

 HCC Houston Community College	Drafting & Design Engineering Technology	Northeast College
<p style="text-align: center;">Spring 2018</p> <p style="text-align: center;">CRN #: 62747</p>	<p style="text-align: center;">Syllabus</p>	<p style="text-align: center;">DFTG-1333 Mechanical Drafting</p>
Semester Credit Hours (SCH): 96 Credit Hours: 3 Format: Lecture: 1/3 Lab and/or Web: 2/3 Weekly: 6 hrs. (include Web Enhanced class) (8 hrs. for 2 ND Start term, 9.6 hrs. for Summer term) For Web-enhanced (WE) class, please see your instructor	Professor/Instructor: Patsy Morehead-Potts Room 115 Phone number: 713-636-6400 * 007213 Email: patsy.moreheadpotts@hccs.edu Office: Kashmere High School	Class Meeting Times Mon: 8:00 – 9:45 Tue & Thru: 8:00 – 9:40 Wed & Fri: 8:00 – 9:40

11-0830

PREREQUISITE: DFTG 1305

COURSE DESCRIPTION: An intermediate course covering detail drawings with proper dimensioning and tolerances, use of sectioning techniques, common fasteners, isometric and oblique drawings, including bill of materials.

TEXTBOOKS: **“Technical Drawing” by Frederick E. Giesecke, [required]**
published by Prentice Hall, Perason Education Inc.
Check with your instructor for the latest Edition.

COURSE MATERIALS: Same as DFTG 1305 Technical Drafting. However, students are allowed to submit their assignments by a CAD software.

COURSE OBJECTIVE:

This course is designed to be a continuation of DFTG 1305 Technical Drafting, and to prepare the student for entry into any one of the (4) specialization areas within the AAS degree curriculum.

KNOWLEDGE:

- a. Identify the various lines used on an engineering drawing
- b. Define common geometric shapes
- c. Application of the basic rules of dimensioning for part manufacture

SKILLS:

- a. Produce free-hand sketches
- b. Create views of an object using orthographic projection
- c. Create isometric drawings with dimensions from given orthographic views
- d. Draw and dimension moderate mechanical parts from given isometric views
- e. Draw isometric, oblique and perspective views of objects
- f. Draw sectional views of an object
- g. Create intersection and development drawings
- h. Draw auxiliary views and revolutions of inclined surfaces

ATTITUDES/BEHAVIORS:

- a. work as a team member.
- b. show respect for others

COURSE WORK

The course will consist of Study Guide and textbook reading assignments, lectures, class exercises, and drafting lab assignments. *The student is expected to read and study the text before the lecture on the unit.* Study Guide units will be assigned either as homework or class work, at the instructor's option. (Refer to the "Course Outline & Assignment" document for scheduled weekly activities - Refer to the "Drafting Equipment & Supplies" list for drafting equipment requirements.) The student should bring the Study Guide, textbook, and drafting instruments every day, unless otherwise instructed.

SCANS SKILLS: The Department of Labor has identified skill sets that U.S. employers want most in entry level employees. It is our commitment to prepare every student with the knowledge and skills needed to succeed in today's dynamic environment. Toward this end the following skills will be included in this course:

- Decision making: specifies goals and constraints, generates alternatives, considers risks and chooses best alternative.
- Organize/maintain information: Organizes, processes, and maintains written or computerized records and other forms of information in a systematic fashion.
- Arithmetic: performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical solutions, makes reasonable estimates of arithmetic results without a calculator and uses tables, graphs, diagrams, and charts to obtain and convey quantitative information.

The student will be presented problems in which they must establish their objective and organize and maintain appropriate documentation and dimensioned drawing details in achieving that objective.

COURSE EVALUATION PROCEDURE: The student will be evaluated and receive a final grade based upon the following criteria:

- Laboratory work consisting of assigned technical drawing problems.
- A minimum of 2 tests: (a mid-term and a final examination): *NOTE: - Individual instructors may schedule more tests if desired*
- Class and laboratory attendance, active participation in class, professional attitude and growth in terms of technical skill development and teamwork within the laboratory environment shall be taken into consideration.

GRADING PROCEDURE:

A = 90-100	B = 80-89
C = 70-79	D = 60-69
F = 59 and below.	I = Incomplete (*)
(*) Fail to submit Final project or not show up at the Final Exam.	

The drawing portion of the above evaluation criteria shall be based on the layout, dimensional accuracy, neatness, and timely completion.

LATE ASSIGNMENT POLICY: Students are encouraged to turn assignments in on time if at all possible. This allows the instructor to grade the work, return it to the student and the student use the feedback as a learning tool.

MAKE-UP TEST/PROJECT POLICY: The student must request a make-up test and it should be scheduled at the earliest possible date following the quiz (or mid-term) missed. NO make-up test is given for the final examination.

