

OPT 1100 - Tooling and Machining  
Credit Type – Proficiency



<b>Course Description and Learning Outcomes:</b>
<a href="https://www.sinclair.edu/course/params/subject/OPT/courseNo/1100/">https://www.sinclair.edu/course/params/subject/OPT/courseNo/1100/</a>
<b>Faculty Pathway Specialist(s)</b> (Please include name, email and office hours):
Keith Bernheisel, <a href="mailto:keith.bernheisel@sinclair.edu">keith.bernheisel@sinclair.edu</a> 9am – 3pm M-Th or by appointment. David Griffith, <a href="mailto:david.griffith6042@sinclair.edu">david.griffith6042@sinclair.edu</a>
<b>Resources Needed to Offer Course</b> (software, equipment, books [include ISBN and edition], etc. – please include any associated costs):
Micrometers, dial and digital calipers, depth micrometers, combination squares, plate protractors, gage blocks, sine bars, height gages, indicators, drop gages, surface plate, and any other metrology tools desired. We furnish the textbook electronically in the eLearn shell (no cost). Anyone thinking about offering this course should talk with the Faculty Pathway Specialist first and then visit the Sinclair metrology lab to identify any items that might be needed or substituted. This course is dedicated to the ability to skillfully read and use measurement tools and gages. Introduction to CMM's, optical comparators and any other desired devices can be via videos, the web, written, or through a visit to a company that uses and/or sells the equipment.
<b>What is the ideal format for course delivery – in person, online or blended? To what extent could this course be offered online if necessary?</b>
Course can be taught partially online if desired, but success relies on face-to-face classroom and lab time. Due to the tactile nature of using measuring tools, Labs are required, but in many cases 6 one hour labs may suffice.
<b>How is the final grade for the course determined?</b> (Please list all required assignments, assessments, etc.)
There are 9 Unit quizzes, 6 graded labs (graded as a pass/fail but are entered as a point grade), a Mid-term Exam, and a Final Exam and Lab. Unit Quizzes = 45% Labs = 30% Mid-Term = 10% The combined Final Exam (60%) & Final Lab (40%) = 15%
<b>Who is responsible for grading the required assignments and/or assessments?</b> (faculty or instructor?)
The high school instructor is responsible for grading all assignments except online tests, which are automatically graded by eLearn.
<b>What is the grading scale for the course?</b>
Standard Sinclair grading scale required for course. 90-100 = A 89 – 80 = B 79 – 70 = C 69 – 60 = D 59 – 0 = F
<b>Must students access the eLearn shell regularly to complete requirements?</b>
Students are required to complete all content or specific assignments/assessments and submit them through eLearn to receive credit.
<b>Does the course require access to YouTube, GoogleDrive, etc.?</b>

Students will need the ability to view YouTube videos.

**Additional course details or requirements important for instructors not covered above:**

This course is probably best delivered face-to-face, but a blended format allowing them the ability to work online while also being led by their instructor through the online lessons is also possible, and a hands on lab works the best. There are a lot of options for this course and each instructor may make a request to vary away from some of curriculum, but it should be noted that it is important for the student to get as much of the Sinclair content as possible in order to continue on in any of the programs that contains this basic and fundamental course. **Please contact the Faculty Pathway Specialist with any questions or requests for variance before offering this course for credit.**

**Most common (or popular) degrees this course is in?**

Computer Aided Manufacturing Precision Machining AAS

Computer Aided Manufacturing CNC Technology AAS

Industrial Engineering Technology AAS

This course is used the most short and one-year certificates offered by both the CAM and IET departments.