MAC 2312: CALCULUS 2
SPRING 2015

Contact Information:

Course Coordinator

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Course homepage is on e-Learning Sakai, https://lss.at.ufl.edu.

Course Lecturer

Name: _____

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Discussion Leader (TA)

Name: _____

Office: _____

Office Hours: _____

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Email: _____

MAC2312 – Calculus 2
Course Policies and Syllabus

MAC 2312 Calendar, Spring 2015

Monday	Tuesday	Wednesday	Thursday	Friday
Jan 5	6 First Discussion	7 L1	8	9 L2
12 L3	13	14 L4	15 **WA Diagnostic***	16 L5
19 **MLK Day No Class**	20 **WA HW1*** **Quiz 1^**	21 L6	22 **Quiz 1^**	23 L7
26 L8	27 **WA HW2*** **Quiz 2^**	28 L9	29 **Quiz 2^**	30 L11
Feb 2 L12	3 **WA HW3*/Quiz 1***	4 L13	5	6 L10/REVIEW **EXAM 1***
9 L14	10 **WA HW4*** **HW 1^**	11 L15	12 **HW 1^**	13 L16
16 L17	17 **WA HW5*** **Quiz 3^**	18 L18	19 **Quiz 3^**	20 L19
23 L20	24 **WA HW6*** **Quiz 4^**	25 L21	26 **Quiz 4^**	27 L22
Mar 2 **No Class**	3 **SPRING No Class**	4 **No Class**	5 **BREAK No Class**	6 **No Class**
9 L24	10 **WA HW7*/Quiz 2***	11 L23/REVIEW	12 **EXAM 2***	13 L25
16 L26	17 **WA HW8*** **HW 2^,Quiz 5^**	18 L27	19 **HW 2^,Quiz 5^**	20 L28
23 L29/L30	24 **WA HW9*** **Quiz 6^**	25 L30/L31	26 **Quiz 6^**	27 L31/L32
30 L33	31 **WA HW10*** **Quiz 7^**	April 1 L33/L34	2 **Quiz 7^**	3 L34
6 L35/REVIEW	7 **WA HW11*/Quiz3***	8 L36, Part I	9	10 L36, Part II
13 L37	14 **WA HW12*** **HW 3^**	15 L37	16 **HW 3^**	17 REVIEW
20 REVIEW	21 No Class/ **WA HW13*/Quiz4***	22 REVIEW	23/24 **No Class /Reading Day** All clickers must be registered and scores verified by Thursday 23, otherwise 0.	

FINAL EXAM: Saturday, April 25, 5:30 – 7:30PM

*Web Assign(WA) Diagnostic, WA Homework, WA Quiz due: 9 PM.
^ Discussion Homework and Discussion Quiz take place in discussion.
**Testing Times: 8:30-10:00 PM. Locations will be announced in Sakai.

2. INTRODUCTION

2.a <u>COURSE CONTENT:</u> MAC 2312 is the second in the three-semester sequence MAC 2311, MAC 2312, MAC 2313 covering the basic calculus. Intended topics will include integration techniques, infinite sequences and series, polar coordinate and application of definite integrals.

A minimum grade of C (not C−) in MAC 2312 satisfies four credits of the university General Education Math requirement.

2.b <u>PREREQUISITES:</u> MAC 2312 assumes that you have strong essential precalculus skills (both algebra and trigonometry) and calculus I skills necessary to succeed in calculus 2. Students should be able to do arithmetic without a calculator.

To enroll in MAC 2312, you must have earned a grade of C or better in MAC 2311, earned calculus credit through an exam or earlier coursework. You may take the ALEKS assessment to refresh your algebra and/or trigonometry skills through the ISIS homepage isis.ufl.edu; click on Placement under My Online Services. For more complete information, check the page isis.ufl.edu/aleksinfo.html. I encourage you to refresh your prerequisite math skills even if you have met the prerequisites. Quite often, your algebra, trigonometry and calculus 1 skills may need review and your placement assessment can provide information and specific areas for additional study. A Diagnostic Quiz in WebAssign and Prerequisite in section 6 of this syllabus are provided as review topics.

