 1140. **After the drop-add period, the paperwork to move back to precalculus MAC 1140 must be completed through the math department. The deadline is Tuesday, September 8 at 4PM.** See the course coordinator, Dr. Harrington, in Little 371 for details.

### 2c. REQUIRED MATERIALS.

**Textbook: Calculus with Applications, Eleventh Edition** by Lial, Greenwall and Richey. The text may be accessed as an ebook by purchasing the required MyMathLab access code from local bookstores or online at [www.MyMathLab.com](http://www.MyMathLab.com). You will need the course ID to do this; that will be provided in lecture and on e-learning. You have a two week grace period to use MyMathLab before you must pay for access. More details will be provided in class and on Canvas.

It is not required, but some students prefer a hard copy of the text. If so, you may purchase from local bookstores a bundle which includes both the text and MyMathLab access code. Feel free instead to buy a used text online, but we do not recommend that you purchase an access code online except through the MyMathLab website since it may be defective.

**Other Required Materials:** As indicated, you must purchase an access code for MyMathLab, which will include the text as an ebook.

In addition, we will use the **H-ITT** class responder system (“clicker”) to allow students to participate in lecture. This system may also be accessed as an app on your smartphone. Information will be provided in class and on Canvas.

**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. No calculators are permitted on exams.**

**2d. MAC 2233 HOMEPAGE,** <http://people.clas.ufl.edu/mathguy> provides basic course information. All course materials including lecture notes and announcements will be posted on Canvas.

**2e. COURSE CALENDAR.** Check the course calendar for evening exam dates and plan your schedule accordingly. You must be notify the course coordinator immediately if you have a conflict. See Section 4f.

**2f. E-LEARNING IN Canvas.** UF’s course management system Canvas is accessed at [lss.at.ufl.edu](http://lss.at.ufl.edu). Use your Gatorlink username and password to log in. All course information including homework assignments, lecture notes and test locations 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 (except individual MyMathLab and Hitt points, which are accessed through those programs). 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. You may contact Dr. Harrington or the course TAs. We will not consider these 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. We 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, we 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 instructors will check the discussion forum regularly and respond to questions as a way to communicate to the whole class.

**2g. LECTURES.** The lecture provides the main presentation of course material, and will follow as closely as possible the calendar and lecture outline provided in this guide. **Attendance in lecture is required.** You are responsible for learning lecture material missed due to an excused absence. Please be on time to class, and if you must leave early, sit in the back of the lecture hall. When your lecturer or a fellow student is talking to the class, please do not talk to your neighbor. Even in a large lecture hall this can disturb students around you so they cannot concentrate.

Students can print out the lecture noteshells 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/>.

## **2h. FREE HELP and UF RESOURCES!**

- **OFFICE HOURS.** Both your lecturer and the course teaching assistants have regular weekly office hours which 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. If you have a class conflict with scheduled hours, you may make a separate appointment with your lecturer or TA. 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. Tutors will be glad to provide guidance on specific problems after you have attempted them on your own. You may want to attend different hours to find the tutors with whom you feel most comfortable. You can also request free one-on-one tutoring.

The Teaching Center tutors hold reviews on the evenings before each exam. They also provide videos of review and sample test problems. Check the webpage, [teachingcenter.ufl.edu](http://teachingcenter.ufl.edu), for a map of the location, tutoring hours and test review dates and locations. **All students are encouraged to use this resource!**

- **OFFICE OF ACADEMIC SUPPORT** offers free one-on-one and small group tutoring to UF students. See [oas.aa.ufl.edu/tutoring.aspx](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.

• **UF COUNSELING CENTER** provides information and workshops on developing Math Confidence. The center also offers counseling support in case of issues with academics, adjusting to the stress of college life, or personal challenges. Please use this resource before you get overwhelmed! You may also speak to Dr. Harrington or an advisor in your college if you are having difficulties. You may contact the center at [www.counseling.ufl.edu](http://www.counseling.ufl.edu).

• **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](http://www.math.ufl.edu). Search for “tutors”.

**2i. 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 and course Teaching Assistants 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 or course TA 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.

**2j. 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/](http://www.dso.ufl.edu/drc/). That office will provide a documentation letter to the student to present to the course coordinator, Dr. Harrington, in Little 371. 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.

**2k. 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/](http://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.



### 3. TESTING

**3a. SEMESTER EXAMS.** During the semester, three tests will be given from 8:30 – 10PM on the dates shown on the calendar in this guide. These will be scored on a scale of 0 to 80 points and will consist of both a multiple-choice section and a free response, partial credit section (tearoff sheet).

