STUDENT SYLLABUS

INSTRUCTOR: Russ Waller

OFFICE: MCM (Carothers) 219-E

OFFICE HOURS: M 2-3, T 4-5, R 4-5

ELIGIBILITY: You must have the course prerequisites listed below and must never have completed with a grade of C- or better a course for which MAC 2312 is a (stated or implied) prerequisite. Students with more than four hours of prior credit in college calculus are required to reduce the credit for MAC 2312 accordingly. It is the student's responsibility to check and prove eligibility.

PREREQUISITES: You must have passed MAC 2311 (Calculus I) with a grade of C- or better or have satisfactorily completed at least four hours of equivalent calculus courses.

TEXT: Calculus (Early Transcendentals) (Seventh Edition), by James Stewart

COURSE CONTENT: Chapters 7–11 of the text.

COURSE OBJECTIVES: The purpose of this course is to introduce students to more advanced topics in the calculus and to some of their applications. The material in this course should be mastered before the student proceeds to courses for which it is a prerequisite.

GRADING: There will be three unit tests, occasional short quizzes, and a final exam. Grades will be weighted as follows:
- Quiz average: 10%
- Test 1: 20%
- Test 2: 20%
- Test 3: 20%
- Final Exam: 30%

Letter grades will be determined as follows: A: 90-100; B: 80-89; C: 70-79; D: 60-69; F: 0-59. Plus or minus grades may be assigned. A grade of I will not be given to avoid a grade of F or to give additional study time. Failure to process a course drop will result in a course grade of F.

UNIVERSITY ATTENDANCE POLICY: Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

EXAM POLICY: No makeup tests or quizzes will normally be given. If a test absence is excused, then the final exam score may, at the instructor's discretion, be substituted for the missing test grade. If a quiz absence is excused, then the next unit test grade will be used for the missing grade. An unexcused absence from a unit test will be penalized. An unexcused absence from a quiz will result in a grade of zero. Students must bring FSU ID cards to all tests.

TUTORING FOR MATH: Tutoring is available for this course via ACE Tutoring at the Learning Studio in the William Johnston Building. Appointments may be made, and drop-ins are welcome for one-on-one and group tutoring. Please contact the ACE Learning Studio at tutor@fsu.edu, 850-645-9151, or find more information at http://ace.fsu.edu/tutoring.
TEST#1: Thursday, September 24.
TEST#2: Thursday, October 24.
TEST#3: Thursday, November 21.
FINAL: Wednesday, December 11, 5:30-7:30 P.M.

ACADEMIC HONOR POLICY: The Florida State University Academic Honor Policy outlines the University’s expectations for the integrity of students’ academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to “. . . be honest and truthful and . . . [to] strive for personal and institutional integrity at Florida State University.” (Florida State University Academic Honor Policy, found at http://dof.fsu.edu/honorpolicy.htm.)

AMERICANS WITH DISABILITIES ACT: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; and (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

This syllabus and other class materials are available in alternative format upon request.

For more information about services available to FSU students with disabilities, contact the Student Disability Resource Center:
108 Student Services Building Florida State University Tallahassee, FL 32306-4167
(850) 644-9565 (voice) (850) 644-8504 (TDD)
sdrc@admin.fsu.edu
http://www.disabilitycenter.fsu.edu/

SYLLABUS CHANGE POLICY: Except for changes that substantially affect implementation of the evaluation (grading) statement, this syllabus is a guide for the course and is subject to change with advance notice.
MAC 2312 Calculus II – FAMU
Florida A&M University
Tallahassee, FL
COURSE SYLLABUS (MAC 2312/004)

<table>
<thead>
<tr>
<th>Course</th>
<th>MAC 2312/004</th>
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<tbody>
<tr>
<td>Credits</td>
<td>4</td>
</tr>
<tr>
<td>Title</td>
<td>CALCULUS II</td>
</tr>
<tr>
<td>Clock Hours per Week</td>
<td>Lecture 4 hours</td>
</tr>
<tr>
<td>Department</td>
<td>Mathematics</td>
</tr>
<tr>
<td>College</td>
<td>Science and Technology</td>
</tr>
<tr>
<td>Prerequisite(s)</td>
<td>MAC 2311 - Calculus I</td>
</tr>
<tr>
<td>Required Textbook</td>
<td>Thomas’ Calculus by Weir, Hass with web access to <a href="http://www.MyMathLab.com">www.MyMathLab.com</a> for homework and quizzes</td>
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<tr>
<td>Faculty Name</td>
<td>Dr. Henry L. Williams</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:henry.williams@famu.edu">henry.williams@famu.edu</a></td>
</tr>
<tr>
<td>Term and Year</td>
<td>Fall 2014</td>
</tr>
<tr>
<td>Office Location</td>
<td>Jackson Davis Hall, Room 414</td>
</tr>
<tr>
<td>Office Phone</td>
<td>(850) 412-5241</td>
</tr>
<tr>
<td>Office Hours</td>
<td>01:30pm - 03:30pm Thursdays and other times by appointment</td>
</tr>
<tr>
<td>Course ID (MyMathLab.com)</td>
<td>williams80842</td>
</tr>
<tr>
<td>Online URL for homework &amp; quizzes</td>
<td><a href="http://www.mymathlab.com">www.mymathlab.com</a></td>
</tr>
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Course Description
Applications of definite integrals; techniques of integration; infinite sequences and series; parametric equations and polar coordinates; first-order differential equations. Partially fulfills Core Mathematics requirement. We will cover the following material:

- Chapter 6: Applications of definite integrals
- Chapter 8: Techniques of integration
- Chapter 10: Infinite sequences and series
- Chapter 11: Parametric equations and polar coordinates
- Chapter 9: First-order differential equations (Section 9.2 only)

The goal here is to develop the necessary knowledge in real analysis to enable students to solve problems involving the techniques (both continuous and discrete) of integration and to engender effective analytical skills in applying this knowledge to problem solving in “real world applications”.

This class meets at 09:05am - 09:55am MWRF in Dyson 103.

Course Administration

I. Tests and Required Reading

There will be four tests during the semester and a comprehensive final examination at the end of the semester. All tests will be closed book and closed notes. Check the dates of the tests in the attached course pacing schedule. Cell phone use will not be allowed during the tests. You are strongly encouraged to read the assigned sections from the textbook each week and to do the indicated homework for each section on a daily basis to ensure your understanding of the relevant concepts for each test.

II. Quizzes and Required Reading

Required readings will be assigned and due at the beginning of the appropriate class meeting. In order to provide incentive for students to complete these readings beforehand, random “pop” quizzes will be administered. These quizzes are designed to assess whether students have read the current course material and have attempted to work some basic problems. The instructor reserves the right to administer conventional “announced” quizzes as well. There are no make-up’s for missed quizzes whether in class or online. Quizzes will also be used to verify student attendance.

Submitted for ABET Review October 5, 2015
III. Homework Assignments and Required Reading

Timely completion of all homework assignments is required. You are strongly encouraged to read the assigned sections in the textbook before attempting to work the problems in the sections. Only a random subset of the assignments will be collected and graded. Students are required to write their homework solutions in a spiral notebook. The problems must be clearly labeled and the work must be clearly organized. Unstapled homework papers will not be accepted by the instructor. Students are also encouraged to work together in groups and discuss assignments and their answers. In any case, if you are having difficulty understanding any problem, concept or technique in the course at any time, you are strongly encouraged to see your instructor during office hours. However, all work submitted to the instructor must be an authentic product of each individual student. If evidence arises that a student has submitted someone else’s work as their own, cheated on an exam, or has committed some other academic violation of the University Code of Conduct, the student will receive an F in the class and be referred to the University Judiciary Program for formal charges.

IV. Grading Process

Your course grade will be based on the following:

| Four Tests (no test will be dropped) | 60% (15% ea) |
| Online Homework                  | 5%           |
| Online Quizzes                   | 5%           |
| In-class work (quizzes, homework, projects, etc) | 10% |
| Final Examination                | 20%          |

The letter grades will be assigned according to the following scoring intervals:

<table>
<thead>
<tr>
<th>Letter</th>
<th>Score Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90 - 100</td>
</tr>
<tr>
<td>B</td>
<td>80 - 89</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79</td>
</tr>
<tr>
<td>D</td>
<td>60 - 69</td>
</tr>
<tr>
<td>F</td>
<td>0 - 59</td>
</tr>
</tbody>
</table>

If you are not attending the section for which you are officially enrolled, the instructor of the section for which you are officially enrolled will assign you an “F” grade on the final grade roll and that will be your final grade.

V. “T” Grade

The ‘T’ grade is given at the instructor’s discretion and then only to students who are PASSING and who are prevented from completing the course by UNAVOIDABLE circumstances not of their own doing. Students who have missed more than one test are NOT eligible for an “T” grade.

VI. Attendance

Attendance is mandatory and it is up to the instructor’s discretion when to take roll. It is the University’s policy that at least four (4) unexcused absences can result in the student receiving a failing grade, “F”. A student who misses a class is responsible for all material missed.

VII. Absences and Make-ups

Make-ups for homework and quizzes (whether in-class or online) will not be given regardless of circumstances. However, make-ups for a missed test will be given two days after the date of the test, but only if the student provides a university approved excuse. There is no make-up for the final examination regardless of circumstances.

VIII. Last Day to Withdraw: November 7, 2014

IX. Last Day Of Classes: December 5, 2014
Course Goals

1. To develop the necessary skills for solving definite and indefinite integrals and to understand their applications in science and engineering.
2. To develop the skills necessary for determining when a sequence/series converges and to use this skill in the approximation of functions.
3. To help students see more clearly the relationship between polar and rectangular coordinate systems and the usefulness of polar coordinates in solving problems in science and engineering.