MAC 2312 begins with the integration chapter. **You should already be competent in integrating simple functions such as power functions, exponential, sine and cosine functions, and the use of simple u-subs, etc.** We **strongly recommend** students who are having difficulty with the simple integration review material consider first taking MAC 2311, a four credit calculus course reviewing essential differential calculus skills and algebra and trigonometry skills. You may switch courses on ISIS during the drop-add period. The deadline is Monday, January 12.

2.c <u>REQUIRED MATERIALS</u> :

WebAssign (WA): Online homework and quiz from WA will count towards your grade. The text book, <u>Calculus: Early Transcendentals</u>, 2nd edition by Rogawski, may be accessed as an ebook by purchasing the **required WebAssign access code** online at www.webassign.net or from local bookstores.

It is not required, but some students prefer a hard copy of the text for future reference. If so, feel free to get an used text, then you will only need the WA access code for just the homework and WA. However, we do not recommend that you purchase a used bundle (book + WA access code) online except through the WebAssign website since the access code may be used or defective.

WA is open on January 8 and you have two weeks grace period to use WA before you must pay for access. Details will be provided in the first week discussion.

H-ITT class responder system (**'clicker'**) to allow students to participate in lecture. Information will be provided in class and on the MAC 2312 homepage in Sakai.

Access to a working computer: All online assignments should be taken on a computer, not cell phone or tablet since there may be compatibility issues with WA. Be sure you are using a browser that works with WA. Please check for WA browser recommendations: http://www.webassign.net/manual/student_guide/c_a_system_requirements.htm . Any WA questions should be directed to your TA and/or the WA helpdesk.

Students are responsible for having access to a working computer and have your work completed on time. Complete your work early. If you wait to complete your work and you run into any difficulties to submit your work, you are out of luck. Neither credits nor extension for work not successfully submitted will be granted.

Lecture Notes Outline: Bring it to each lecture (see section 2e).

Calculators : NOT required. A graphics calculator and Wolframalpha can be useful study and learning tools when used appropriately, but are not essential. Calculus is a collection of ideas that are not mastered through calculator skills. No calculators are allowed on quizzes or on the exams

2.d E-LEARNING SAKAI: A UF course management system, is located at lss.at.ufl.edu. Use your Gatorlink username and password to login. All course information including homework assignments, lecture outline, office hours, test locations and reviews, your grades and the syllabus are posted on this site. In addition, Sakai provides a mail tool for communication.

All grades are posted in the Sakai gradebook 2 (except individual WebAssign and HITT points, which are accessed through those programs directly). You are responsible for verifying that those grades are accurate. **You have one week after a score has been posted to contact your TA to resolve any grade concerns. We will not consider any grading disputes nor make any grades adjustment 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 in this syllabus and the MAC 2312 homepage in Sakai. We will update with announcements both in lecture and through Sakai. **Check regularly for announcements which are also sent to your email so you can check easily 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. So always check those resources first. If you must email the coordinator, please use the mail tool in Sakai and be sure to write down your discussion section numbers and your TA's name with your in the subject line in all mail correspondence.

2.e LECTURES: This class meets for three 50-minutes lectures and one 50-minutes discussion section per week. An approximate schedule for lectures is in the course calendar. You are required to attend all lectures and responsible for learning lecture material missed due to an 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 and the instructor.

Lectures will be used to introduce you to the fundamental concepts and theory of calculus and will follow as closely as possible the calendar provided in this syllabus. On the days where a lecture is being repeated indicates a 'catch-up' date if behind, otherwise we move forward to the next lecture.

Students can print out the lecture outlines from Sakai through **Lecture Notes** link. You may also purchase a hard copy from Target Copy Center (1412 W University Ave). Within a day after class, worked out solutions to the lecture examples will be available to copy on the door of Little 376, Monday through Friday from 8AM - 4:30PM. You may use your smart phone to take a picture of completed notes.

