

Administrative Master Syllabus

Course Information

Course Title	Machine Design
Course Prefix, Num. and Title	DFTG2406: Machine Design
Division	Technology and Business
Department	Engineering Design
Course Type	WECM Course
Course Catalog Description	Theory and practice of design. Projects in problem-solving, including press fit, bolted and welded joints, and transmission components. Additionally, production of detail and assembly drawings of machines and threads utilizing tolerances, limit dimensioning and surface finishes.
Pre-Requisites	DFTG2319 and MATH1316
Co-Requisites	None

Semester Credit Hours

Total Semester Credit Hours (SCH): Lecture Hours:	4:3:3
Lab/Other Hours	
Equated Pay Hours	4.5
Lab/Other Hours Breakdown: Lab Hours	3
Lab/Other Hours Breakdown: Clinical Hours	0
Lab/Other Hours Breakdown: Practicum Hours	0
Other Hours Breakdown	0

Approval Signatures

Title	Signature	Date
Division Chair:	David Kucera, Technology & Business Division Chair	08-01-2023

Additional Course Information

Topical Outline: Each offering of this course must include the following topics (be sure to include information regarding lab, practicum, and clinical or other non-lecture instruction).

Pictorial Drawings
Tolerancing
Actual Object Drawing
Use of Measuring Devices
Data Calculations, manual & computer
Design Process
Bills of Material
Foundry Pattern Drawing
Drawing Reproduction
Weld Symbols

Course Learning Outcomes:

Learning Outcomes – Upon successful completion of this course, students will:

Utilize the steps used in the design process, terminology, mechanical processes to produce drawings.
Interpret terms used in tolerancing;
Calculate dimensions of mating parts using interference and clearance fits;
Identify thread forms and interpret thread notes;
Use calipers and micrometers for precision measurement;
Interpret and draw weld symbols

Methods of Assessment:

Daily Drawings/Lab Work/Daily Quizzes
Four to Five Major Exams or Drawings
Dimension Post-Test
Research Paper
Final Project
(All drawings evaluated in terms of accuracy of drawing views, use of line types, line quality, dimensioning accuracy and placement and drawing organization.)

Required text(s), optional text(s) and/or materials to be supplied by the student:

Required: Technical Drawing by Frederick Giesecke et al
Optional: Latest version of AutoCAD textbook from DFTG2319.
A flash drive is required for archiving data files
Notebook to store notes and drawings.

Suggested Course Maximum:

20



List any specific or physical requirements beyond a typical classroom required to teach the course.

Computer workstations, plotters/printers (to print large 36" by 24" drawings), data projection system and appropriate software

Calipers and Micrometers and other measuring devices

Course Requirements/Grading System: Describe any course specific requirements such as research papers or reading assignments and the generalized grading format for the course.

- Daily Drawings/Lab Work/Daily Quizzes.....20%
- Four to Five Major Exams or Drawings30%
- Dimension Post-Test10%
- Research Paper10%
- Final Project30%

Based on the above breakdown, grades will be awarded as prescribed by Wharton County Junior College Standards

- 90 – 100 = A
- 80 – 89 = B
- 70 – 79 = C
- 60 – 69 = D
- Below 60 = F

Note: A letter grade of "C" or above average must be achieved in all degree specific classes to attain graduation.

Curriculum Checklist:

- Administrative General Education Course** (from ACGM, but not in WCJC Core) – No additional documents needed.
- Administrative WCJC Core Course.** Attach the Core Curriculum Review Forms
 - Critical Thinking
 - Communication
 - Empirical & Quantitative Skills
 - Teamwork
 - Social Responsibility
 - Personal Responsibility
- WECM Course** -If needed, revise the Program SCANS Matrix and Competencies Checklist