



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: MECT3950 Design Project III
- D. Assistant Dean: Brooke Miller, M.B.A.
- E. Credit Hours: 1
Lecture: 0 hours
Laboratory: 3 hours
- F. Prerequisites: None
- G. Last Course/Curriculum Revision Date: Fall 2025 Origin date: 09/26/2018
- H. Textbook(s) Title: None
- I. Workbook(s) and/or Lab Manual: None; Class handouts will be distributed
- J. Course Description: This advanced level design course builds on prior design experience. Students will participate in a mechanical design project as assigned.
- 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. 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: EBC **Discipline:** Mechanical Engineering Technology
Course Coordinator: _____
Course Number: MECT 3950-30 **Course Title:** Design Project III
Semester / Session: Spring 26 / Full Semester **Start / End Date:** 01/12/2026 – 05/08/2026

Instructor Information

Name: Mike Beebe **Credentials:** BS Mechanical Engineering
Phone Number: 419 755 4800 **E-Mail Address:** msbeebe@ncstatecollege.edu
Office Location: NA **Office Hours:** before class or by appointment

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

Weeks	Topics	Assignment	Due Date
1 (1-16)	Project Review, Intro, Create Teams, Syllabus review, Use CHATGPT and LEO AI will be discussed, Review Project 1 Robot Programing. Intro to AV vehicles	Read Project 1 overview, specs, Create Team and Develop Project Plan for Project 1 (Task list Gantt Chart)	1/23
2 (1-23)	Project 1 Work Intro to MIR AV	https://academy.mobile-industrial-robots.com/pathways/autonomous-navigation Complete online course at the address above. Complete MIR Lab #1	1/30
3 (1-30)	Continuing Project 1	Weekly Update #1 Complete MIR Lab #2	2/6
4 (2-6)	Continuing Project 1	Weekly Update #2 Complete MIR Lab #3	2-13
5 (2-13)	Project 1 testing using provided Map	Weekly Update #3	2-20
6 (2-20)	Review updates for LEO design Tool, developing Project 2	Complete Project Plan for Project 2 Quiz 1	2-27
7 (9-22)	Continuing Project 2 Review 3D printing	Use LEO AI design tool for new vehicle design using drive system from Project 1 Weekly Update #4	3-6
8 (3-6)	Continuing Project 2	Mid-term Report for Project 1	3-20
9 (3-13)	Spring Break (no Class)		
10 (3-20)	Continuing Project 2	Weekly Update #5 Quiz 2	3/27
11 (3-27)	Review final design decision and finalize drawings and begin planning build for Project 2	Weekly Update #6 Finalize design drawing and turn in	4-3
12 (4-3)	Build Project 2	Weekly Update #7	4-10

Course Number: _____
Semester / Session: _____

Course Title: _____
Start / End Date: _____

Weeks	Topics	Assignment	Due Date
13 (4-10)	Build Design	Weekly Update #8	4-17
14 (4-17)	Build Design	Weekly Update #9	4-24
15 (4-24)	Evaluation and testing of Project 2 Vehicle on New Course for Timing	Drawing of Project 2 vehicle and BOM	5-1
16 (5-1)	Review Final Report Requirements and Final Presentation	Create Final Report and final presentation	12/8
17 (5-8)	Turn in Final Report and give final Presentation		

II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Project Plans and Weekly Reports	11	23	25
Quizzes	2	50	10
Design Drawings/BOM	1	100	15
Oral Presentation	1	24	20
Mid Term and Final Reports	2	200	30

III. Examination Policy:

- The reasons for which a student will be excused from taking an examination _____
 - Hospitalization (with documented verification)
 - Death in the immediate family (with documented verification)
 - Personal illness or illness in immediate family - (doctor's excuse required).
- A student who misses an examination for any reason is responsible for _____
 - Upon return to class, see the instructor about making up examination.
 - No makeup times will be allowed unless you make prior arrangements with your instructor!
- No makeup opportunity will be given for absences of unscheduled quizzes.

IV. Class Attendance and Homework Make-Up Policy:

- Class attendance is necessary to acquire the knowledge required to _____
 - 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
 - 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.
- Students are responsible for _____
 - 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.
 - 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.

Course Number: _____
Semester / Session: _____

Course Title: _____
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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 of diversity
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:
 - ☐ 1st Instance = Written warning from the instructor documenting issue (No points deductions)
 - ☐ 2nd offense = Mandatory meeting with the instructor and or Department Chair or Division Dean (Related assignment/Participation subject to Point Deductions)

3rd offense: College Disciplinary procedures filed with the NC State Judicial Committee as a violation of the Student Code of Conduct.
(Course Grade subject to F)

Extreme or repeated unprofessional behavior will result in initiating college disciplinary procedures as outlined in the NC State Student Code of Conduct. (Links to an external site.) NCSC Disciplinary hearings can result in a variety of consequences, including and up to suspension or being expelled from the college.

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