Course Syllabus – Fall 2017

COURSE: MATH 131 – Applied Calculus

INSTRUCTOR: Jim Anthony

OFFICE: 158 Hoyt

OFFICE HOURS: Mon/Fri 11:40 am – 12:40 pm
Wed 9:20 am – 10:20 am

PHONE: 724-946-7285
WEB-PAGES: www.westminster.edu/staff/anthonj/
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E-BOOK: www.webassign.net - Class Key: westminster 0663 3022
Brief Applied Calculus, Stewart

GRADING 450 total points

Homework: Homework will be collected on webassign. At the end of the semester, the homework scores will be used to generate a score out of 50 points.

Mid-Term: There will be a 150-point mid-term exam.

Quizzes / Problem Sets: There will be 50 points worth of quizzes and/or problem sets.

Final: There will be a required comprehensive final 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.

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<tr>
<th>Grade</th>
<th>Min Score</th>
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<tbody>
<tr>
<td>A</td>
<td>93.3</td>
<td>C+</td>
<td>76.6</td>
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<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>
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<tr>
<td>B</td>
<td>83.3</td>
<td>F</td>
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<tr>
<td>B -</td>
<td>80.0</td>
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These cutoffs may be lowered and there may be chances for extra-credit during the course.

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 other electronic device) twice during class will not receive any extra-credit in the course.
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 complete familiarity with the function concept as well as limits, derivatives, and integrals.
- To gain the ability to solve applications involving economics and the natural and social sciences.
- To strengthen one’s overall understanding of the skills related to calculus.

Course Topics:
- Elementary Functions
- Limits & Continuity
- Derivatives
- Optimization
- Related Rates
- Integrals
- Applications

Course Objectives:
Students should be able to
- evaluate limits using graphs.
- compute limits through various techniques.
- explain the types of discontinuities and identify, classify and verify the various types.
- discuss the limits and continuity of polynomial and rational functions.
- interpret the derivative graphically and analytically.
- compute derivatives and interpret results.
- graph functions.
- find horizontal and vertical asymptotes.
- evaluate exponential functions and logarithms.
- demonstrate an understanding of logarithms and exponential functions by applying them to real-world examples.
- use derivatives to solve related rates problems.
- set up and solve optimization problems.
- explain the concepts of definite, indefinite integrals, and antiderivatives.
- describe the relationship between derivatives and antiderivatives.
- evaluate integrals of various types.
- apply their knowledge of calculus to solve questions in economics and other areas.
These course objectives will be assessed through quizzes, examinations, homework, group-work activities, as well as students individually working through problems for the entire class.

**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.

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

**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

**CATALOG DESCRIPTION:** MTH 131 Applied Calculus (4 SH). A one-semester study of applications of differential and integral calculus with emphasis on polynomials, exponential functions, logarithmic functions, business and economics applications. This course is for individuals with a good high school background in mathematics. This course does not provide the background for a student to continue on to Calculus II. Not available to students who have credit for MTH 150, MTH 152, or MTH 250. Prerequisites: C or better in MTH 130 or permission of the instructor or program chair. (Offered every semester.) Meets Quantitative Reasoning Intellectual Perspective requirement (QR).