MATH 211 - CALCULUS FOR APPLICATIONS

Fall 2020 Syllabus, Section 013, Class Number 3857

Times and Location

TTh 2pm-3:15pm (8/24 to 12/14)

Online Synchronous

Instructor Information

Anjula Srivastava, PhD
Dr
Email: asrivastava@towson.edu
Will meet on BB ultra during class time

Final Exam

Information on the final exam can be found at https://www.towson.edu/registrar/calendars/exams.html.

Saturday December 12 - 12:30PM - 2:30PM

Course Description

Intended primarily for students in biology, business, economics, psychology and the social sciences. Elements of differential and integral calculus from an intuitive standpoint with emphasis on the use of calculus in the above fields. Exponential and logarithmic functions, partial derivatives included. Not open to mathematics majors or minors. Prerequisite: qualifying score on the Math Placement Test or MATH 115 (recommended) or MATH 119. Core: Mathematics.

MATH 211 Required Materials

Required Text: DA Calculus and Its Applications, 14th ed., by Goldstein, Lay, Schneider, and Asmar, by Pearson Education 2018. ISBN: 9780000001016

Calculator: A graphing calculator is required. A TI-83 or TI-84 is recommended. TI-89, TI-Inspire or equivalent calculators will not be allowed on tests and quizzes.

Webcam: Even though the Coronavirus pandemic means we can't have normal face-to-face class, we would like to build community within our class as much as possible. I want you to see my face, and each other's. It's helpful when I'm attempting to hold a discussion if I can "read" your faces. For this reason, the expectation is that during our online live class meetings is to have your webcam turned on. You are welcome to use a virtual background, as long as it's not distracting. If for any reason, you believe you should be exempt from this expectation, please reach out to me ASAP. I'm happy to discuss the issue, and our meeting will be confidential.

Course Objectives

1. Demonstrate understanding of the concepts and techniques of calculus from an intuitive standpoint.
2. Compute derivatives of functions using the sum rule, constant multiple rule, general power rule, product rule, quotient rule and chain rule.
3. Apply derivatives to solve problems related to biology, business, economics, psychology and the social sciences.
4. Apply derivatives to solve optimization problems.
5. Demonstrate understanding of exponential and natural logarithm functions and some applications of these functions and their derivatives.
6. Use the concepts of definite and indefinite integrals to compute area, average value of a function and future value of a continuous income stream.
7. Demonstrate the understanding of partial derivatives and their applications.

Course Learning Outcomes

1. Construct and evaluate logical arguments.
2. Apply and adapt a variety of appropriate strategies to solve mathematical problems
3. Recognize and apply mathematics in contexts outside of mathematics.
4. Organize and consolidate mathematical thinking through written and oral communication.

Topics

1. Chapter 0 Functions (0.3 - 0.6)
2. Chapter 1: The Derivative (1.1 – 1.3 and 1.6 – 1.8)
3. Chapter 2: Applications of the Derivative (2.1 - 2.7)
4. Chapter 3: Techniques of Differentiation (3.1 & 3.2)
5. Chapter 4: The Exponential and Natural Logarithmic Functions (4.1 - 4.6)
6. Chapter 5: Application of Exponential and Natural Logarithmic Function (5.1 & 5.2)
7. Chapter 6: The Definite Integral (6.1 - 6.5)
8. Chapter 7: Functions of Several Variables (7.1 & 7.2)

Student Workload Expectations

Federal and State regulations require that students are expected to spend at least two hours of per credit hour for working on course-related activity outside of the classroom. The expectation is for students to spend at least six to nine hours per week outside of the three "hours" of classroom lecture for success in MATH 211.

Examples of activities outside the classroom are: reading the textbook before lecture, rewriting lecture notes, redoing problems presented in class, watching videos on MyMathLab, rereading the textbook, completing assigned homework, completing additional problems to ensure mastery of concepts,

making "flash cards" of important concepts, equations or problems, and preparing for quizzes and tests.

Assessments

Exam #1	**25**
Exam #2	**25**
Online Homework	**15**
Online Quizzes*	**10**

*Quizzes may be taken a second time.

Final Exam	**25**

Grading Scheme/Policy

Grade	Grade Points Per Unit
A	
A-	
B+	
B	
B-	
C+	
C	
C-	
D+	
D	
F	

Math Tutoring

The Tutoring and Learning Center (TLC) makes tutoring services for this course available on a drop-in basis and by appointment. You can receive tutoring at the Mathematics Lab at 7800 York Road, Room 109. For detailed information, look at the ACC's website,located at this URL: https://www.towson.edu/tutoring-learning/

Attendance/Absence Policy

Attendance Policy: Faculty should follow the Towson University Policy on Student Class Attendance/Absence (Chapter 6, Section IX of the Faculty Handbook-pgs 36-37) in regard to excused absences. A link should be provided. Explain how the policy will also be applied in this class if applicable.

https://catalog.towson.edu/undergraduate/academic-policies/class-attendance-absence-policy/

Academic Integrity Policy

The academic integrity policy for this course is consistent with the TU Academic Integrity Policy. The policy can be reviewed here: https://www.towson.edu/about/administration/policies/03-01-00-student-academic-integrity-policy.html

Mathematics Department Diversity Statement

Department of Mathematics Commitment to Diversity: Towson University values diversity and fosters a climate that is grounded in respect and inclusion. Everyone participating in this course is expected to treat all others in accordance with this vision and policy. TU's diversity tenets include sex, sexual orientation, race and ethnicity, color, nationality, gender identity or expression, mental/physical ability, religious affiliation, age, and veteran status. If you feel these expectations have not been met, please contact the Math Department's Diversity representative, Dr. Goode at egoode@towson.edu.

Students with Disabilities Policy

This course is in compliance with Towson University policies for students with disabilities. Students with disabilities are encouraged to register with Accessibility & Disability Services (ADS), 7720 York Road, Suite 232, 410-704-2638 (Voice) or 410-704- 4423 (TDD). Students who suspect that they have a disability but do not have documentation are encouraged to contact ADS for advice on how to obtain appropriate evaluation. A memo from ADS authorizing your accommodation is needed before any accommodation can be made.

https://www.towson.edu/accessibility-disability-services/