**3b. FINAL EXAM.** A mandatory, comprehensive final examination will be given during the regularly scheduled exam time for MAC 2233 as shown on the calendar and the online Schedule of Courses. This two hour exam is scored on a scale of 0 to 100 and consists of multiple choice questions only (no tearoff sheet). The registrar's office determines which exam has priority in the case of a conflict.

**We allow the final exam score to improve your grade on one of the semester exams. That is, if your final exam grade is higher than the lowest of your three semester exam scores, its score, prorated to 80 points, will replace that lowest test.** For example, if your lowest semester exam score is 60/80 (75%), and you earn 80/100 (80%) on the final, the exam score of 60 will be replaced by 64(80% of 80) in the gradebook. If the final exam score is lower, however, the original semester test score will remain. Your final exam grade cannot be adjusted. The percent score for the final exam will not be replaced by any other score in this course.

#### **3c. IMPORTANT EXAM POLICIES.**

- The location of each exam will be announced in lecture and posted on Canvas at least one week prior to the test.
- MAC 2233 requires that students take evening exams on the listed dates. There are no exceptions to this. Students with conflicts, including regularly scheduled classes, must make advance arrangements to be present at the test.
- **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 14, in this guide). Sample tests are available from the Teaching Center one week before each exam.

(2) Bring only the following to the exam:

- a. Number 2 pencil (or softer) for bubbling your scantron
- b. Ink Pen (To sign your test)
- c. Knowledge of your SECTION NUMBER and UFID
- d. Picture ID (UF Gator One card or driver's license) with a **legible signature**

**DO NOT BRING ANYTHING OF VALUE TO THE EXAM**, since all backpacks must remain at the front of the exam room during testing. Do not bring books or other aids; scratch paper is provided. Calculators are not permitted. **Cell phones and other electronic devices must be turned off and out of sight. If any such device rings, buzzes, or otherwise causes a distraction during the exam, your test will be considered to be compromised.**

(3) No student will be admitted to the test later than 20 minutes after its starting time, and no one will be permitted to leave the exam room in those first 20 minutes.

(4) You must take your exam in the test location assigned to your section. The instructions for completing the answer sheet must be carefully followed. **The TEST FORM CODE and SPECIAL CODE, as well as your UFID and SECTION NUMBER must be encoded correctly and the test signed in ink for ID comparison. Otherwise, you may lose points from your exam total score.**

(5) An answer key will be posted on the MAC 2233 homepage on Canvas after each exam. To check your answers, record them on the test or scratch paper that you keep after turning in your scantron and tear off sheets.

(6) Your exam grade will be posted on Canvas. You may pick up your graded tearoff sheets from the course Teaching Assistant during office hours. You have **one week** after the test scores are posted to see the course Teaching Assistant or coordinator if you have questions about your exam grading.

**See Section 4f for the Exam Conflict and Makeup Policies.**

## **GRADING AND COURSE REQUIREMENTS**

**4a. COURSE GRADE.** Your course grade is based on 470 points accumulated as follows:

12 MyMathLab assignments (4 points each)	48
10 MyMathLab quizzes (best 10 of 12, 4 points each)	40
Written homework	12
3 semester exam scores*	240
Final exam	<u>100</u>
	<b>458</b>

\*The lowest exam score will be replaced with the final exam score, prorated to 80 points, if the final percent score is higher.

The total sum of points is your numerical score, which will be converted to a letter grade according to the following scale.

A (89.7% - 100%)	411 - 458 pts	C+ (72.7% - 75%)	333 - 345 pts
A- (85.8% - 89.5%)	393 - 410 pts	C (66.2% - 72.5%)	303 - 332 pts
B+ (83.8% - 85.6%)	384 - 392 pts	C-* (63.3% - 65.9%)	290 - 302 pts
B (79.5% - 83.6%)	364 - 383 pts	D+ (61.1% - 63.1%)	280 - 289 pts
B- (75.5% - 79.3%)	346 - 363 pts	D (55.9% - 60.9%)	256 - 279 pts
		E (less than 55.6%)	0 - 255 pts

The course grade is determined by the number of points you earn, not by the percentage. Scores within 0.5 point of the next cutoff will round up. There will be no additional curve in this course, and extra assignments for individual students to improve a grade are NOT possible.

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

For those taking the S-U option: S [303 – 458 points] U [0 - 302 points]

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.

A complete explanation of current grade policies, including withdrawals, is found in the catalogue: [catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx](http://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.

**4b. ONLINE HOMEWORK.** The online homework administered in MyMathLab is planned to reinforce learning and to provide practice of course material. Online homework assignments, worth 4 points each, will be posted twelve times during the semester. **You must earn 75% on each assignment before you can access the quiz on that material. However, once that deadline has passed you may still work on the online homework to improve your grade and to review for exams. The final due date for MyMathLab homework is December 13 at 11:59PM.** Your score on each assignment will count up to a maximum 48 points. **There are no makeups or drops 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 will also be one review assignment in MyMathLab at the end of the semester to allow you to points lost due to technical difficulties or a missed assignment. Total homework points will be capped at 48.

