CAM 1110: Advanced Machine Operations
Credit Type – **Proficiency**

Course Description and Learning Outcomes:
https://www.sinclair.edu/course/params/subject/CAM/courseNo/1110/
Faculty Pathway Specialist(s) (Please include name, email and office hours**):**
David Griffith, david.griffith6042@sinclair.edu
Resources Needed to Offer Course (software, equipment, books [include ISBN and edition], etc. – please include any associated costs)**:**
NOTE: Prior approval of the Faculty Pathway Specialist is required before offering credit for this course! Only schools offering CAM 1109 and meeting all the requirements are even eligible to consider this course.   **Textbook:** Precision Machining Technology by Hoffman, Peter J.; Hopewell, Eric S. Edition: 3rd   **ISBN:** 9781337795302 **Format:** Hardcover **Publisher:** Cengage Learning Pub. Date: 1/4/2019   The Course syllabi and resources are available to all instructors in the CAM Community on eLearn online (contact your Pathway Manager for access). To earn proficiency credit for this course requires substantial lab time with surface grinders. The successful student must be able to provide proof that they can grind within plus or minus .0002" tolerance square and parallel. Machine lab must, like in the CAM 1109 course, consist of manual vertical mills, manual lathes, drill presses, precision surface grinders and all peripheral tooling and hand tools necessary to machine within the specified tolerances.   This course requires prior approval of the Faculty Pathway Specialist before any school can offer this course. This is due to the extensive amount of hours and tolerance required for Proficiency credit. Please contact the Faculty Pathway Specialist to set-up a time to discuss the student criteria and learning outcomes required.
How is the final grade for the course determined? (Please list all required assignments, assessments, etc.)
Course syllabi and resources available to all instructors in the CAM Community on eLearn (contact your Pathway Manager for access). A student must be able to grind square and parallel to within ±0.0002 and be able to show this ability along with a letter of support from their instructor. Students must earn an A or B grade to receive proficiency credit. No other course grades are acceptable.
Who is responsible for grading the required assignments and/or assessments? (faculty or instructor?)
Sinclair faculty will score student portfolio (see next section).
What is the grading scale for the course?
Grinding square and parallel -   ±0.0002 = A   ±0.0004 = B   All other machined dimensions must be in tolerance.   Only an A or B grade is available or reportable!   **Standard Sinclair grading scale required for course.** See the topic above.
Must students access the eLearn shell regularly to complete requirements?
No.
Does the course require access to YouTube, GoogleDrive, etc.?
N/A

Additional course details or requirements important for instructors not covered above:
The CAM 1110 Advanced Machine Operations class is now a part of the program that bridges the students from many CTC locations into Advanced Precision Machining Program 30 credit Hour certificate which will lead to the Precision Machining degree. This course requires that the student, in order to be proficient and to move on within the program, have enough precision machining background to demonstrate safe operation of all shop machinery, the ability to read and interpret blueprints, and to work with minimal supervision within the machine shop. The one requirement that must be met, with no exceptions, is that the student must be able to skillfully operate a surface grinder and produce a part that is square and parallel within plus/minus 0.0002". They also must present their portfolio along with evidence for the Sinclair faculty to grade proving their expertise. The only way a student may get to this point is by providing a written letter/email from their instructor stating that the student meets all of these requirements. Since the class that follows this coursework is a 4-hour precision machine lab where the students work with only minimal guidance, suggesting anyone for this proficiency credit that cannot demonstrate this high level of competency, would not only be unfair to that student, but could be dangerous.

Most common (or popular) degrees this course is in?
Computer Aided Manufacturing/Precision Machining (CAMPM.S.AAS)   Computer Aided Manufacturing/CNC Technology (CAMCT.S.AAS)   *This course may also apply to some of the certificate options in the CAM department.*