

ARIZONA WESTERN COLLEGE

SYLLABUS

CNC 101 CNC MACHINE OPERATOR

Credit Hours: 3 Lec 2 Lab 3

PREREQUISITE: None

COURSE DESCRIPTION

Basic principles and operator skills associated with the operation of a CNC milling machine.

1. COURSE GOAL

Develop the knowledge and basic skills needed to use and operate a CNC milling machine.

2. OUTCOMES

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

- 2.1 Follow and apply safety principles related to use and operation of CNC milling and related machining equipment.
- 2.2 Read and interpret drawings associated with CNC milling and related machining equipment.
- 2.3 Take accurate measurements using a micrometer and or caliper to assess dimensional accuracy of parts production made with CNC milling and related machining equipment
- 2.4 Set up a CNC mill for part production.
- 2.5 Demonstrate ability to operate CNC mill to produce a part using a pre-set program.
- 2.6 Demonstrate ability to identify, change and replace machine tools and determine solutions for tooling wear or other issues related to accurate parts production and CNC equipment operation.

3. METHODS OF INSTRUCTION

- 3.1 Lecture
- 3.2 Discussions
- 3.3 Assignments
- 3.4 Lab

#### 4. LEARNING ACTIVITIES

- 4.1 Performance and practice of safe operations by machine operator and related safety equipment
- 4.2 Read and interpret drawings
- 4.4 Metrology for CNC milling machine set up, parts production measurement procedures and practices
- 4.5 Set up of CNC mill
- 4.6 Operation of CNC mill with pre-set program
- 4.7 Installation, removal, adjustment of machine tooling
- 4.8 Completion of Instructor selected project

#### 5. EVALUATION

- 5.1 Examinations
- 5.2 Projects

#### 6. STUDENT RESPONSIBILITIES

- 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 Students who are not attending as of the 45th day of the course may be withdrawn by the instructor.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 loose-leaf 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