

Minnesota Articulated College Credit (ACC) Agreement

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Agreement Name: Basic Lathe

Agreement Last Reviewed: Fall 2023

Next Review Date: Fall 2025

College Courses			
Class	Title	School	Credits
MACH 1430	Lathe Turning I	Minnesota West Community & Technical College	1.0 of 2.0
MACT 1831	Manual Lathe Operations	Ridgewater College	1.0 of 3.0
MTT 1120	CNC Turning Level I	South Central College	2.0 of 5.0

Curriculum Content Objectives

To receive credit, 100 % the following content objectives will be covered:

1. Demonstrate lathe safety
2. Identify lathe nomenclature
3. Demonstrate cleaning & lubrication of lathe
4. Identify different types of lathes
5. Identify cutting tool geometry
6. Hand-grind turning, threading and grooving tools
7. Identify headstock tooling
8. Mount headstock tooling
9. Identify tailstock tooling
10. Mount tailstock tooling
11. Perform center drilling
12. Perform drilling
13. Bore holes on lathe
14. Perform facing operations
15. Perform turning operations
16. Demonstrate ability to measure lathe work
17. Face shoulders to dimensions
18. Indicate parts in four jaw chuck
19. Use collet chucks
20. Use three jaw chucks
21. Indicate work off-center
22. Practice dial travel indicating/linear applications
23. Calculate lathe spindle speeds
24. Determine lathe feeds
25. Set lathe speeds and feeds
26. Calculate offset tailstock settings
27. Ream holes on lathe
28. Countersink holes

29. Perform power tapping
30. Machine screw threads
31. Chamfer diameters on lathe
32. Align tailstock
33. Use compound rest to cut angles
34. Adjust cross slide and compound dials to zero
35. Compensate for backlash
36. Demonstrate setup for turning between centers
37. Perform knurling

Assessments

Students must achieve no less than 80% or B for a final grade in the high school course to receive ACC.

ACC Concept

Through Articulated College Credit (ACC), specific college curriculum content goals and assessments are embedded in participating high school career and technical education (CTE) programs as specified in this agreement. Relevant knowledge, skills, and standards are taught by qualified CTE high school instructor(s) in one or more high school course. ACC is awarded if the student meets the college equivalency standards and later enrolls in the college(s) listed requiring the course in a specific program.