



North Central State College
MASTER SYLLABUS
2019-2020

- A. Academic Division: Business, Industry and Technology
- B. Discipline: Mechanical Engineering
- C. Course Number and Title: MECT1150 Fundamentals of Engineering Design
- D. Course Coordinator: Chris Barker
Assistant Dean: Toni Johnson, PhD

Instructor Information:

- Name: Click here to enter text.
- Office Location: Click here to enter text.
- Office Hours: Click here to enter text.
- Phone Number: Click here to enter text.
- E-Mail Address: Click here to enter text.

- E. Credit Hours: 2
Lecture: 1 hours
Laboratory: 3 hours
- F. Prerequisites: None
- G. Syllabus Effective Date: Fall, 2019
- H. Textbook(s) Title:

Autodesk Inventor 2017 and Engineering Graphics: An Integrated Approach

- Author: Randy H. Shih
- Copyright Year: 2016
- Edition: 1st
- ISBN #: 9781630570446

- I. Workbook(s) and/or Lab Manual: None; Class Handouts will be distributed
- J. Course Description: An introductory course to acquaint the student with the tools used to convey design concepts and product information in the engineering arena. 3D visualization, using sketching, drawing, solid modeling and computer aided drafting will be used. The course will also introduce the main concepts in developing an engineering design project.
- 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. Make orthographic sketches from isometric drawings of simple machined objects.	Drawing assignments & exams Week 5, midterm exam
2. Create multi-view drawings of simple machined objects..	Drawing assignments & exams Week 7, midterm exam
3. Successfully use Architect and Engineering Scales	Drawing assignments & exams Week 2, midterm exam
4. Display knowledge of standard engineering symbols and lettering, numbering and dimensioning, including Bills of Materials.	Drawing assignments, Week 9 Final project
5. Identify and apply standard engineering symbols (GDT)	Drawing assignments, Week 9
6. Use 3D modeling software to develop 3D models and assemblies of standard machined parts based on dimensions taken from standard isometric or orthographic drawings.	Drawing assignments & exams Weekly, midterm and final exam
7. Create properly dimensioned orthographic drawings from 3D models using 3D software.	Computer assignments & exams Weekly, midterm and final exam
8. Draw, dimension and print basic machined parts.	Computer assignments & exams Week 4, midterm and final exam
9. Describe and discuss the role of engineers in industry.	Written assignment Week 10
10. Describe the general design process used in engineering projects.	Written assignment Week 12

M. Topical Timeline (Subject to Change):

- Unit 1. Drafting and Lettering Introduction
- Unit 2. Drafting Instruments and Measurements
- Unit 3. Parametric Modeling using Inventor Software
 - a. Part Development
 - b. Orthographic Creation
 - c. Assemblies
- Unit 4. Multi-view Sketching
- Unit 5. Orthographic Drawing
- Unit 6. Auxiliary Views in Orthographic Drawings
- Unit 7. Sections
- Unit 8. Dimensioning, symbols and Bill of Materials
- Unit 9. 2D Drawings using CAD (Introduction)
- Unit 10. Engineering as a Profession
- Unit 11. The Engineering Design Process

N. Course Assignments:

Graded assignments:

- Written assignments
- Drawing exercises
- Solid Modeling exercises
- Midterm
- Final Exam

O. 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

P. Grading and Testing Guidelines:

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Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

Click here to enter text.

S. Classroom Expectations:

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T. College Procedures/Policies:

Important information regarding College Procedures and Policies can be found on the [syllabus supplement](#) located at <https://sharept.ncstatecollege.edu/committees/1/curriculum/SiteAssets/SitePages/Home/SYLLABUS%20SUPPLEMENT.pdf>

The information can also be found Choose an item.