



COURSE OUTLINE: MAC103 - METALLURGY

Prepared: Peter Corbett

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	MAC103: METALLURGY
Program Number: Name	6345: GENERAL MACHINIST
Department:	MECHANICAL TECHNIQUES PS
Semesters/Terms:	22W, 22F, 23W
Course Description:	Describe characteristics of metals. Describe the manufacturing processes to produce steel and cast iron. Describe the physical and mechanical properties of steels and cast iron. Describe identification systems for steels and cast iron. Describe shapes and surface appearance of standard stock materials.
Total Credits:	1
Hours/Week:	3
Total Hours:	12
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:	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. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 70%, B

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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A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.

Other Course Evaluation & Assessment Requirements:

Other Course Evaluation Requirements: Smart watches, smart phones and similar devices are not allowed during tests or quizzes and must be removed.

Grade

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 Describe characteristics of metals. (2 hrs)	
Course Outcome 2	Learning Objectives for Course Outcome 2
1.2 Describe the manufacturing processes to produce steel and cast iron. (3 hrs)	
Course Outcome 3	Learning Objectives for Course Outcome 3
1.3 Describe the physical and mechanical properties of steels and cast iron. (3 hrs)	
Course Outcome 4	Learning Objectives for Course Outcome 4
1.4 Describe identification systems for steels and cast iron. (2 hrs)	
Course Outcome 5	Learning Objectives for Course Outcome 5
1.5 Describe shapes and surface appearance of	

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	standard stock materials. (2 hrs)				
Evaluation Process and Grading System:	<table border="1"> <thead> <tr> <th>Evaluation Type</th> <th>Evaluation Weight</th> </tr> </thead> <tbody> <tr> <td>Quizzes and tests</td> <td>100%</td> </tr> </tbody> </table>	Evaluation Type	Evaluation Weight	Quizzes and tests	100%
	Evaluation Type	Evaluation Weight			
Quizzes and tests	100%				
Date:	January 3, 2022				
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.				

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