We understand students often need to re-watch a lecture to review difficult concepts. For your convenience, MAC2312 lectures are taped. To watch the lecture video, please click on the links in Sakai: Chui Taped Lectures and/or Severa Taped Lectures.

EXPECTATION: This is a very challenging course. Treating it as anything less than that is inherently unwise, both for your learning and for your grade. This means that *at a minimum* we expect students to spend 2 hours effectively studying outside of class for every hour in class. (We used to say 3 hours outside classroom for every hour in class ... In personal opinion, this is more realistic if you really want to excel). MAC2312 is a 4 credit-hour course, which means each student is responsible for spending <u>at least</u> 8 hours per week preparing for this course <u>outside the classroom</u>. Most of this time will be spent working on homework. Students are also expected to review their notes and read ahead regularly. If you are not doing as well as you would like in MAC2312, you may need to put forth more effort.

2.f <u>DISCUSSION SECTIONS,</u> which meets once a week (either Tuesday or Thursday, depending on the section in which you are registered) gives you a valuable opportunity for open discussion of the lecture material and assigned problems in a smaller class setting. **Attendance in discussion is required; a significant portion of the points that determine your grade in the course are earned in your discussion class.** However, one period per week is generally not adequate to answer all questions. Be sure to take advantage of the opportunities of our office hours.

Your main resource person is your discussion leader, a teaching assistant (TA) in the mathematics department. He or she is available during office hours (or by appointment) to answer your questions about the course material. Your TA is responsible for grading and recording all quiz, homework, and test scores. You must retain <u>all</u> returned papers in case of any discrepancy with your course grade. As mentioned above, **you should check Sakai regularly and consult with your TA if you have any questions about recorded grades. All grade concerns must be taken care of <u>within one week</u> of the posting of the score.**

2.g <u>FREE HELP:</u> In addition to attending your lectures and discussion section regularly and visiting your discussion leader, lecturer or the course coordinator during their office hours, the following aids are available. There is no reason to struggle on your own. Do Not fall behind.

- The office hours of all MAC 2312 TAs. A link will be provided second week of the semester to the office hours of <u>all</u> MAC2312 TAs that you can go to for help.

- The Teaching Center Math Lab, located at SE Broward Hall offers free tutoring. 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 math lab also offers **supplemental instructor (SI)**, a tutor assigned specifically to MAC 2312, who provides weekly help sessions, holds reviews on the evenings before each exam. The math lab also provides videos of review and sample test problems. Check the webpage, teachingcenter.ufl.edu, for a map of the location, tutoring hours and test review dates and locations. **All students arestrongly encouraged to use the teaching center services.**

- Office of Academic Support offers free one-on-one and small group tutoring sessions to any UF students. See http://oas.aa.ufl.edu/tutoring.aspx for details.

- 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 your instructor or an advisor in your college if you are having difficulties. You may contact the center at www.counseling.ufl.edu.

- Lectures are taped for your convenience if you find the need to review a lecture. This also allows you to copy the worked-out solution presented in lectures if needed. But do NOT use this opportunity to rationalize skipping classes.

- WA offers solution video, animation and other learning tools within each question.

- Textbooks and solutions manuals are provided at the reserve desks at Marston Science Library.

- 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 www.math.ufl.edu. Search for "tutors".

2.h <u>SUCCESS:</u> **Engage** (participate & proactive) in class, **Complete Assignments** on time (practice & practice), **Keep Pace** with the course, **Utilize help. Do NOT Fall Behind**.

Other than having a strong precalculus and calculus I background, success in MAC 2312 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, at least mentally. Students who do not actively participate generally have greater difficulty. Review notes and work on assignment daily as opposed to saving it all for one day.

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.

