



North Central State College

MASTER SYLLABUS

2025-2026

- A. Academic Division: Engineering Technology, Business & Criminal Justice Division
- B. Discipline: Mechanical Engineering Technology
- C. Course Number and Title: MECT2910 Mechanical Design Project
- D. Assistant Dean: Brooke Miller, M.B.A.
- E. Credit Hours: 1
Laboratory: 3 hours
- F. Prerequisites: MECT2905 or MECT 2440 (c)
- G. Last Course/Curriculum Revision Date: Fall 2025 Origin date: 07/28/2011
- H. Textbook(s) Title: None
- I. Workbook(s) and/or Lab Manual: None; Class Handouts will be distributed
- J. Course Description: This is a capstone course in the Associate Degree program; it brings together the course work and learning experiences from the mechanical engineering technology program. Students will participate in a mechanical design project to be completed following the procedures presented.
- K. College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	Project Proposal, Final Report Week 15. Communication Written VALUE Rubric
Communication – Speech	Oral Final Presentation. Communication – Speech VALUE Rubric
Intercultural Knowledge and Competence	
Critical Thinking	Project Proposal, Progress Report, Final Report Week 15. Critical Thinking VALUE Rubric
Information Literacy	Project Proposal, Final Report Week 15. Information Literacy VALUE Rubric
Quantitative Literacy	Project Proposal, Final Report Week 15. Quantitative Literacy VALUE Rubric

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. Utilize engineering software to develop a project design	Week 3 Project Proposal, Week 8 Progress Report, Final Report
2. Utilize engineering manuals to compile relevant data and formulae	Week 3 Project Proposal, Week 8 Progress Report, Final Report
3. Collaborate with team members in problem solving and design	Week 3 Project Proposal, Week 8 Progress Report, Final Report
4. Effectively communicate with team members, business partners, and during final presentation	Final Report and Presentation, Week 15

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:	Eng. Tech, Business & Crim. Jus. D	Discipline:	Mechanical Engineering Tech.
Course Coordinator:	Alex West		
Course Number:	MECT-2910 CN2	Course Title:	Design Project 2
Semester / Session:	Spring 2026	Start / End Date:	01/12/2026 thru 05/06/2026

Instructor Information

Name:	Alex West	Credentials:	B.S. Mechanical Engineering
Phone Number:		E-Mail Address:	awest@NCStateCollege.edu
Office Location:	003	Office Hours:	Thursday 12:30 ~ 1:30 & Friday by Appointment

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

Weeks	Topics	Assignment	Due Date
1	Introduction and Course Layout + CAD Modeling Foundations	3D Model Homework	Week 2
2	Reverse Engineering	3D modeling & Drawing HW	Week 3
3	Machining & Welding	Lab Assignment	Week 3
4	3D Printing Demo & Strengthening Lecture	3D Print and Challenge	Week 5
5	Use Model to Complete Challenge	Challenge	Week 5
6	Robot Programming Basics Introduce Final Project	Debug Code	Week 7
7	Program Robot	Make Robot Program In Lab	Week 7
8	Spring Break		Mar. 6
9	Final Project	Pick Final Project with Kickoff Presentation	Week 9
10	Weekly Project Team Meetings		Week 10
11	Weekly Project Team Meetings		Week 11
12	Weekly Project Team Meetings		Week 12
13	Weekly Project Team Meetings		Week 13
14	Weekly Project Team Meetings		Week 14
15	Weekly Project Team Meetings & Weekly Assignments Stop		Week 15 Week 15
16	Draft Final Report Due & Presentation Prep.		Week 17
17	Final Report & Presentation in Due		Week 18

II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
In Class Projects	3	20 ea	25
Homework Assignments	4	25 ea	25
Teamwork & Peer Evaluation	1	15	10
Final Presentation (Oral & Written)	1	100	40
Bonus	1		2

Course Number: _____
Semester / Session: _____

Course Title: _____
Start / End Date: _____

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. Upon return to class, see the instructor about making up examination.
 - b. No makeup times will be allowed unless you make prior arrangements with your instructor!
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. ensure the commitment to student success, attendance must be taken in all classes, regardless of modality, starting with the first day of the class. This is mandated by regulations established by the Department of Education and the Veterans Administration. Faculty are required to keep accurate records of attendance, and
 - b. Students are required to attend class and participate in their learning. Failure to attend class and/or participate in their learning may result in students being withdrawn from the class.
2. Students are responsible for _____
 - a. Students are expected to attend and participate in their classes; therefore, faculty must monitor student attendance and participation and incorporate these requirements into their course syllabi.
 - b. Student engagement is based on the "active pursuit" of learning which can be measured by class attendance, class participation (in class or online), taking required quizzes/examinations, and submission of work assignments or papers.
 - c. Unless otherwise noted, homework assignments are due one week from the date assigned. I will accept late work up to one week after the due date with a 10% deduction. There are no make-ups for missing in-class assignments.

V. Classroom Expectations:

As a NC State Student, be it online or hybrid, your conduct in this course is subject to the NC State Student Code of Conduct. (Links to an external site.) As a future professional in your field, you will be expected to conduct yourself as a professional in this course in ALL work and communications - be it assignments, discussion forums, Canvas Inbox, emails etc. This includes but is not limited to:

1. Being respectful of classmates' opinions, work and comments
Good test = Is this something I would/should say to a co-worker in person?
2. Being respectful in communications with the instructor
Good test = Is this something I would/should say to my boss in the workplace?
3. Being respectful
Good test = Is this a comment/joke that is at some other groups, ethnicity, political etc. expense? Note: Offensive "jokes", slurs or hate speech (Links to an external site.) will NOT be tolerated
4. Using Non-Profane, Appropriate Language
Good test = Is this language you would use in the workplace or in front of your grandmother?
5. Using proper. NON-"Text speak" Language to make Yourself Easily Understood
Good test = Could my older boss understand what I have written?
6. Failure to conduct yourself as a professional and meet standards above in this course will result in the following consequences in this course: