North Central State College

MASTER SYLLABUS	2025-2026

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

B. Discipline: Engineering Technology

C. Course Number and Title: ENGR1010 Introduction to Engineering

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

E. Credit Hours: 2
Lecture: 1 hour
Laboratory: 2 hours

F. Prerequisites: None

G. Last Course/Curriculum Revision Date: Fall 2025 Origin date: 05/11/2011

H. Textbook(s) Title: None

I. Workbook(s) and/or Lab Manual: None

J. Course Description: This is an introductory course for engineering technology students. Students will develop a deeper understanding and appreciation of engineering, the problems engineers encounter and the contributions made by engineers from various disciplines. The ethics and responsibilities of the engineer will be discussed. Lab experience includes the following PC applications: operating systems and hardware, word processors, spreadsheets, and engineering graphing. An introduction to computer programming is included with emphasis placed on using a PC to solve engineering problems and produce results.

K. College-Wide Learning Outcomes

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	PowerPoint Presentation Lab Speech – Second Half of Term
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

North Central State College

SYLLABUS ADDENDUM

Academic Division:	Engineering Technology, Business & Criminal Justice	**Discipline:**	Engineering Technology
Course Coordinator:	Mike Beebe		
Course Number:	ENGR1010	**Course Title:**	Introduction to Engineering
Semester / Session:	Fall 2025 / Session A/B	**Start / End Date:**	8/11/2025 – 12/12/2025

Instructor Information

Name:	Jonathan DeWitt	**Phone Number:**	419-755-4776
		E-Mail Address:	jdewitt@ncstatecollege.edu
Office Location:	007 AT (Kehoe)	**Office Hours:**	Monday 2:30 PM - 4:30 PM Wednesday 2:30 PM - 4:30 PM

I. Topical Timeline (Subject to Change):

Week	Topic	Assessment
	(Note all lab documents and homework assignment materials are posted on Blackboard)	
1	Identify hardware of a typical PC. 1. Block Diagram 2. Hardware identification a. Motherboard b. Power supply c. Drives d. Memory e. Ports (USB/Serial/Parallel) f. Video g. Sound 3. Microprocessor fetch/execute cycle 4. Disks and using software	Assignments and Quiz: Go through the week 1 material in Canvas. Watch the videos given in the links and read the articles directed. Assignments Due: 1) Assignment Example 2) Your First Assignment Go through Lesson 1 and Using the Internet 3) Quiz 1 – Start Here Module Quiz 4) PC Questionnaire Quiz 5) Tell Us About Yourself

Week	Topic	Assessment
2	Windows, current version(s) 1. Environment & Icons 2. Desktop 3. Explorer 4. Multiple Apps 5. Properties 6. Clipboard 7. Folders 8. Creating folders 9. Renaming files 10. Copy/Cut/Paste Academic use of the internet for research Word Processor 1. Environment & a document 2. Page Setup 3. Fonts and size, super and subscripts 4. Inserting a drawing 5. Printing options 6. Importing files	Windows Lab: Demonstrate proficiency in using Windows Explore and file management. Internet Lab: Demonstrates proficiency in using and internet browser. Lab: Creating a project in Python and outputting to the console. WWW Search lab: Demonstrate internet research proficiency using search engines and megasearch engines. Word processing lab: Using supplied research paper demonstrate proficiency in format documents, using an equation editor, inserting images and inserting spreadsheet data into a document. Homework: 1. View video on Using the Internet and answer questions. 2. Read the tutorials on word processors and equation editors.
3	Word Processing	Lab: Word Processing Lab 1 Lab: Using variables in Python
4	Spreadsheet & Charts (Graphs) 1. Cells, rows, columns 2. Text vs. data 3. Formulas & Functions 4. Filters 5. Chart Types & Creation 6. Chart Labels & Titles	Lab: Measurement, data collection and data organization lab. Lab: Hybrid/Diesel Comparison.
5	Continue spreadsheet development.	Lab: Residential Electrical Load Calculations
6	Bill of Materials	Lab: Deconstruct, investigate, analyze and create a bill of materials of a typical manufactured object. Lab: String variables and string functions in Python
7	PowerPoint	Lab: PowerPoint Lab 1 Lab: PowerPoint Lab 2
8	Midterm Exam	
9	With at least 2 student peers, develop a practical Engineering Preventative Management Solution to a historical Engineering Disaster.	Project 1 with written report In class presentation of Week 7 PowerPoint presentation (PowerPoint Lab 2)