It can also be very helpful to study with a group. The effort of asking questions and communicating ideas clearly, as well as the practice of writing solutions, are effective tools in helping you better understand calculus concepts. It's a good way for students to collaborate and the exchanges you have help you be more engaged in the course and be more prepared and confident in classroom and in exams. This type of cooperative learning is encouraged, but be sure it leads to a better conceptual understanding. Do not let a tutor, a friend or a calculator 'think' for you. **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 individual assignments**.

If you get stuck, be sure to always go over your notes to see if you can find the answer on your own. When you do ask for help, begin by stating what you have tried and what you are stuck on to allow others to better assist you.

If you have done all that as suggested above, and you are still not doing well in class, please do not suffer on your own. Talk to your TA, your instructor and let us find out together how to better help you succeed in this class. It's my hope 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 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.

2.i <u>STUDENTS WITH LEARNING DISABILITIES:</u> Students requesting class and exam accommodations must first register with the Dean of Students Office Disability Resource Center(DRC), `www.dso.ufl.edu/drc/`. The DRC office will provide a documentation letter to the student to present to the course coordinator, Chui in Little 376. 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.

2.j <u>ACADEMIC HONESTY GUIDELINES:</u> 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 conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines (University of Florida Rule 6C1-4.017).

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. You may find the Student Honor Code and read more about student rights and responsibilities concerning academic honesty at the link .

In addition, we remind you that lectures given in this class are the property of the University/faculty member and may not be taped or used for any commercial purpose. Students found to be in violation may be subject to discipline under the Student Conduct Code.

When submitting your clicker responses in lectures, each student sends in his or her own responses. Clicking in for another student is in violation of the Academic Honesty Guidelines. In such case, both students will receive a zero for the attendance participation points for the entire course.

When submitting written homework assignment, it must be your own individual work, your own paper. Any violation will result in **all** parties receiving a zero for the written homework grade for the course at the minimum.

Any suspicious activities during quizzes or exams will be considered as cheating and violators will be taken to honor court where you may face automatic failure or even expulsion.

With any kind of honor code violation, at the very least, all parties not only receive a zero for the assignment, but also not allowed to retake the assignment nor the opportunity to drop the course.

3. TESTING

3.a 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 60 points and will consist of both a multiple-choice section and a free response, partial credit section (tearoff sheet). There is **no dropping** of any exams.

3.b FINAL EXAM: A mandatory, comprehensive final examination will be given during the regularly scheduled exam time for MAC 2312 as shown on the calendar and the online Schedule of Courses. This two hour exam is scored on a scale of 0 to 80 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.

3.c IMPORTANT EXAM POLICIES: MAC 2312 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. (see section 4f for more information).

The following applies to all exams:

(1) Exam locations will be posted in Sakai one week prior to each exam.

(2) Students are responsible for material covered in lectures, NYTI problems, and homework assignments. Questions will test mastery of concepts and include challenging calculation problems. **A command of prerequisites are assumed**. Sample tests are available from the Teaching Center one week before each exam. They serve as examples of general format and give you problems to practice. However, exam coverage and format may vary from semester to semester. Check mails and announcements for the exam information for this semester.

(3) Bring only the following to the exam:

- Soft lead graphite pencils (number 2 lead or softer) for bubbling your scantron
- Ink Pen (To sign your test)
- Knowledge of your SECTION NUMBER and UF ID number
- Picture ID (UF Gator One card or your state driver's license) with a **legible signature**

Do not bring books or other aids; scratch paper is provided. **Calculators are not permitted.**

DO NOT BRING ANYTHING OF VALUE TO THE EXAM, since all backpacks must remain at the front of the exam room during testing.

Cell phones and other electronic devices must be turned off and out of sight, out of reach. If any such device rings, buzzes, or otherwise causes a distraction during the exam, your test will be considered to be compromised and your test scores will be penalized.

(4) The **Test Form Code**, as well as **your UFID**, name, and section number must be encoded correctly or you will lose 1 point. You must also take the test in your assigned test location or you will lose 3 points on your exam.

