

IOWA VALLEY COMMUNITY COLLEGE DISTRICT
Marshalltown Community College
Montezuma Community School District
COURSE SYLLABUS

COURSE NUMBER: MAT 216
COURSE TITLE: Calculus II
COURSE MEETING, DATES & TIMES: 4A – 1:10 – 2:30
DEPARTMENT: Mathematics

REQUIRED MATERIALS: Calculus by Larson, Hostetler, and Edwards, 8th edition. A graphing calculator is required for this class.

INSTRUCTOR: Allison Pargeon
WORK TELEPHONE: 641-623-5121
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BUILDING/OFFICE: Room 109

DATE SYLLABUS LAST REVIEWED: 1/2/2017

COURSE DESCRIPTION: Inverses; logarithmic, exponential and trigonometric functions; techniques of integration; infinite series.

PREREQUISITIES: Grade of C- or better in MAT210 Calculus

QUALITY STANDARDS/Performance Objectives/Course Objectives:
Upon successfully completing this course, students should be able to:

1. To use and apply derivatives and integrals of logarithmic, exponential and other transcendental functions in applications and modeling by hand, by technology and orally.
 - 1.1 To find models of exponential and logarithmic growth using differential equation techniques
 - 1.2 To use separation of variables to integrate transcendental functions
 - 1.3 To review calculations and problem-solving techniques of calculus I with these new functions.
2. To understand and apply integration formulas to solve or find area, volume, work, arc length, surface area, fluid force, and centers of mass on paper and with technology.
 - 2.1 To use appropriate volume formulas, disc, washer or shell, given a function and axis
 - 2.2 To find the area between any two curves, given or not given intersection points
 - 2.3 To calculate the work exerted by a constant or variable force
 - 2.4 To find the length of a function from point a to point b
 - 2.5 To find the center of mass of a planar lamina given a function or picture
3. To know when and how to use integration techniques to solve difficult integrals, L'Hopitals rule to solve limits, and how to recognize and solve Improper Integrals by hand and verbally.
 - 3.1 To recognize and implement various integration techniques to solve difficult integrals
 - 3.2 To know when to appropriately use L'Hopitals rule to solve complex limits
 - 3.3 To follow procedures for integrating when the limits of integration include an integration sign or cover a discontinuity
4. To recognize sequences and infinite series and to know and use appropriate techniques for series convergence by hand and verbally.
 - 4.1 To find missing elements of sequences
 - 4.2 To use summation formulas to find the general term of a series
 - 4.3 To determine convergence or divergence of a series using appropriate tests
 - 4.4 To determine the maximum possible error of alternating series
 - 4.5 To find the power series and radius of convergence for a function centered at c
5. To know general equations of plane curves, parametric equations, and polar equations; to convert rectangular equations to polar and parametric, and to solve derivatives and integral applications of these equations.
 - 5.1 Given a function, to determine a parametric form of the function given constraints
 - 5.2 To recognize standard polar equations and how to find rates and areas of polar and parametric regions

5.3 To graph parametric and polar regions finding places of intersection

PERFORMANCE STANDARDS AND ASSIGNMENTS MATRIX:

Assessment Matrix:

Standard	Exam	Homework	Project/Lab	Quiz
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	X	X	X
5	X	X	X	X

ATTENDANCE POLICY: Attendance is required to successfully complete this course.

COURSE CONTENT ADVISEMENT: This course addresses topics that may be sensitive, offensive, and/or controversial. If you are uncomfortable with any topic or the manner in which it is presented, please discuss your concerns with the instructor or the Chief Academic Officer.

GRADING AND EVALUATION: Students are expected to attend class regularly, participate in and complete all activities, and share in the discussion of assigned problems and readings. Students are expected to complete homework as assigned.

There will tentatively be a total of six exams.

The exams will be taken in class. Projects/labs will also be assigned. Homework will be assigned for each section. Quizzes may occur weekly.

Grade breakdown: Tests and Quizzes (60%) Homework (40%)

No make-up tests or quizzes will be given. It is your responsibility to notify me in advance if you will be gone on the date of a test/quiz and make up the test/quiz before you leave.

GRADING SCALE: : Grading scale from the start to middle of the semester:

90-100 A 80-89 B 70-79 C 60-69 D 0-59 F

METHOD OF INSTRUCTION: Lecture, Independent Study, Question and Answer.

EVALUATION/CLASS POLICIES:

Academic Integrity: The very nature of higher education requires that students adhere to accepted standards of academic integrity. The Code of Academic Conduct for Iowa Valley Community College District is found in the Student Handbook Violations include cheating, plagiarism, and fabrication, abuse of academic materials, complicity in academic dishonesty, falsification of records and official documents.

Plagiarism/academic dishonesty: is a serious violation of Montezuma High School and MCC's Student Conduct Code. Instructors handle violations in various ways, but you should be aware that further administrative disciplinary actions may be taken, up to and including course failure and expulsion from college. Please learn about plagiarism and how to properly cite others' work.

Consequences: Student will fail the quiz or test for the first offense. After the first offense, student will fail the course.

TENTATIVE SCHEDULE: This syllabus is tentative and subject to change.

Week of semester		Topics
Week 1:		Exponential and Logarithms
Week 2:		
Week 3:		
Week 4:		Differential Equations
Week 5:		
Week 6:		
Week 7:		Applications of Integration
Week 8:		
Week 9:		
Week 10:		
Week 11:		Basic Integration Rules
Week 12:		
Week 13:		
Week 14:		Sequence and Series
Week 15:		
Week 16:		
Week 17:		Parametric Equations
Week 18:		
Week 19:		