ARIZONA WESTERN COLLEGE
SYLLABUS

AIM 103 Introduction to Machine Learning

Credit Hours: 3 Lec 2 Lab 2
PREREQUISITE: MAT 150 or MAT-151 or approved higher level math

COURSE DESCRIPTION
Course introduces machine learning models to classify information, perform data analysis and create data predictions. The machine learning models are created using a machine learning platform with an interactive user interface and no code. Students will learn modeling methodology to understand and prepare data, create machine learning models, evaluate results, and deploy models.

1. COURSE GOAL
Explain various machine learning models and how they can solve complex problems in multiple industries from medical diagnostics to text prediction.

2. OUTCOMES
Upon satisfactory completion of this course, students will be able to:

2.1 Demonstrate an understanding of the formulation of well-specified machine learning problems
2.2 Demonstrate an understanding of how to perform supervised and reinforcement learning, with images and temporal
      sequences.
2.3 Demonstrate an understanding of the fundamentals of building regression and classification models
2.4 Demonstrate an understanding of how to implement data science models on datasets, gaining proficiency in
      machine learning algorithms.
2.5 Demonstrate an understanding of Deep learning and Transfer Learning

3. METHODS OF INSTRUCTION
3.1 Lecture
3.2 Coding demonstrations
3.3 Problem-solving sessions

4. LEARNING ACTIVITIES
4.1 Lab exercises
4.2 Algorithm design assignments
4.3 Group challenges

5. EVALUATION
5.1 Quizzes/Exams
5.2 Lab assignments
5.3 Final project

6.   <u>STUDENT RESPONSIBILITIES</u>
    6.1   Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
    6.2   Classroom Assignments: Students are responsible for work missed and for completing all work before the next class meeting. Students are responsible for participating in all oral drills and for taking all exams.
    6.3   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 Students who are not attending as of the 45th day of the course may be withdrawn by the instructor.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.
    6.4   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.
    6.5   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.
    6.6   Textbooks and materials: Students are required to bring notebook or looseleaf book, pens, pencils, dictionaries, and purchase textbook required for class.
    6.7   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