(5) No students will be admitted to the test arriving 10 minutes after its starting time, and no one will be permitted to leave the exam room in the first 20 minutes.

(6) An answer key will be posted on Sakai within one day after each exam. To check your answers, record them on the scratch paper that you keep after turning in your scantron and your entire exam.

(7) Multiple choice(MC) scores will be posted within 2 days after each exam. You then have one week to see your TA if you have questions about your MC grade.

(8) Graded tearoff(FR) sheets will be returned in discussion. You then have **one week** to see your discussion leader if you have questions about your exam grade.

(9) Both MC and FR scores will be added to Exam grade. One week rule applies here as well.

Grades are not up for dispute after the one week time frame.

4. GRADING

4.a <u>COURSE GRADE:</u> Your course grade is based on 385 points accumulated as follows:

WebAssign Diagnostic Quiz	5
WebAssign Homework (3 pts x<u>13</u>=39)	30
WebAssign Quizzes (5 pts x<u>4</u>=20)	15
Written Homework (5 pts x<u>3</u>=15)	15
Discussion Quizzes (best 5 of 7, 5 points x<u>5</u>=25)	25
HITT Class Participation Points	30
Discussion Class Participation Points	5
Semester Exams (60 points x<u>3</u>=180)	180
Cumulative Final Exam	80
	385

The total sum of points is your numerical score, which will be converted to a letter grade according to the following scale. **The course grade is determined by the number of points you earn, not by the percentage**, and will be strictly enforced.

There will be no additional curve in this course, and extra assignments for individual students to improve a grade are NOT possible.

A	347 - 385 pts	C	270 - 284 pts
A−	335 - 346 pts	C−*	258 - 269 pts
B+	323 - 334 pts	D+	247 - 257 pts
B	308 - 322 pts	D	231 - 246 pts
B−	297 - 307 pts	D−	220 - 230 pts
C+	285 - 296 pts	E	0 - 219 pts

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

For those taking the S-U option: S [270 - 385 points]   U [0 - 269 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 Undergraduate Catalog.

For information about UF grades and grading policies, go to the UF undergraduate catalog:
catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

For information on dropping courses and withdrawals go to
catalog.ufl.edu/ugrad/current/regulations/info/drops.aspx#drop

NOTE: We will not review disputed points at the end of the semester. All grade concerns must be settled within one week of the posting of the grades in WA and/or in Sakai and/or the email of the H-itt report.

4.b <u>WRITTEN HOMEWORK:</u> As you work on your online WA homework, work out your solution step-by-step, algebraically, logically and thoroughly. Rewrite your work neatly if needed to be turned in for written homework grade. Your TA will let you know

what he/she requires in the first discussion section. It's your responsibility to know your TA's requirement. The written homework will be collected by your discussion leader three times during the semester on the dates shown in the course calendar. You must bring <u>all the homework</u>, neatly separated by sets. The assignments will be graded on a scale of $0 - 5$ points; each is graded for completeness and accuracy. **The work must be your own and not taken from other sources**.

Calculus material is cumulative, so you should complete each assignment as thoroughly as possible before your next class. While some problems may look similar, they demonstrate a unique detail of a calculus skill.

If you are having difficulty with any homework assignments, please seek timely help from a TA, the SI or your instructor during scheduled office hours as well as the tutors at the Broward Teaching Center so you will not fall behind. Be sure to start problems early so you have plenty time to get your questions answered!

4.c <u>**ONLINE HOMEWORK, ONLINE QUIZ:**</u> The online assignments administered in WebAssign is to provide a timely practice of the material learned. They must be submitted before the due date indicated in the calendar and all online tasks are due at 9PM. Some homework problems may suggest the use of a graphing calculator. They are designed to help you visualize important concepts and to reinforce the mathematical processes involved. The use of a calculator is recommended but not required. When a calculator may be needed for your answer, it will be indicated in the 'Instruction section' of the WebAssign assignment.

