ARIZONA WESTERN COLLEGE
SYLLABUS

MAT 220 CALCULUS I WITH ANALYTICAL GEOMETRY
Credit Hours: 5   Lec 4 Lab 2
SUN# MAT 2220

PREREQUISITE: MAT 150 and MAT 183 or MAT 151 and MAT 183 or MAT 187

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

COURSE DESCRIPTION
Introduction to analytic geometry and the differential and integral calculus of the elementary functions. Included is a study of limits, continuity, differentiation, applications of derivatives, anti-derivatives, integration, exponential, logarithmic, and trigonometric functions.

1. COURSE GOALS
   1.1   Achieve a high level of understanding in topics of differential and integral calculus.
   1.2   Be exposed to the ideas of logical and abstract thought processes.

2. OUTCOMES
   Upon satisfactory completion of this course, students will be able to:
   2.1   Describe, formulate, and apply the concepts of limit, derivative and integral from numerical, graphical, and analytical points of view.
   2.2   Apply logical and abstract thought processes in developing quantitative skills.
   2.3   Apply quantitative skills in solving applications in Mathematics, Science and Engineering fields.
   2.4   Use these basic understandings in the pursuit of higher Mathematics, Science and Engineering courses.

3. AWC GENERAL EDUCATION (GE) OUTCOMES
   3.1   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

   3.2   SCIENTIFIC LITERACY
   - Utilize data to communicate and apply an understanding of scientific logic and/or quantitative reasoning

4. METHODS OF INSTRUCTION
   4.1   Lecture
   4.2   Visual aid instruction such as overheads, computer and graphing calculator

        demonstrations
- 4.3   Cooperative learning techniques

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

6.   EVALUATION
- 6.1   Tests
- 6.2   Homework assignments, including appropriate projects
- 6.3   Lab assignments
- 6.4   Class participation
- 6.5   Final

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