Behavioral Objectives

To successfully complete Calculus II, the student will be required to meet the following objectives with at least 70% proficiency. At the end of the course, the student will be able to:

1. Integrate functions using tables; u-substitutions; integration-by-parts; trigonometric identities and substitutions; partial fractions; numerical techniques.
2. Evaluate improper integrals.
3. Apply techniques of integration to solving separable differential equations.
4. Apply techniques of integration to calculate area; volume; surface area; arc length; work; and fluid pressure.
5. Define a sequence and understand the definition for convergence/divergence.
6. Define a series and determine its convergence/divergence using the integral, comparison, ratio, root, and alternating series tests.
7. Determine whether a series converges absolutely or conditionally.
8. Define a power series and determine its radius and interval of convergence.
9. Find the Taylor/Maclaurin series for a particular function and determine the radius and interval of convergence and estimate the accuracy of the approximations.
10. Utilize Taylor series to compose functions; differentiate and integrate functions.
11. Determine and sketch a conic section given a particular quadratic equation.
12. Convert points and functions from rectangular to polar coordinates.
13. Know and be able to sketch simple polar graphs.
14. Calculate the area and surface area using polar coordinates.

The Expected Student Learning Outcomes for MAC 2312 - Calculus II

COMMUNICATION
The student will demonstrate competence in writing, reading and speaking about mathematics.

CRITICAL THINKING
The student will be expected to apply critical thinking to real world problems.

TECHNOLOGY LITERACY
The student will be expected to use the MyMathLab online system to turn in homework and quizzes along with completing group projects using a Computer Algebra System (CAS).

Discourse

The key differences between learning at a university and your high school are:

1) learning does not take place primarily in the classroom
and
2) you, and not your instructor, are primarily responsible from now on for your own education.

Virtually all of you have the capability for our mathematics classes, but talent alone cannot produce success. The goal in college is to learn flexibly so that you can judge what applies in new situations and carry it out. Thus most students face a new challenge in their college mathematics courses. Flexible learning is especially important because many other departments require mathematics courses and want their majors to be ready to use the material. For that, the student must start to think conceptually. The instructor's role is to guide the students' learning. It is not to cover the material, for that is the textbook's job. One of the most important things an instructor can do for the students is to insist they learn mathematics in part from written sources so they can get beyond the surface. It is not to teach everything to the student: teaching in college becomes a cooperative effort shared by the instructor and the students. There is a corresponding change in what is expected from the student. In a typical high school the attentive student is able to pass with modest exertion. In college, the vast majority of students can learn well with reasonable exertion:
three hours per week outside of class for each hour in class is not an unreasonable effort. This includes reading the textbook for both concept and additional examples. The course will be moving a lot faster than in high school with far less repetition. The tests will cover several weeks of material, even the whole semester on the final examination. The student should view the learning of mathematics as accumulating a body of knowledge, not just learning isolated facts and problem types.

Course Policies and Procedures

I. The instructor holds the following expectations for all students.
   (a) Show respect for yourself and other class members at all times.
   (b) Uphold the University Code of Conduct both within and without official class meetings.
   (c) Arrive to class on time and prepared. This includes both academic preparation (i.e., having completed required readings, homework assignments, etc. as well as being prepared to discuss topics with your classmates in small groups and otherwise contribute to class activities when appropriate) and organizational preparation (i.e., bringing appropriate materials to class like the textbook, copies of other required readings, etc.).
   (d) Participate in class activities in such a way as to maximize learning opportunities for yourself and others.
   (e) Ringing cell phones will NOT be tolerated in class. If you elect to bring your cell phone to class, TURN IT OFF.

II. Academic Honor Policy
   The University’s Academic Honor Policy is located in the FANG Student Handbook, under the Student Code of Conduct-Regulation 2.012 section, beginning on page 55-56.

III. Policy Statement on Non-Discrimination
   It is the policy of Florida Agricultural and Mechanical University to assure that each member of the University community be permitted to work or attend classes in an environment free from any form of discrimination including race, religion, color, age, disability, sex, marital status, national origin, veteran status and sexual harassment as prohibited by state and federal statutes. This shall include applicants for admission to the University and employment.

IV. ADA Compliance
   To comply with the provisions of the Americans with Disabilities Act (ADA), please advice instructor of accommodations required to insure participation in this course. Documentation of disability is required and should be submitted to the Learning Development and Evaluation Center (LDEC). For additional information please contact the LDEC at (850) 599-3180.

V. Procedure For Resolving Faculty-Student Conflict
   a. Student first attempts to resolve issue with instructor.
   b. Student submits written notification of problem to chair.
   c. Chair forwards student letter to instructor.
   d. Instructor responds in writing to chair.
   e. Chair meets with instructor and/or student if necessary.
   f. Chair forwards response/recommendation to Dean’s office.
   g. Dean decides what further course of action is available to the student.

VI. Register and Enroll in a Course:
   To get into your MyMathLab course, you must complete an easy, one-time registration and enrollment process.

Before you start, you will need:
- the instructor’s course ID for MAC 2312 which is williams80842
- a student access code (or you can purchase online access using a credit card)
- a valid email address that you check on a regular basis.

To register and enroll in your instructor’s MyMathLab course:
   Go to www.MyMathLab.com, and click the Register button for students.
   Follow the on-screen instructions to enter your student access code and your instructor’s course ID; provide contact information; and create a login name and password.
   If you do not have a student access code, you can purchase online access to MyMathLab using a credit card and your instructor’s course ID.