There are 13 sets of homework, worth 3 points each. They are untimed (except for the due date) and you have 10 tries for each problem. There are aids and a link to the ebook to help you with the homework practice. You must obtain 70% on the homework before you can access the quizzes on that material. Your scores will count up to a maximum 30 points, but the total number of points available is 39 to offset any credit loss.

WebAssign Quiz, worth 5 points each, will be posted four times during the semester. You have three attempts and three hours to complete each set. **The clock starts running from the time you open your quiz**. There are NO aids nor indication after each submission. However, you may review the correct answers and see the scores in the WA gradebook after the due date. Your scores will count up to a maximum 15 points.

4.d <u>**DISCUSSION QUIZZES:**</u> Your discussion leader will administer seven quizzes in discussion, on the dates listed in the course calendar. Each will be graded on a scale of 0 to 5 points, and the top 5 scores will count, to total up to 25 points. The quiz will be based on previous lectures and homework assignments.

4.e <u>**CLASS PARTICIPATION POINTS:**</u> Up to 30 points may be earned by attendance in lecture and solving problems in class. Points will be collected through the use of the H-ITT course responder system (clicker). Students are responsible for having a working clicker or smart phone. Check your clicker ID is displayed on the screen each time it's used in lecture. Weekly HITT grades report will be sent to your UF email. Resolve any issues immediately. No H-ITT points can be recovered or made

up. Contact the merchant or the HITT company if you have issues with your clicker. Register your clicker **AFTER YOUR FIRST successful use** when you see your clicker ID displayed on the screen in class. More details will be available in class and on the course home page in Sakai.

As mentioned before, submitting clicker responses for another student is a serious honor code violation. (section 2j)

In addition, you have a chance to earn up to 5 points to participate in your discussion class during the semester. Coming to discussion late, working on your own things including cell phone, computer will NOT earn you the points. Your TA will provide more details in the first discussion class. It's students' responsibility to understand the details.

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 additional points if available at the end of the semester.

NOTE: Homework, quizzes and class participation points account for 125 points of the total to be earned in the course. They are a significant part of your grade, to reflect their importance in attendance, and the rigorous homework practice in understand the material.

4.f MAKE-UP POLICY: All make-up work must be signed up with the coordinator, Chui, in LIT 376, during office hours and completed by Wednesday April 22.

- **Exam Conflicts - UF during Term Assembly Exam Policy**
  (catalog.ufl.edu/ugrad/current/regulations/info/exams.aspx):
  "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."

  If MAC 2312 is the lower course number, students must inform Chui in person during office hours **at least ONE WEEK** prior the exam date to **sign up** for a conflict exam. Otherwise it may not be possible to reschedule.

  The conflict exam will be offered from 6:30 – 8:15 on the same night as the regular exam. You will not be permitted to leave the exam room before 8:20PM.

- **Make-up 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 Chui in her office during office hours at least ONE WEEK PRIOR to the event. You must present valid documentations.

  If illness or other extenuating circumstances cause you to miss an exam, contact Chui 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 Chui's office hours in Little 376 to sign up to take a makeup

exam on the **last Wednesday** of the semester. **To be eligible for this make-up you must have received at least half of the lecture participation points that have been given so far. All others including missing an exam due to negligence will result in 10% grade penalty.**

Makeup exam length and content may not match the regular exam and its format is **all multiple choices**.

- **Make-up Discussion Quizzes:** There are no make-ups, unless:

    1. You are participating in a UF sponsored event, for which you must bring your documentation at least **one week** prior to your TA.

    2. you miss at least three discussion quizzes for which you have valid, documentable reasons for your absences. You will be allowed to make up the excused absences that are in excess of two. To be eligible for a make-up you must have received credit for at least half of the lecture participation points. Bring your documentation to your TA **within one week of your third discussion quiz absence**.

    3. you miss because of a religious holiday. You must notify your TA within the first three weeks of class.

    4. you miss because of a court-ordered obligation - see your TA.