**4c. ONLINE QUIZZES.** Twelve quizzes will be posted in MyMathLab to review each online assignment. **You must score a minimum of 75% on the corresponding MyMathLab assignment before you can take the quiz.** MyMathLab quizzes are open for 72 hours and are due by 11:59PM on Mondays (see calendar for due dates). You will have three attempts to take the quiz and 90 minutes for each attempt; the clock starts from the time you open your quiz. **Your top ten quiz scores will count for a total of 40 points. DO NOT wait until the last minute to submit your quiz; we will not extend time for computer issues or MyMathLab server problems.** There will be a bonus quiz available for extra credit to cover the last course material.

**You may review your score including specific questions missed on any quiz after its due date. You can do this through the MyMathLab gradebook. You can also redo the quiz to help prepare for exams.**

An important part of each assignment is reading and understanding the concepts of the lecture and text material. The reading assignment for each lecture should be completed before the lecture. After class, you should review this material along with your lecture notes before you begin working problems. Calculus material is cumulative, so you should complete each assignment as thoroughly as possible before your next class.

If you are having difficulty with any assignment, you may seek help from your lecturer or course TA during scheduled office hours as well as the tutors at the Broward Teaching Center (see Sections 2h and i in this guide). 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.

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 we do not allow calculators on exams.

**Late work will be accepted only according to the makeup policy in section 4f.**

**4d. CLASS PARTICIPATION POINTS.** Up to 30 points may be earned by attendance in lecture and completing problems in class (without advance notice). Points will be collected through the use of the H-itt course responder system (clicker) as announced in lecture, or you may be asked to work out problems on paper. More details will be available in class and on the course home page. **YOU MAY NOT TURN IN WORK FOR A STUDENT WHO IS NOT IN CLASS (see section 2k).** There will be extra points available to account for an occasional absence or technical difficulties with your clicker. **Total points will be capped at 30.**

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.

**NOTE: Homework, quizzes and class participation points account for 130 points**

of the total to be earned in the course. They are a significant part of your grade (27%), to reflect their importance in understanding course concepts.

**4e. MAKEUP POLICIES.** All makeup work must be approved by the course coordinator, Dr. Harrington, during office hours. You must provide documentation of your absence.

- **Exam Time Conflicts:** The **UNIVERSITY OF FLORIDA DURING TERM ASSEMBLY EXAM POLICY** states: “Exams may be held Monday – Friday from 8:20 – 10:10PM (periods E2–E3) for the fall and spring terms. If other classes are scheduled during an exam time, instructors must provide make-up class work for students who miss class because of an assembly exam. If two exams are scheduled at the same time, assembly exams take priority over time-of-class exams. When two assembly exams conflict, the higher course number takes priority. Instructors giving make-up exams will make the necessary adjustments.”

([catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx](http://catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx)).

If MAC 2233 is the lower course number, students must inform Dr. Harrington in person at least ONE WEEK in advance of the exam date so that appropriate accommodations can be made. Otherwise it may not be possible to reschedule.

You may also 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 Dr. Harrington 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 Dr. Harrington in his office 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 immediately (no later than 24 hours after the exam) by email. Then, as soon as possible after you return to campus, bring the appropriate documentation to Dr. Harrington in Little 371. You will be allowed to sign up to take a makeup exam as scheduled during the semester.**

- **Makeup Online Homework and Quizzes:** With the extended availability of online homework, and the 72 hour window to take an online quiz along with two drops, 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 Dr. Harrington to discuss an extension of the due date for online assignments.

- **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.

**4f. INCOMPLETE GRADE and FINAL EXAM.** 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 Dr. Harrington 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** 10-point penalty.

**Be sure to check the list of Prerequisite concepts and formulas listed on the next pages.**

## PREREQUISITES FOR MAC 2233

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 =  $\pi r^2$ ; circumference =  $2\pi r$

Parallelogram: area =  $bh$

Rectangular box: volume =  $lwh$

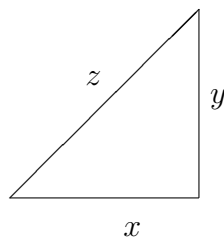
Sphere: volume =  $\frac{4}{3}\pi r^3$ ; surface area =  $4\pi r^2$

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

Right circular cone: volume =  $\frac{1}{3}\pi r^2 h$ ; 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  $m > 0$  and  $n > 0$ , then

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

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