HAGERSTOWN COMMUNITY COLLEGE
MASTER SYLLABUS

COURSE: MAT 204 Calculus II   (4 Credits)
INSTRUCTORS: Larry Wadel, Christopher Lewis
SEMESTER/YEAR: 2017 Fall

COURSE DESCRIPTION: A continuation of Calculus I, this course includes differentiation and integration of transcendental functions, methods of integration, applications of derivatives and integrals, sequences and series, plane curves and polar coordinates.

Prerequisites: MAT 203.

TEXTBOOKS USED:
   Calculus: Early Transcendentals, Seventh Edition, James Stuart, Thompson, ISBN 9780538497909 or Eighth Edition ISBN 9781285741550

STUDENT LEARNING OUTCOMES:
Course Outcomes:
In this course students will acquire:

1) **TECHNICAL COMPETENCY** in the methods of calculus that will enable them to apply the various techniques of integration to evaluate indefinite, definite and improper integrals, and determine arc length, surface area and volume, as well as apply calculus to parametric and polar coordinate equations. Students will be able to apply a variety to tests to determine convergence/divergence of sequences and series. Students will also be able to represent functions by power series, determine intervals to convergence, and provide estimates of error. *(Supports Mathematics Program Outcomes 1, 2,4 and 5)*

2) **CONCEPTUAL UNDERSTANDING** of the formulas, techniques and theory that are developed. Conceptual understanding will be reinforced from numeric, geometric, algebraic and written/verbal perspectives **(The Rule of Four)**. Students will be required to provide heuristic and visual justification of important results. *(Supports Mathematics Program Outcomes 1, 2, 4 5, 6 and 7)*

3) **UTILITY** in the methods of calculus. Students will use calculus to solve applied problems from a variety of disciplines ranging from biology, economics, business, engineering, and the social sciences, but primarily focusing on applications from physics and mathematics. *(Supports Mathematics Program Outcomes 1, 2, 4, 5, 6 and 7)*

*Graphing calculators and TEC will help support student learning outcomes.

General Studies Outcomes:
Upon successful completion of this course students will be able to:
1. Apply mathematical methods involving arithmetic, algebra, geometry, and graphs to solve problems.
2. Represent mathematical information and communicate mathematical reasoning symbolically and verbally.

Interpret and analyze numerical data, mathematical concepts, and identify patterns to formulate and validate reasoning

COURSE CONTENT OBJECTIVES:
Because of the comprehensive nature of calculus the content objectives are embedded in the Topical Outline.

ASSESSMENT PROCEDURES*: (explanation of quizzes, projects, etc.; must include three or more evaluations*

COURSE POLICIES:
Hagerstown Community College's Attendance Policy: Students are expected to attend all classes. In the case of absence due to emergency (illness, death in the family, accident), or participation in official College functions, it is the student's responsibility to confer with the instructor about the absence and missed course work. Students absent from an announced (major) test or examination, unless authorized, may be given an equivalent exam at a later date at the discretion of the instructor.

Further, it is the student's responsibility to withdraw officially from any class, which he/she ceases to attend. Failure to do so will result in the recording of an "F" grade. Students contemplating withdrawing from a course should read the section of the catalog entitled "Withdrawal and Course Changes."

Emergency/Inclement Weather: Listen to your local news for cancellations or delays. You may also call the college at 301-790-2800 or log onto the website at www.hagerstowncc.edu.

Academic Integrity: Upon admission to HCC all students are required to uphold an honor system which holds the qualities of honesty and integrity in highest regard for the duration of their educational experience. Academic integrity violations are explained under the Code of Student Conduct published in the Student Handbook, which may be obtained in the Student Activities Office. Become familiar with the Code of Student Conduct. **Academic integrity violations may result in an F for the work involved, an F for the course, or permanent expulsion from HCC.**

Total Hours Of Coursework: To earn one academic credit at HCC, students are required to complete a minimum of 37.5 clock hours (45 fifty-minute academic hours) of coursework per semester. Those hours of coursework may be completed through a combination of hours within the classroom and hours outside the classroom. Certain courses may require more than the 37.5 minimum hours of coursework per credit.

For most classes, students should expect to do at least 2 hours of coursework outside of class for each hour of in-class coursework.

Credit Hour to Clock Hour Calculation:
Direct Faculty Instruction: 1 hour/week/credit for 15 weeks; 50 min = 1 classroom hour
(50 min x 4 credits x 15 weeks) = 3000 minutes = 50 hours
Student Work Outside the Classroom:
(2 hrs x 50 hours in class) = 100 hours

Total Time Needed: 150 hours

Activity	Hybrid	Lecture
Outside of the Classroom		
Online Instruction (videos)	30 hours	
Written Assignments	80 hours	80 hours
Test Preparation	20 hours	20 hours
r		
Subtotal	**130 hours**	**100 hours**
Inside of the Classroom	**25 hours**	**50 hours**
Total	**155 hours**	**150 hours**

NOTE: THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY THE COURSE CONTENT AND/OR THE EVALUATION (TESTING) PROCEDURES AS DEEMED NECESSARY

CONTACT INFORMATION: *(Each instructor will provide their contact information)*

SERVICES FOR STUDENTS WITH DISABILITIES: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.