- **Make-up written Homework collection:** There are no make-ups, unless,

    1. If you have an excused absence, are observing a religious holiday or are participating in a University of Florida sponsored event, make a prior arrangement with your TA to turn in **all** written assignments within 24 hours of its due date along valid documentation.

    2. you are present in discussion at the time of the collection but forgot to bring your homework. In this case, you have 24 hours to bring the ENTIRE homework sets to your TA. You must **notify and make arrangement** with your TA **before** you leave the discussion that day.

- **Make-up WebAssign HW and Quiz:** There are no make-ups.

- **Make-up Clicker points:** There are no make-ups.

4.g <u>**10-MINUTE POLICY**</u> Only the students who are present within the first 10 minutes of the class and stay for the entire period will be allowed to participate in the class activities (including submitting clicker answers, taking discussion quizzes, and turning in written homework assignments).

4.h <u>**INCOMPLETE:**</u> Students who complete a major portion of the course with a passing grade but are unable to complete the course because of illness or emergency may be granted an incomplete grade of I which will allow the student to complete the course within the first two weeks of the following semester. See the policy on http://www.math.ufl.edu/department/incomplete-grades/. If you meet the criteria, you must see Chui before finals week to be considered for an I. An I only allows you to make up your incomplete work, not redo your work.

5. GENERAL EDUCATION INFORMATION

MAC 2312 has been designated a General Education course that can be counted towards the Mathematical Science (M) requirement.

Course Objective: The primary goal of the course is to help students understand and apply the fundamental principles of integral calculus, convergence of infinite sequences and series, construction of power series, and the calculus of parametric equations and polar coordinates.

Student Learning Outcomes (SLOs) for MAC 2312 are as follows:

I. Content

- Master the techniques of the integration.

- Introduce the infinite sequences and series and the concepts of convergence.

- Develop the techniques of tests for convergence.

- Introduce power series.

- Introduce parametric equations and polar coordinates.

II. Critical Thinking

- Apply techniques of integration and critical thinking effectively to solve applied problems including volumes of solids and volumes of revolution.

- Construct series representations of functions using the geometric series model and the Taylor theorem.

- Using series representation to approximate function values, perform integration and approximate definite integrals.

- Apply the Fundamental Theorem of Calculus to the evaluation of arc length of parametric equations, evaluate tangent lines to a parametric equations and finding area enclosed in a polar region.

III. Communication

- Communicate mathematical findings clearly and effectively using written and/or graphic forms.

The SLOs are assessed through weekly discussion, homework assignments and quizzes, three semester exams and final exam.

PREREQUISITES FOR MAC2311

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 provides a more complete review of these essential topics.

ALGEBRA

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

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

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

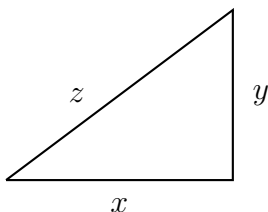   Parallelogram: area $= bh$

   Rectangular box: volume $= lwh$

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

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

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

   Facts about similar triangles

   Pythagorean theorem: $x^2 + y^2 = z^2$

2. Basic Functions and their graphs:

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

$f(x) = b^x$, $b > 0$ and $b \neq 1$, 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: $\dfrac{a}{b} + \dfrac{c}{d} = \dfrac{ad + bc}{bd}$, etc.

5. Exponents: $x^n y^n = (xy)^n$; $x^n x^m = x^{n+m}$;

$$\dfrac{x^n}{x^m} = x^{n-m}; \ (x^n)^m = x^{nm}$$

6. Roots, including rationalizing the denominator or numerator.

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

7. Inequalities and absolute values:

$|x| \leq a$ $-a \leq x \leq a$; $|x| > a$ $x > a$ 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

