MAC-2312 Calculus with Analytic Geometry 2
Syllabus – Spring 2019 (004 CRN-11798)

Instructor:	Dr. Shi Bai	CRN: 11798
Office:	SE 230	Office hours: W F 3:00pm-4:00pm and by appointment
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Lecture Time:	W F 8:00AM-9:50AM	Lecture Room: BU 307

Prerequisite: MAC 2281 or MAC 2311 with a minimum grade of C

Credits: 4

Textbook: Stewart, *Calculus: Early Transcendentals,* 8th ed.

The online learning system "WebAssign" is not required for this class.

Catalog Description: Continuation of MAC 2311. Logarithmic, Exponential, hyperbolic, and inverse trigonometric functions, techniques of integration, partial fractions, area, trapezoid and Simpson's rules, volume, work; analytic geometry; Taylor approximations; sequences and series; polar representation of complex numbers. This is a General Education course.

Objectives, Learning Outcome Goals: Upon successful completion of the course the student will be able to solve problems in the following areas and achieve the quantitative skills required for courses requiring calculus 2:

- Apply antiderivatives to compute the area between curves, the volume of solids of revolution, arc length of curves, moments, centers of mass, and the motions of bodies.
- Find antiderivatives by any of the standard techniques of integration.
- Determine the Taylor series expansion of a function, use it for numerical approximations, and compute an error bound for the approximations.

- Apply any of the standard convergence tests to determine the convergence of a series, and compute the radius of convergence of a power series.
- Understand the conceptual foundations of limit and the area under a curve, and their application to other disciplines.
- Apply the process of mathematical modeling to other disciplines and real-world problem situations, using a variety of functions.
- Understand parametric and polar representations of functions and graphs and their applications.

IFP General Education Outcomes:

- Knowledge in several different disciplines;
- The ability to think critically;
- The ability to communicate effectively;
- An appreciation for how knowledge is discovered, challenged, and   transformed as it advances; and
- An understanding of ethics and ethical behavior.

Information available at http://www.fau.edu/deanugstudies/NewGeneralEdCurriculum.php

Calculus 2 – Learning Assistant (LA) Program: This section of Calculus 2 will incorporate the LA Program. LAs are fellow undergraduate students who have been successful in Calculus 2. LA's will help lead collaborative group work during each lecture period. LA's will also assist students in actively learning and critically thinking about the course content during additional Math Learning Center (MLC) hours. LA's for this class are:

Joseph Gushue	Daniell Perez
jgushue2017@fau.edu	daniellperez2015@fau.edu

LA lecture format

This LA based curriculum is designed to allow students to learn calculus by doing calculus. Each in-class lesson consists of approximately 50 minutes of lecture. Following this lecture, the students will be given worksheets (see the following section) with applications and practical exercises related to the new material. For the remainder of the class, students will work through these exercises in small groups.

Evaluation

The evaluation consists of pre-worksheets, worksheets, quizzes, two mid-exams and a final exam.

1. Worksheets and pre-worksheets:

a) Each class period, students will be given a **pre-worksheet** to be completed at home and turned in **at the end of the next class period**. The pre-worksheets will contain prerequisite reminders and require students to read material in the textbook before the start of the next class period.

b) Each class period, students will be given a **worksheet.** The **worksheet** contains exercises to be done in-class in the assigned small groups and will be due **at the start of the next class period**. Late assignments will be graded as 0 unless the student provides a documented excuse. Every worksheet also contains some **homework** exercises in the bottom. They will not be graded but the students are encouraged to do them (as they may appear in quizzes).

Completion of the worksheets+pre-worksheets will make up 25% of the course grade.

c) LA corrections (in MLC): Worksheets/Quizzes will be graded and returned the class period after it was collected, and students will be given the opportunity to raise their grade on the worksheet/quizzes by 30% (3 out of 10 points) **by attending LA sessions in the MLC**. Students will have **ONE week** from the date the homework is returned in order to take advantage of this opportunity. Students will be expected to be prepared with questions on the problems missed and work with the LA until the student fully understands **all** the material that was missed. **Students will not receive points simply for showing up.** Once the LA is convinced that the student understands **all** of the missed homework, they will inform the instructor who will then raise the grade. If a student attends LA hours when less than 20 minutes remains, he or she might be asked to attend another session when there is time to sufficiently review the missed work. **All** homework missed must be completed to the LA's satisfaction or no grade change will be made. **It is the student's responsibility to have the LA sign the top of the homework and record after corrections are completed** (which is necessary in case there is a discrepancy with the grade change).

