

Central Methodist University
College of Graduate and Extended Studies

Calculus & Analytic Geometry
MA 118
5 Credit Hours
Fall 2021

INSTRUCTOR:

Mrs. Hough – Room 218
Voicemail: 573-696-5512 ext. 2180
Email: mhough@hallsville.org

MISSION:

Central Methodist University prepares students to make a difference in the world by emphasizing academic and professional excellence, ethical leadership, and social responsibility.

CREED:

The Central Methodist University community believes in:

- Seeking knowledge, truth, and wisdom;
- Valuing freedom, honesty, civility, and diversity;
- Living lives of service and leadership; and
- Taking responsibility for ourselves and the communities in which we live.

COURSE DESCRIPTION:

This course is the first in a series of three designed for the student who desires to complete the whole calculus series. It will focus on the differentiation and integration of algebraic functions and transcendental functions of a single variable, and also include an introduction to analytic geometry.

OBJECTIVES: Upon completion of this course, students will be able to:

- Work with functions represented in a variety of ways (graphically, numerically, analytically, or verbally) and understand the connections among these representations;
- Evaluate limits of selected algebraic and transcendental functions;
- Determine the continuity of selected algebraic and transcendental functions;
- Understand the meaning of a derivative as a rate of change and a linear approximation and be able to compute selected derivatives;
- Discuss properties of graphs of functions using the first and second derivatives;
- Evaluate definite and indefinite integrals through the use of the Fundamental Theorem and Calculus and summation techniques;
- Communicate mathematically orally and in well-written sentences and be able to explain their solutions to problems; and
- Expand their problem-solving skills by applying calculus to real-world situations.

MATERIALS NEEDED:

- Pencil (**anything turned in needs to be in pencil**)
- Notebook and/or 3-Ring Binder

- Graphing Calculator: TI-Nspire or TI-83 or TI-84

TEXT: *Calculus* (8th Edition) by Larson, Hostetler & Edwards, 2006

METHODS OF INSTRUCTION:

Methods may include any of the following: classroom lecture, teacher demonstration, audiovisual aids, discussion, return demonstration by students, written assignments.

GRADING POLICY: Grades are cumulative through the end of each semester and will be based only on demonstrated mastery of concepts and development of skills. Student performance will be assessed in three areas: quizzes, chapter tests, and semester exam. Each of these areas will be weighted and used to determine letter grades as follows:

<u>Weighted Categories</u>		<u>Grading Scale</u>	
<u>Category</u>	<u>Weight</u>	<u>Percent</u>	<u>Grade</u>
Quizzes	25%	90 – 100	A
Chapter Tests	60%	80 – 89	B
<u>Semester Exams</u>	<u>15%</u>	70 – 79	C
TOTAL	100%	60 – 69	D
		0 – 59	F

HOMEWORK/QUIZZES: Homework will be assigned daily and discussed the following class period. Homework may be collected. Pop quizzes covering the homework assignments will be given on a regular basis.

CHAPTER TESTS AND SEMESTER EXAMS: A comprehensive test to measure mastery of skills and concepts will be given at the end of each chapter. Students will have advance notice of when all tests will be given.

ABSENCES: Students will be permitted to make up missed quizzes or tests only if the absence is excused. It is the student's responsibility to get any notes missed from another student in class. If you are going to miss class due to a school related activity you need to get the work BEFORE you leave. Missed quizzes and tests must be scheduled within one week of the original date or a zero will be assigned for that assessment. Students will not be allowed to make up any quizzes or tests due to an unexcused absence.

Class attendance is mandatory. If a student is absent the day of a test, then the student must notify Mrs. Hough before class by email, phone, or note. Otherwise, the test will receive a zero and may not be made up.

EXTRA HELP: Please contact me when you need additional help and we can make arrangements for help outside of class. Please feel free to ask questions!

CALCULUS CLASS ADVICE:

Do the homework! Although it is sometimes dull and tiresome AND is not collected, it will really help your scores on quizzes and tests. Practice makes perfect!

Take notes! Even if you think you know how to do the work in class, it is amazing how it all flies right out the window when you are trying to work on your own. You need some notes to refer to when doing your homework and studying.

Use class time wisely! Time will be limited for most of you especially the further we get into the year. Start your homework in class when you are given time because it means less work you have to do later AND if you run into a problem I will be there to help.