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

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

TRIGONOMETRY

1. Identities:

$$\sin(-\theta) = -\sin\theta \qquad \cos(-\theta) = \cos\theta \qquad \tan(-\theta) = -\tan\theta$$

$$\sin\left(\frac{\pi}{2} - \theta\right) = \cos\theta \qquad \cos\left(\frac{\pi}{2} - \theta\right) = \sin\theta \qquad \tan\left(\frac{\pi}{2} - \theta\right) = \cot\theta$$

$$\sin^2\theta + \cos^2\theta = 1 \qquad \sec^2\theta = 1 + \tan^2\theta \qquad \csc^2\theta = 1 + \cot^2\theta$$

2. Sum and Difference Formulas:

$$\sin(A \pm B) = \sin A \cos B \pm \cos A \sin B$$

$$\cos(A \pm B) = \cos A \cos B \mp \sin A \sin B$$

$$\tan(A \pm B) = \frac{\tan A \pm \tan B}{1 \mp \tan A \tan B}$$

3. Double Angle Formulas:

$$\sin 2\theta = 2\sin\theta\cos\theta$$

$$\cos 2\theta = \cos^2\theta - \sin^2\theta = 2\cos^2\theta - 1 = 1 - 2\sin^2\theta$$

4. Half-Angle Formulas:

$$\sin^2\theta = \frac{1 - \cos 2\theta}{2} \qquad \cos^2\theta = \frac{1 + \cos 2\theta}{2}$$

5. Trigonometric Values:

θ	0	$\pi/6$	$\pi/4$	$\pi/3$	$\pi/2$
$\sin\theta$	0	$1/2$	$\sqrt{2}/2$	$\sqrt{3}/2$	1
$\cos\theta$	1	$\sqrt{3}/2$	$\sqrt{2}/2$	$1/2$	0
$\tan\theta$	0	$\sqrt{3}/3$	1	$\sqrt{3}$	undef

6. $\arctan x = \qquad$ at $x = 0, 1, \sqrt{3}, \dfrac{1}{\sqrt{3}}$

PREREQUISITES FOR MAC2312

This course assumes that you have a sound calculus 1 background. The following is a summary of some important concepts and formulas used in solving calculus problems. The textbook provides a more complete review of these essential topics.

FORMULAS YOU ARE EXPECTED TO KNOW

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1. COMPLETING THE SQUARE:

$$x^2 + ax + b = \left(x + \frac{a}{2}\right)^2 + \left(b - \left(\frac{a}{2}\right)^2\right)$$

2. PARABOLA:

$$y = f(x) = ax^2 + bx + c, \text{ vertex } x = -\frac{b}{2a}, y = f\left(-\frac{b}{2a}\right)$$

3. DERIVATIVES:

$$\frac{d}{dx}(\sin x) = \qquad \frac{d}{dx}(\csc x) = \qquad \frac{d}{dx}(\cos x) = \qquad \frac{d}{dx}(\sec x) =$$

$$\frac{d}{dx}(\tan x) = \qquad \frac{d}{dx}(\cot x) = \qquad \frac{d}{dx}(\arctan x) =$$

$$\frac{d}{dx}(a^x) = \qquad \frac{d}{dx}(e^x) = \qquad \frac{d}{dx}(\log_a x) = \qquad \frac{d}{dx}(\ln x) =$$

4. CHAIN RULES $(f(g(x)))' = f'(g(x))g'(x)$

5. DERIVATIVE OF AN INVERSE FUNCTION If $g = f^{-1}$, then $g'(x) =$

6. INTEGRALS:

$$\int \frac{1}{x}\ dx =$$
$$\int e^x\ dx =$$
$$\int a^x\ dx =$$

$$\int \sin x\ dx =$$
$$\int \cos x\ dx =$$
$$\int \tan x\ dx =$$
$$\int \cot x\ dx =$$

$$\int \sec^2 x\ dx =$$
$$\int \csc^2 x\ dx =$$
$$\int \sec x \tan x\ dx =$$
$$\int \cot x \csc x\ dx =$$

$$\int \tan^2 x\ dx =$$
$$\int \cot^2 x\ dx =$$
$$\int \frac{1}{a^2 + x^2}\ dx =$$