

Southern Arkansas University Tech
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www.sautech.edu

Online Course Information Sheet

Course Number: MD-2523

Course Title: Automated Manufacturing - CNC

Course Description: Principles of computer numerical control, application, and programming concepts. Problem solving experience in programming, program preparation within the context of CNC machines.

Instructor Name: Faith Elliott

Instructor Bio: Graduated from SAU Tech in 1996 with an Associate of Arts Degree then graduated from SAU Magnolia in 1998 with a Bachelors of Science Degree. Obtained Masters Degree from U of A in 2005. I have been employed by Lockheed Martin for 9 years as a Senior Manufacturing Engineer

Prerequisite: None

Textbook Title: *CNC for Industry, Hans B. Kief, Modern Machine Shop, 2000.*

Learning Outcomes: Students will achieve a minimum 70% proficiency on the following course outcomes:

1. Students will become familiar with CNC machines and programming language
2. Students will understand the concepts of NC Machine Tools
3. Students will understand Flexible Automation as it pertains to CNC machines
4. Students will develop critical thinking and problem solving skills within the context of CNC

Outcomes – Objective/Measures:

1. Students will become familiar with CNC machines and programming languagea.
 - a. Students will demonstrate their mastery of this outcome on relevant short paper assignments or test questions.
2. Students will understand the concepts of NC Machine Tools
 - a. Understand the complexity of NC Machines.
 - b. Show they have acquired an understanding of NC machines
 - c. Identify multiple perspectives, assess problems, develop themes and solutions.

3. Students will understand Flexible Automation as it pertains to CNC machines
 - a. Demonstrate a familiarity with CNC Programming
 - b. Show they have acquired an understanding of CNC machines
 - c. Identify multiple perspectives, assess problems, develop themes and solutions

4. Students will develop critical thinking and problem solving skills within the context of CNC
 - a. They can distinguish between relevant and irrelevant information.
 - b. Review information in order to recognize problems.
 - c. Arrange information into coherent forms in order to facilitate analysis.
 - d. Draw appropriate conclusions and recognize viable solutions.

Teaching Methodology, including description of interaction between student and instructor:

Students will read textbook and other materials and do assignments through the online course. This is a semi-self-paced course. All course work and exams must be completed by posted deadlines. You should pay careful attention to the dates listed in the course calendar for suggested and required deadlines. **IMPORTANT:** Refer to the course calendar for coursework deadlines! Incomplete ("I") grades are not given in this course. The Course User Guide is an official part of the Course Syllabus.

Submitting Work: The completed assignments for each unit should be submitted to the instructor using the assignments tool located under the Assignments link on the homepage. Coursework will usually be graded within 24-48 hours.

Methods of Testing:

There will be four unit exams and nineteen quizzes. Each quiz may be taken twice. For complete exam information see the Exam link on the course homepage.

The Final Exam is required to be taken at an approved **Proctored** location. Failure to do so will result in a grade of "0" for this exam. Visit our website at www.sautech.edu for a list of approved sites or see Blackboard.

Enrollment Procedures:

Non-degree seeking students applying for admission to SAU Tech must submit an application for admission, appropriate placement test scores or, if applicable, official college transcript(s) with proof of Composition I and Intermediate Algebra (having earned a letter grade of "C" or better).

Full-time degree seeking students and part-time degree seeking students applying for financial aid applying for admission to SAU Tech must submit an application for admission, appropriate placement test scores, immunization record (if born after 01/01/1957), high school transcript or GED scores, and official college transcript(s), if applicable. (Note: Part-time students not applying for financial aid do not have to submit immunization record.)

Students are responsible for all tuition and fees at the time of registration. Students must officially drop by written notice or in person in order to reduce their balance owed. If students never attend class, he/she will still be assessed

partial tuition and full student processing fees, unless completely he/she completely withdraws during the 100% refund period.

In order for a student to drop a class, he/she must complete a drop form or send written request to his/her advisor. A \$10 add/drop fee is assessed for adds/drops that take place after classes start.

Special Enrollment Issues (specialized software or equipment, access to a particular network, or similar requirements):

Special Attendance Requirements (student contact with instructor, proctored examinations, etc.):

The final exam must be taken at an approved proctor site.

Access to Learning Resources:

Students will receive all required discussion materials through the Internet, links to texts, and the electronic mail with Blackboard. Students will be required to purchase the course textbook, if applicable, and Learning Resource Center access is encouraged but not required to be successful. Textbooks can be ordered online. The Bookstore number is (870) 574-4510. The Library number is (870) 574-4518.

Other Considerations (writing ability, assignments/projects, time considerations, etc.):

Students will need Internet access, Microsoft Word, Adobe Acrobat Reader, and the ability to send and receive e-mail attachments using the e-mail within Blackboard.