Course Syllabus – Fall 2018

COURSE: MATH 152 – Calculus II
INSTRUCTOR: Jim Anthony
OFFICE: 158 Hoyt
OFFICE HOURS: M/W/F 11:45 – 12:45
PHONE: 724-946-7285
WEB-PAGES: www.westminster.edu/staff/anthonj/
CONTACT: E-mail: anthonj@westminster.edu
E-BOOK: www.webassign.net - Class Key: westminster 0042 9711

Calculus, 8th edition, Stewart

GRADING 450 total points

Homework: Homework will typically be in the form of problems on webassign. At the end of the semester, your scores will be used to generate a homework score out of 50 points.
Mid-Term: There will be a 150-point mid-term.
Quizzes / Problem Sets: There will be 50 points worth of quizzes and/or problem sets.
Final: There will be a required comprehensive final exam to be given during finals week. The final exam will count as 200 points.

There are NO makeup quizzes and late homework or problem sets will NOT be accepted.
Make-up exams will be possible with permission of the Dean.
Make-up exams may be more difficult than the original exam.
Class participation/contribution and attendance may be used to determine borderline cases.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Min Score</th>
<th>Grade</th>
<th>Min Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>93.3</td>
<td>C+</td>
<td>76.6</td>
</tr>
<tr>
<td>A -</td>
<td>90.0</td>
<td>C</td>
<td>70.0</td>
</tr>
<tr>
<td>B+</td>
<td>86.6</td>
<td>D</td>
<td>60.0</td>
</tr>
<tr>
<td>B</td>
<td>83.3</td>
<td>F</td>
<td>0.0</td>
</tr>
<tr>
<td>B -</td>
<td>80.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These cutoffs may be lowered and there may be chances for extra-credit during the course.

All information in this outline is subject to change at the discretion of the instructor.
EXTRA-CREDIT

There may be optional extra-credit opportunities throughout the semester. **Students with poor attendance (2 or more unexcused absences) or observed cell-phone use (or use of other electronic devices) twice during class will not receive any extra-credit in the course.**

CELL PHONES & OTHER ELECTRONIC DEVICES

Cell phones and any other electronic devices are to be put away (not lying on desk/lap/etc.) & turned off or silenced during class. A bonus of ten points will be added to one homework score if the student is not observed with a cell phone or other electronic device during any class period. For each violation, five points will be deducted from this bonus. Violations after the 2nd will result in subtracting points from a homework score.

There are two exceptions to this rule:

1. Students may use laptop computers to access webassign during the homework question & answer period.
2. Students can ask (before class) if they can leave their phone on their desk in case of an emergency situation.

ATTENDANCE

Attendance is required. Math is difficult to learn at times as the new material builds on the previous material. If you miss a class, it is crucial to learn the material as soon as possible. Please let me know prior to missing a class. If there is an emergency and you need to miss class, please notify me as soon as possible afterwards.

*Each unexcused absence will lower your final grade percentage by ONE percent.*

*Perfect attendance will raise your final grade percentage by TWO percent.*

Goals:

- To gain an understanding of functions and their inverses.
- To gain an understanding of various techniques of integration.
- To gain an understanding of sequences and series.
- To gain an understanding of parametric equations and polar coordinates.
- To attain the mathematical skills necessary to prepare the student for success in calculus III.

Course Topics:

- Functions and Limits: tangent lines, velocity, limits, limit laws, intermediate value theorem, and continuity
- Inverse Functions: exponential and logarithmic functions, exponential growth and decay, inverse trigonometric functions, indeterminate forms, and l’Hopital’s Rule
- Techniques of Integration: integration by parts, trigonometric integrals, trigonometric substitution, integration of rational functions, approximation of integrals, and improper integrals
- Infinite Sequences and Series: sequences, series, partial sums, integral tests, estimation of sums, comparison tests, alternating series, absolute and conditional convergence, ratio test, root test, power series, Taylor and Maclaurin series
- Other topics as time allows
Course Objectives:

Students should be able to

- describe the relationship between functions and their inverses.
- calculate using exponential and logarithmic functions.
- solve exponential growth and decay problems.
- evaluate indeterminate forms.
- utilize l’Hopital’s Rule on appropriate indeterminate forms.
- evaluate integrals by various methods, including substitution, integration by parts, trigonometric substitution, partial fraction decomposition, long division, and trigonometric integration.
- determine the correct method to be utilized to evaluate integrals.
- determine approximate values for definite integrals using a variety of techniques.
- compute indefinite integrals.
- determine the convergence of given sequences.
- determine the convergence of given series.
- demonstrate how the sequence of terms can be used to show convergence of various series.
- determine convergence of series by various tests, including demonstrating a knowledge of the conditions that must be satisfied to use the appropriate convergence/divergence test.
- determine the type of convergence of various series.
- create and analyze power series.
- utilize Taylor series and Maclaurin series to approximate other functions.
- generate Taylor polynomials.
- demonstrate the relationship between polar and Cartesian coordinate systems.
- sketch functions using polar and parametric equations.
- determine arclength of a curve using various methods.

ASSIGNED WORK IS NOT ACCEPTED LATE unless the delay is due to a verified emergency, crisis, or death, in which case a note from the Dean of Student Affairs will be forthcoming. Absence from class is not a reason for submitting late work.

HOMEWORK ASSIGNMENTS are to be submitted on webassign.

ACADEMIC INTEGRITY: Central to the purpose and pursuit of any academic community is academic integrity. All members of the Westminster community, including students, faculty, staff, and administrators, are expected to maintain the highest standards of honesty and integrity, in keeping with the philosophy and mission of the College. Academic dishonesty is a profound violation of this code of behavior.

This academic integrity statement is taken from the Westminster College Undergraduate Catalog. It is imperative that you never submit the work of others as though it is your own work nor should you ever allow anyone else to use your work without giving credit to you. The penalty for academic dishonesty in this class is minimally the grade of 0 on the assignment and, except for unusual circumstances, a grade of F for the course. Any event of academic dishonesty is reported to the Dean of the College. Other details of violations and consequences are given in the catalog.
GROUP WORK: Group work is a proper and effective way to study and learn if all participants do their full share of the work. It is possible to misunderstand exactly what it means to be responsible for “doing your own work.” You may (and should) discuss problems with other students and reach conclusions together. However, it is a form of academic dishonesty for a student, who has not attended class, read the assignment, or thought about the problem on their own to try to use the ideas developed by a group or claim credit for work to which one has not contributed. It is also dishonest to encourage or allow such practices on the part of others. You must, in all cases, leave the group discussion and write your own solutions for the exercises you submit for grading.

ACCESSIBILITY STATEMENT:
Westminster College actively strives for the full inclusion of all our students. Students with disabilities who require access solutions for environmental or curricular barriers should contact Faith Craig, Director of Disability Resources, located in 209 Thompson-Clark Hall. phone: 724-946-7192 e-mail: craigfa@westminster.edu

CATOLOG DESCRIPTION:
MTH 152 Calculus II (4 SH). This course will focus on the fundamentals of integral calculus, including techniques and applications of integration. Other topics include infinite series and introductory topics from differential equations. Prerequisite: C- or better in MTH 150 or the permission of the instructor. (Offered every semester.) Meets Quantitative Reasoning Intellectual Perspective requirement (QR).