Week	Topic	Assessment
10	Research, present and discuss a variety of disciplinary and career options and areas within engineering.	Project with written report and presentation. Research various engineering fields, determine what areas of scientific discipline are required for each field, what degrees and /or certifications may be required, 2-3 prominent engineers or scientists in each field, and salary ranges for each field and attained degree. Lab: Math operation and working with numbers in Python
11	Analyze and discuss ethics in engineering practices using several scenarios involving an engineer faced with ethical choices.	Project with written report and presentation. Choose 2 of several engineering ethics case studies given to the student, analyze the case, discuss various viewpoints, state your course of action and defend it ethically. Homework: research engineering ethics on the ASME and IEEE websites. On the ASME site do "Ethics for Students" and submit the worksheet. Read the IEEE Code of Ethics and the CS/ACM code of Ethics.
12	Analyze and discuss ethics in engineering practices using several scenarios involving an engineer faced with ethical choices.	In class Ethics Roundtables discussion Lab: Obtaining live user input in Python
13	Focus on Programming in Python Environment	Lab: Lists and List Functions in Python Lab: Tuples and User Defined Functions in Python
14	Focus on Programming in Python Environment	Lab: Focus on if-else statement and AND/OR conditional logic in Python Lab: Focus on while loops and for loops in Python
15	Programming Projects	Project: Celsius to Fahrenheit conversions in Python Project: Fahrenheit to Celsius conversions in Python Project: Volume of a Cylinder in Python
16	Final Exam	

II. Course Assignments:

1. Videos
2. On-line reading assignments
3. Handouts
4. Laboratory exercises

III. Grading and Testing Guidelines:

Online and in-class quizzes	30%
Assignments	30%
Midterm Exam	20%

Final Exam	20%
Total	100%

IV. Examination Policy:

Both the Midterm and Final exam must be taken in class during weeks 7 and 15. No makeup times will be allowed ***unless you make prior arrangements with your instructor!***

If you miss the Midterm exam your Final exam score will be counted as worth 40% of your grade instead of 20%.

V. Class Attendance and Homework Make-Up Policy:

This is a 2 Credit hour course. You should plan 4-5 hours (or more) per week ***working outside of the classroom*** on homework and lab assignments

VI. Classroom Expectations:

Everyone is expected to be courteous to fellow students and their instructors while in the classroom. Disruptive behavior cannot be tolerated for the sake of all students. Your instructor determines what is disruptive behavior. Attendance is mandatory the first day of the course, for orientation and reporting reasons. Students not attending the first day of the class will be automatically dropped from the class.

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. Use the computer as a tool to help solve engineering related problems.	Labs, Projects, and Quizzes – Throughout the entire term Midterm, Final
2. Function on a team in an academic environment.	Project with written report and presentation
3. Analyze and discuss ethics in engineering practices using several scenarios involving an engineer faced with ethical choices.	In class participation and discussion. Written conclusion.
4. Write a simple program with inputs, calculations, decisions, and outputs in a modern programming language chosen by the course coordinator.	Labs and Quizzes – Throughout the entire term Final Exam.
5. Demonstrate hands-on skills related to applications of engineering.	Projects and Lab throughout the term.
6. Understand and solve open-ended problems related to engineering.	Final Projects and Labs throughout the term.

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