North Central State College

MASTER SYLLABUS	2025-2026

A. Academic Division: Engineering Technology, Business & Criminal Justice Division

B. Discipline: Manufacturing

C. Course Number and Title: MFGT1110 – Manufacturing Processes

D. Assistant Dean: Brooke Miller, M.B.A.

E. Credit Hours: 3
Lecture: 2 hour
Laboratory: 2 hours

F. Prerequisites: None

G. Last Course/Curriculum Revision Date: Fall 2025 Origin date: 07/28/2011

H. Textbook(s) Title:

OPTIONAL BOOK – NOT REQUIRED
Shop Reference for Students and Apprentices

- Author: Edward G. Hoffman
- Year: 2001
- Edition: 2nd
- ISBN: 9780831130794

I. Workbook(s) and/or Lab Manual: Provided by Instructor

J. Course Description: This course offers an introduction to manufacturing methods and basic machine tool operation. Students will be provided the background needed to read and interpret technical drawings and proper use of a variety of inspection and measuring tools. Students will also develop and use shop documents such as job plans and blueprints. Diligent attention is given to safety in the modern manufacturing environment.

K. College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Demonstrate proficiency in safety regulations.*	Week one and throughout semester:
2. Demonstrate proficiency in interpreting industrial drawings and blueprints.	Lab projects and activities, guided notes in workbook, homework and Exams.
3. Demonstrate proficiency in the use of measuring instruments.*	Lab projects and activities, guided notes in workbook, homework and Exams.
4. Operate Machine Tools accurately and in accordance with OSHA safety regulations.	Lab projects and activities, guided notes in workbook, homework and Exams.
5. Demonstrate accurate layouts to print specifications, following OSHA chemical handling safety procedures.	Lab projects and activities, guided notes in workbook, homework and Exams.
6. Demonstrate application of math skills to lab and lecture assignments and apply empirical data to determine speeds and feeds to optimize production efficiencies.*	Lab projects and activities, guided notes in workbook, homework and Exams.
7. Demonstrate ability to locate information.	Lab projects and activities, guided notes in workbook, homework and Exams.
8. Distinguish between different manufacturing processes such as forgings, extrusions, castings, forming, and finishing.*	Lab projects and activities, guided notes in workbook, homework and Exams.
9. Demonstrate an understanding of the interrelationships between material properties and manufacturing processes.*	Lab projects and activities, guided notes in workbook, homework and Exams.
10. Distinguish between different fabrication processes such as welding, fasteners, and adhesives.*	Lab projects and activities, guided notes in workbook, homework and Exams.

*indicates a TAG outcome

M. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences. Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

Important information regarding College Procedures and Policies can be found on the syllabus supplement located at https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Engineering Technology, Business & Criminal Justice	**Discipline:**	Manufacturing
Course Coordinator:	Alex West		
Course Number:	MFGT-1110-900	**Course Title:**	Manufacturing Processes
Semester / Session:	Spring 2026	**Start / End Date:**	1/12/2026 thru 5/8/2026

Instructor Information

Name:	Fisher Kalb	**Credentials:**	BASMET
Phone Number:	419-755-5659	**E-Mail Address:**	fkalb@ncstatecollege.edu
Office Location:	Kehoe Center – Room 012	**Office Hours:**	Mondays: 12:30 P.M. to 4:30 P.M. and Wednesdays: 12:30 P.M. to 5:30 P.M.

I. Topical Timeline / Course Calendar (Subject to Change):

Weeks	Topics	Assignment	Due Date
1	Introduction General Safety	Week 1 Quiz	Week 2
2	Safety Symbols	Week 2 Quiz	Week 3
		PPE Lab	Week 3
3	Measuring Instruments	Week 3 Quiz	Week 4
		Measuring Tools Lab	Week 4
4	Material Properties	Week 4 Quiz	Week 5
		Material Properties Lab	Week 5
5	Casting	Week 5 Quiz	Week 6
		Casting Lab	Week 6
6	Molding	Week 6 Quiz	Week 7
		Molding Lab	Week 7
7	Forming	Week 7 Quiz	Week 8
		Forming Lab	Week 8
8	Midterm Exam	Midterm Exam	Week 8
9		SPRING BREAK	
10	Feeds and Speeds	Week 10 Quiz	Week 11
		Saw Speed Lab	Week 11
11	Machining	Week 11 Quiz	Week 12
		Hole Drilling Lab	Week 12
12	Joining	Week 12 Quiz	Week 13
		Bolt Measuring Lab	Week 13
13	Additive Manufacturing	Week 13 Quiz	Week 14
		Inventor Lab	Week 14
14	Blueprint Reading	Week 14 Quiz	Week 15
		Inventor Drawing Lab	Week 15
15	Geometric Dimensioning and Tolerancing	Week 15 Quiz	Week 16
		Inventor Tolerancing Lab	Week 16
16	Final Exam Review		
17	Final Exam	Final Exam	Week 17

II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Quizzes	13	10	20%
Labs	12	10	30%
Midterm Exam	1	100	25%
Final Exam	1	100	25%

1. **Introduction**
   a. Introduction to Manufacturing Processes

2. **General Safety**
   a. Describes general precautions to take in a work environment

3. **Safety Symbols**
   a. Describes safety symbols and their meanings

4. **Measuring Instruments**
   a. Describes the way to read several measuring tools

5. **Material Properties**
   a. Describes the properties of various materials

6. **Casting**
   a. Describes the types of casting processes

7. **Molding**
   a. Describes the types of molding processes

8. **Forming**
   a. Describes the types of forming processes

9. **Midterm Exam**
   a. Midterm Exam

10. **Feeds and Speeds**
    a. Describes the way to calculate feed rate and speed for various machines

11. **Machining**
    a. Describes the types of machining processes

12. **Joining**
    a. Describes the types of joining processes

13. **Additive Manufacturing**
    a. Describes the types of additive manufacturing processes

14. **Blueprint Reading**
    a. Describes the symbols and methods commonly found on blueprints

15. **Geometric Dimensioning and Tolerancing**
    a. Describes the symbols and methods associated with GD&T found on blueprints

16. **Final Exam Review**
    a. Review for the final exam

17. **Final Exam**
    a. Final exam

III. Examination Policy:

1. The reasons for which a student will be excused from taking an examination _____
   a. Hospitalization (with documented verification)
   b. Death in the immediate family (with documented verification)
   c. Personal illness or illness in immediate family - (doctor's excuse required).
2. A student who misses an examination for any reason is responsible for _____
   a. Contacting the instructor prior to the exam time
   b. Working with instructor on how and when the exam will be made-up.
3. No makeup opportunity will be given for absences of unscheduled quizzes.

IV. Class Attendance and Homework Make-Up Policy:

1. Class attendance is necessary to acquire the knowledge required to _____
   a. Complete weekly assignments

2. Students are responsible for _____
   a. All assignments issued

V. Classroom Expectations:

1. Show up to class on time.
2. Be respectful and attentive.
3. Be prepared for class.
4. Communicate with instructor via email, phone, or text if/when an issue arises.