



COURSE OUTLINE: MAC109 - VERTICAL MILLING TEC

Prepared: Peter Corbett

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	MAC109: VERTICAL MILLING TECHNOLOGY
Program Number: Name	6345: GENERAL MACHINIST
Department:	MECHANICAL TECHNIQUES PS
Semesters/Terms:	22W, 22F, 23W
Course Description:	Upon successful completion the apprentice is able to: vertical mill surfaces, shapes, and forms, counter bore/spot face holes, and drill holes.
Total Credits:	4
Hours/Week:	8
Total Hours:	25
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	<p>EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience.</p> <p>EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication.</p> <p>EES 3 Execute mathematical operations accurately.</p> <p>EES 4 Apply a systematic approach to solve problems.</p> <p>EES 5 Use a variety of thinking skills to anticipate and solve problems.</p> <p>EES 6 Locate, select, organize, and document information using appropriate technology and information systems.</p> <p>EES 7 Analyze, evaluate, and apply relevant information from a variety of sources.</p> <p>EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others.</p> <p>EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals.</p> <p>EES 10 Manage the use of time and other resources to complete projects.</p> <p>EES 11 Take responsibility for ones own actions, decisions, and consequences.</p>
Course Evaluation:	<p>Passing Grade: 70%, B</p> <p>A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.</p>
Other Course Evaluation & Assessment Requirements:	<p>Other Course Evaluation Requirements: Smart watches, smart phones and similar devices are not allowed during tests or quizzes and must be removed.</p> <p>Grade</p>

In response to public health requirements pertaining to the COVID19 pandemic, course delivery and assessment traditionally delivered in-class, may occur remotely either in whole or in part in the 2021-2022 academic year.



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Definition Grade Point Equivalent

A+ 90 - 100% 4.00

A 80 - 89%

B 70 - 79% 3.00

C 60 - 69% 2.00

D 50 - 59% 1.00

F (Fail) 49% and below 0.00

CR (Credit) Credit for diploma requirements has been awarded.

S Satisfactory achievement in field /clinical placement or non-graded subject area.

U Unsatisfactory achievement in field/clinical placement or non-graded subject area.

X A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.

NR Grade not reported to Registrar's office.

W Student has withdrawn from the course without academic penalty.

Books and Required Resources:

Technology of Machine Tools by Steve F. Krar, Arthur R. Gill, Peter Smid, Robert J. Gerritsen
Publisher: McGraw Hill Edition: 8th
ISBN: 9781260565782

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
1.1 Demonstrate safe working procedures when setting up and operating vertical milling machines.	
Course Outcome 2	Learning Objectives for Course Outcome 2
1.2 Set up vertical milling machine controls, coolant requirements, and milling attachments. (2.5 hrs)	
Course Outcome 3	Learning Objectives for Course Outcome 3
1.3 Set up vertical milling workholding devices and accessories. (5 hrs)	
Course Outcome 4	Learning Objectives for Course Outcome 4
1.4 Demonstrate procedures for mounting vertical mill cutting tools and tool holders. (8 hrs)	
Course Outcome 5	Learning Objectives for Course Outcome 5
1.5 Develop a plan for vertical milling machine operations. (8 hrs)	
Course Outcome 6	Learning Objectives for Course Outcome 6
1.6 Perform vertical milling. (12 hrs)	
Course Outcome 7	Learning Objectives for Course Outcome 7

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	1.7 Perform routine maintenance. (0.5 hrs)	
Evaluation Process and Grading System:	Evaluation Type	Evaluation Weight
	Practical	65%
	Quizzes and tests	35%
Date:	January 6, 2022	
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.	

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