Do the homework! I mention this twice because it is that important.

GENERAL EDUCATION COMPETENCIES: The university learning principles and outcomes were adopted in Spring 2016. Six of the 9 ULOs will be used to assess the general education common core (31-32 hours). The ULOs are intentionally broad statements that guide a culture of learning and allow for a holistic approach to assessment.

Communication (articulate, multimodal)

1. Students are articulate, able to speak and write clearly and effectively.
2. Students are multimodal, able to interpret and express ideas through multiple modes of communication

Curiosity (discover, analyze)

3. Students can discover, explore, and seek solutions based on accumulated knowledge and current research.
4. Students can analyze, evaluate, interpret, and summarize data.

Community (serve, respect)

5. Students will serve others and be ethical and informed citizens.
6. Students will understand and respect diversity, including other's viewpoints, positions, and beliefs.

ACADEMIC PROPERTY:

All work (original or copy) submitted by the student to satisfy the requirements of the course may be retained at the discretion of the instructor for non-profit and educational purposes. Such work is generally used for assessing the course and providing evidence of student accomplishment for review by accrediting agencies. Any student wishing to prohibit such use of their work may do so by notifying the instructor in writing.

NONDISCRIMINATION POLICY:

Central Methodist University does not discriminate on the basis of race, color, religion, sex, national origin, age or federally defined disability in its recruitment, admission, and retention of students.

ACADEMIC HONESTY POLICY:

Central Methodist University believes that honesty throughout life is a significant foundation of character and personal integrity. The University's Policy on Academic Honesty applies to all forms of academic work, including but not limited to quizzes and examinations, essays and papers, lab reports, oral presentations, surveys, take-home tests, etc. Every student is responsible for understanding this policy. By registering at the University, every student accepts the obligation to abide by this policy. Students are also responsible for understanding the particular policy applications required by each of their instructors and to ask the instructor for clarification of any areas of uncertainty.

Academic honesty requires that each person accept the obligation to be truthful in all academic endeavors. To help members of the community understand the implications of academic honesty; the University provides the following explanation of academic dishonesty.

Academic dishonesty is any conduct that has either as its intent or its effect (independent of intent) the false representation of a student's academic performance.

Academic dishonesty includes but is not limited to the following:

1. Cheating in any form (e.g. ghost-written papers, cheat sheets or notes, copying during exams, quizzes or other graded class work, etc.)
2. Collaborating with others on work to be presented contrary to the stated rules of the course.
3. Stealing or having unauthorized access to examination or course materials.
4. Falsifying records, or laboratory or other data.
5. Submitting work previously presented in another course without the advance consent of the instructor.

6. Knowingly and intentionally assisting any other student in any act of academic dishonesty (this includes intentionally allowing any other student to use or submit your academic work or performance, or other academic work supplied by you, under a name different from the author of the work), and
7. Plagiarism. Plagiarism is a form of cheating and stealing. It is morally unacceptable as well as against academic policy. Plagiarism includes but is not limited to (1) representing as one's own work a paper, speech, or report written in whole or in part by someone else (from the unaccredited use of significant phrases to the unaccredited use of larger portions of materials), (2) failing to provide appropriate recognition of the sources of borrowed material through the proper use of quotation marks, proper attribution of paraphrases, and proper citations. Paraphrase is the direct use of others' ideas, data, or structures of thought stated in language substantially different from the source upon which they depend, and therefore not requiring quotation marks even though the substance of the material is borrowed. In borrowed material, appropriate recognition of the source must be given.

The University will discipline students for the infractions of the Academic Honesty Policy with various sanctions which it deems appropriate, up to and including suspension or expulsion from the University. Penalties internal to a course, including grades and expulsion from the course, are at the discretion of the instructor. Students can appeal instructors' internal course penalties to the Committee on Academic Standards and Admissions, whose decision is final. Instructors must report all penalties they impose for academic dishonesty, with a brief account of the offense, to the Dean of the University, so that all violations are recorded. For serious or repeated offenses, the Dean may impose further penalties beyond the course penalty. These penalties include but are not limited to notations in the student's file, notations on the student's transcript, probation, suspension, and expulsion. A decision by the Dean of the University can be appealed to the Faculty Committee on Academic Standards and Admission, whose decision is final.