2. Quizzes

There will be one short quiz on the weeks when there is not an exam. The quiz may come from one of the last week's worksheet (and homework) questions. The will make up 10% of the course grade. Note you can visit the **LA corrections** to raise your missed grades.

3. Exams

Exams: There will be 2 midterm exams (in class), each worth 20% of the final course grade, and a cumulative final exam worth 30% of the course grade. **No books, notes, or calculators will be allowed during exams.**

Points forward: Students will have a chance to get extra 5% points on the exam if they attempt all the problems on the review packet and bring the completed work to the LA hours. When the student brings the completed practice exam, the LA's will verify that if the students genuinely attempted the problems. Students' answers do not have to be perfectly correct to get the 5 points; but they have to show their thoughts and genuine attempts to the LA's. Students will not receive points simply for showing up.

4. Attendance:

Regular attendance during lecture, group work, and LA office hours is expected. To minimize disruption to the learning environment, students will be expected to arrive on time and remain until the end of class. Also, **students must be present in the class to receive worksheets and pre-worksheets for each class period**; therefore, poor attendance will also negatively affect homework grades.

Grade Distribution

Worksheets	**15%**
Pre-worksheets	**5%**
Quizzes	**10%**
2 Midterm Exams (total)	**40%**
Final Exam	**30%**

Grading Scale

A: 90-100%	**B: 80-83.99%**	**C: 60-69.99%**
A-: 87-89.99%	**B-: 77-79.99%**	**D: 50-59.99%**
B+: 84-86.99%	**C+: 70-76.99%**	**F: 0-49.99%**

* The grade of I (incomplete) can only be given under the conditions specified in the "Incomplete Grades" section of the FAU Catalog, and supporting documentation will be required.

Course Policies:

Make-up exams and quizzes: There will be no make-up exams except in the case of an excused absence (documentation is required). You must inform me at least one week in advance if possible about any absence requiring a make-up exam. A missed quiz will result in a score of 0, with no possible make-up. The only exception is any quiz missed due to a university-excused absence; such quizzes may be made up.

Incomplete grades: A grade of I (incomplete) will only be given under certain conditions and in accordance with the academic policies and regulations put forward in FAUs University Catalog. A request for an incomplete grade has to be made in writing with supporting documentation, where appropriate.

Classroom Etiquette Policy: University policy on the use of electronic devices states: "In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as *cellular telephones* and pagers, *are to be disabled in class sessions*." Please refer to the FAU Student Code of Conduct available at the link:
http://www.fau.edu/artsandletters/new-pdfs/4.007.Student%20Code%20of%20Conduct.pdf

Disability Policy Statement: In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodation due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses -- Boca Raton, Davie, and Jupiter -- however, disability services are available for students on all campuses. For more information, please visit the SAS website at http://www.fau.edu/sas/.

Code of Academic Integrity Policy Statement: Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001 at the link:
http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf

Counseling and Psychological Services (CAPS) Center: Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting

their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to http://www.fau.edu/counseling/

FREE MATH TUTORING for FAU students:
The MLC provides the following FREE academic support services for FAU students:

1. Drop-in tutoring in the SAM LAB (Succeed At Methods) in GS207 during all hours of operation
   a. ALL METHODS TUTORING is done in the SAM Lab except on Sundays. On Sundays, please visit the MLC as the SAM Lab is closed.
   b. Monday – Thursday: 9am – 6pm and Friday: 9am – 4pm

2. Drop-in tutoring in the MLC GS211 during all hours of operation
   a. Monday – Thursday: 9am – 6pm, Friday: 9am – 4pm, and Sunday: 1pm – 5pm

3. Small group tutoring by appointment
   a. Appointments can be made in TutorTrac. Go to https://tutoring.fau.edu and log in with your FAU ID and password and click on 'Search for Availabilities.' For Center, choose SAM Lab for Methods of Calculus and Math Learning Center for everything else. Choose your Section (Class) and click 'Search.' Choose your time and then click 'Save.' If there are no appointments listed for your course, please email mlc@fau.edu and request an appointment.

4. Online tutoring in specific courses via Skype for Business
a. Find scheduled times and courses here: http://www.math.fau.edu/mlc/remote/index.php

Topics by Section