ARIZONA WESTERN COLLEGE
SYLLABUS

MAT 212 BRIEF CALCULUS
Credit Hours: 3 Lec 3

PREREQUISITE: MAT 150, 151, or MAT 187

NOTE: Credit cannot be received in both MAT 212 and MAT 220

COURSE DESCRIPTION
Introduction to elementary topics in differential and integral calculus.

1. COURSE GOALS
   - 1.1 Be introduced to the elementary calculus of polynomial, rational, logarithmic and exponential functions.
   - 1.2 Be exposed to the formal skills of differentiation, integration and the calculation of limits.
   - 1.3 Develop problem solving skills.

2. OUTCOMES
   Upon satisfactory completion of this course, students will be able to:
   - 2.1 apply logical and abstract thought processes in constructing simple logical arguments and in writing clear problem solutions.
   - 2.2 correctly select algorithms for use in solving applications in mathematical, scientific, and business fields.
   - 2.3 compute limits and determine points of continuity.
   - 2.4 use appropriate techniques in differentiation and integration of polynomial, rational, logarithmic and exponential functions.
   - 2.5 find absolute and relative extremes.

3. AWC GENERAL EDUCATION (GE) OUTCOMES
   - 3.1 DIGITAL LITERACY
     - Determine the extent of information needed
     - Access the needed information effectively and efficiently
     - Evaluate information and its sources critically
     - Use information effectively to accomplish a specific purpose
     - Create content in a digital environment
   - 3.2 QUANTITATIVE ANALYSIS
     - Identify and extract relevant data from given mathematical or contextual situations
     - Select known models or develop appropriate models that organize the data into: tables or spreadsheets (with or without technology); graphical representations (with or without technology); symbolic/equation format
     - Obtain correct mathematical results and state those results with appropriate qualifiers and use the results to: determine whether they are realistic in terms of original data/problem; determine whether the mathematical model/representation of data is appropriate; describe trends in a table, graph, or formula and make predications based on these trends; draw qualitative conclusions in written form; apply them to real world problems
   - 3.3 SCIENTIFIC LITERACY
     - Utilize data to communicate and apply an understanding of scientific logic and/or quantitative reasoning

4. METHODS OF INSTRUCTION
   - 4.1 Lecture style
   - 4.2 Visual aid instruction such as overheads, computer and graphing calculator demonstrations
   - 4.3 Collaborative learning techniques

5. LEARNING ACTIVITIES
   - 5.1 Solving problems and applications in the areas of social, business and life sciences
   - 5.2 Participation in classroom lectures
   - 5.3 Using computers and/or graphing calculators

6. EVALUATION
   - 6.1 Tests
   - 6.2 Quizzes
   - 6.3 Lab assignments
   - 6.4 Homework
   - 6.5 Final exam

7. STUDENT RESPONSIBILITIES
   - 7.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
   - 7.2 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
   - 7.3 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
   - 7.4 Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized "crib notes", plagiarism, stealing tests, or forging an instructor's signature—will be subject to the procedures and consequences outlined in AWC's Student Code of Conduct.
   - 7.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
   - 7.6 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for "No Show" reporting during the first 10 days of each semester.

     Students who have enrolled but have never attended class may be issued a "No Show" (NS) grade by the professor or instructor and receive a final grade of "NS" on their official academic record. An NS grade may result in a student losing their federal financial aid.

     For online classes, *student attendance in an online class is defined as the following* (FSA Handbook, 2012, 5-90):
     - Submitting an academic assignment
     - Taking an exam, an interactive tutorial or computer-assisted instruction
     - Attending a study group that is assigned by the school
     - Participating in an online discussion about academic matters
     - Initiating contact with a faculty member to ask a question about the academic subject studied in the course