MTH 162 – Calculus II

POST-IRMA UPDATE: Classes this semester will now end Dec 20th 2017

COURSE SECTION: MTH 162 section U9
INSTRUCTOR: James McKeown
OFFICE: UB 426
Course Website: www.math.miami.edu/~mckeown/mth162
OFFICE HOURS: To be announced in class, posted on the course website, or by appointment
Email: mckeown@math.miami.edu

TEXT: *Essential Calculus* by Stewart (2nd Edition)

Course Description: Transcendental functions, methods of integration, L'Hôpital's Rule and improper integrals, infinite series, polar coordinates, and introduction to differential equations.

Prerequisite: Passing grade in MTH141 or MTH151 or MTH161

REQUIRED MATERIALS: Homeworks for this course will be assigned and graded via WeBWorK. If you are enrolled in the course, I have already made a user account for you. Your password is initialized to your C number (without the C in front). PLEASE-- change it after your first login. The WeBWorK server is linked to on the course website.

GRADING POLICY: Final grades for this course will be based on the following:

1. **IN CLASS EXAMS (75%):** There will be three exams given during the semester, each 25% of the course grade. Dates for the exams will be announced in class at least one week prior to each exam. The material will follow from the bolded chapter outline on the last page of the syllabus.
2. **HOMEWORK (25%):** Homework will be assigned and completed online with WeBWorK. I have already made accounts for each of you. Your username is your C number (without the C in front) as is your password. PLEASE change your password upon first login. The WeBWorK server is linked to on the course website.

The final exam is scheduled on WEDNESDAY, DECEMBER 13th, from 8:00 PM to 11:30 AM.

CALCULATOR POLICY: Students may use a basic scientific calculator for exams and quizzes in this class. The recommended calculator is a TI 30XA which you can purchase for about $10. Graphing calculators and calculators with programming and alpha-numeric capabilities will not be permitted during exams and quizzes. Calculators on smart phones will **NOT** be permitted.

HONOR CODE: The Honor Code will appear on each exam.   Students should consult the Undergraduate Bulletin for details of the Honor Code. Any infraction of the Honor Code will result in a grade of "F " for the course and a referral to the Dean of Students.

https://umshare.miami.edu/web/wda/deanstudents/pdf/undergrad_honorcode.pdf

TESTING POLICY: On exam days, students must complete the exam in one sitting. Once the exam has begun, students will not be permitted to leave the classroom, unless they have submitted their exam. NO EXCEPTIONS!

SUPPLEMENTAL INSTRUCTION: The *MATH LAB* is located in the *LEARNING COMMONS* on the first floor of the Richter Library. Tutoring is available to all students enrolled in this course. Tutors are available at the Math Lab on a walk-in basis. You can find more information, along with hours of operation for the Math Lab at: http://www.math.miami.edu/resources/math-laboratory/

Individual tutoring for this course is also available through the **Camner Center for Academic Resources**. The Camner Center is located in Suite 2400 of the Whitten University Center. Tutors at the Camner Center are available by appointment. The Camner Center will also offer tutoring at the *Learning Commons* during designated hours. Please check http://camnercenter.miami.edu/index.html for more information.

ELECTRONIC DEVICES IN THE CLASSROOM: All electronic devices must be **turned off** in the classroom at all times. This includes cell phones, smart watches, iPods, iPhones, iPads or other tablets, Blackberries, any MP3 player, etc. The use of laptops or other tablet may be allowed during certain classroom activities as determined by the instructor. ABSOLUTELY NO ELECTRONIC OR SMART DEVICES WILL BE ALLOWED DURING EXAMS.

ACADEMIC CALENDAR AND FINAL EXAM SCHEDULE: Please refer to the links below for important dates for this semester.

UNIVERSITY ACADEMIC CALENDAR:
https://umshare.miami.edu/web/wda/registrar/calendars/Fall%202017.pdf

REPORTING OF ACADEMIC PROGRESS: Midterm Academic Deficiency Reports for undergraduate students will be reported according to the University calendar. Undergraduate students whose performance is unsatisfactory (D or F) will be notified through **GradesFirst.**

MAKEUP POLICY: Any student who cannot take an exam on the specified date for a legitimate and documented reason must make arrangements with their instructor to take the exam **prior to that date**. No exams will be given after the specified test date. If an emergency occurs on the day of the exam, you MUST CONTACT YOUR INSTRUCTOR IMMEDIATELY.

If you will be missing any class for any religious holy day, you must notify your instructor during the first week of classes. Please refer to page 6 of the Undergraduate Bulletin for the University policy on observance of Religious Holy Days.
https://umshare.miami.edu/web/wda/admission/Bulletin201314.pdf

MTH 162 – Calculus II
Outline of Material

ESSENTIAL CALCULUS (Second Edition) by STEWART

CHAPTER 5: INVERSE FUNCTIONS (SECTIONS 1 – 8)
Inverse functions; exponential and logarithmic functions and their derivatives; inverse trigonometric functions; hyperbolic functions; indeterminate forms; L'Hospital's Rule

CHAPTER 6: TECHNIQUES OF INTEGRATION (SECTIONS 1 – 3, 5, 6)
Integration by parts; trigonometric integrals; trigonometric substitution; integration by partial fractions; approximate integration; improper integrals

CHAPTER 7: APPLICATIONS OF INTEGRATION (SECTIONS 4, 5, 7)
Arc length and surface area; applications and modeling with differential equations; separable equations; exponential growth and decay; the logistic equation
SECTION 6 (optional) – APPLICATIONS TO PHYSICS AND ENGINEERING

CHAPTER 8: INFINITE SEQUENCES AND SERIES (SECTIONS 1 – 8)
Sequences and series; integral and comparison tests for convergence; Taylor and Maclaurin series and applications

CHAPTER 9: PARAMETRIC EQUATIONS AND POLAR COORDINATES (SECTIONS 1 – 5)
Curves defined by parametric equations; tangent, areas, and arc lengths using parametric equations; polar coordinates