EXTRA CREDIT: Extra credit work is offered only to assist students that have a grade range of "D" or "F" at the mid-term break. This work cannot be substituted for regular assignments and can only raise the final grade to a maximum of a "C".

STUDENTS WITH DISABILITIES

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc) who needs to arrange reasonable accommodations for the classroom and/or testing must contact the appropriate HCC Disability Support Service (DSS) Counselor at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support Services Office.

Students who are requesting classroom and/or testing accommodations must first contact the DSS office for assistance prior to the beginning of each semester: Disability Support Services Offices: Northwest: 713.718.5422

CLASS ATTENDANCE: You are expected to attend all lecture classes and labs. You are also responsible for all materials covered in either lecture or lab. In the case of your absence, you must contact the instructor to obtain make-up assignments or arrange make-up testing, either of which can be distributed at the instructor's discretion. Class attendance is checked daily.

The instructor has the authority to drop you from the class for excessive absence. You may be dropped from the class and get an F grade if you are absent more than 12.5% of the instruction hours (lecture and lab). For example: A 12.5% of 96-hour course, meeting twice per week for 3 hours per class meeting equals 12 hours. If you are absent more than 4 class meetings, you may drop.

WITHDRAWAL - It is your responsibility to withdraw from the class if you cannot complete it. Failure to do so will result in an F grade. Check calendar for the official last day to withdraw.

Note: Although it is your responsibility to officially withdraw from a class, please discuss with your instructor first.

Consistent class attendance is very important. However, if you have to miss a class for a valid reason, your instructor may be able to help you catch up with the class. Please let your instructor know as soon as possible if you have to miss a class. Valid reason is decided on a case by case basis.

Departments and programs governed by accreditation or certification standards may have different attendance policies.

RELIGIOUS HOLIDAYS: If you observe a religious holiday and miss class, you must notify your instructor in writing two weeks in advance to arrange to take a test or make up an assignment. A religious holiday is "a holy day observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code."

SCHOLASTIC DISHONESTY: Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. College System Officials may initiate penalties and/or disciplinary proceedings against a student accused of scholastic dishonesty.

- "Scholastic dishonesty" includes, but is not limited to, cheating on a test, plagiarism, and collusion.
- "Cheating" on a test includes:
 - Copying from another student's test paper;
 - Using materials during a test that are not authorized by the person giving the test;
 - Collaborating with another student during a test without authority;
 - Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test;
 - Bribing another person to obtain a test that is administered.
- "Plagiarism" means the misuse of another's work and the deliberate incorporation of that work into work you offer for credit.
- "Collusion" means the unauthorized collaboration with another person in preparing work offered for credit.

Determination of scholastic dishonesty will be at the discretion of the instructor.

Reference the following web link for additional information: <http://www.hccs.com>

“Notice: Students who repeat a course three or more times may soon face significant tuition/fee increases at HCC and other Texas public colleges and universities. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test-taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.”

EGLS₃ -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

Message from the instructor:

“Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Student for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess.”

COURSE CONTENT – DFTG 1333

The course material is divided into (12) units. The objectives, order of presentation and source of reference for each unit shall be as follows:

Unit 1: Oblique Projection (Chapter 18 Textbook)

At the end of this unit the student will be able to:

1. Describe how an oblique projection is created
2. List the advantages of oblique drawings
3. Create and dimension an oblique drawing of a machine part.

Unit 2: Multiview Projection & Dimensioning (Chapters 7 & 12 in Textbook)

At the end of this unit the student will be able to:

1. Draw and dimension a moderately complex machine part from a given isometric view.

Unit 3: Isometric Drawing & Dimensioning (Chapter 17 in Textbook)

At the end of this unit the student will be able to:

1. Draw an isometric view and dimension a moderately complex Machine part from a given orthographic view.

Unit 4: Auxiliary Views & Dimensioning (Chapter 9 in Textbook)

At the end of this unit the student will be able to:

1. Draw and dimension a moderately complex machine part from a given isometric view.

Unit 5: Sectional Views & Dimensioning (Chapter 8 in Textbook)

At the end of this unit the student will be able to:

1. Draw and dimension a moderately complex machine part utilizing various sectional techniques.

Unit 6: Perspective Drawing (Chapter 19 in Textbook)

At the end of this unit the student will be able to create a one-point and two-point perspective drawing.

Unit 7: Intersections and Developments (Chapter 20 in Textbook)

At the end of this unit the student will be able to:

1. Construct the development of prisms, cylinders and cones.
2. Graphically solve for the intersection of solids.

Unit 8: Design & Working Drawings (Chapter 15 in Textbook)

At the end of this unit the student should be able to:

1. Create necessary views of machine parts with proper notation.
2. Create an assembly drawing with a bill of material list.

Unit 9: Fasteners and springs (Chapter 14 in Textbook)

At the end of this unit the student should be able to:

1. Define and label the parts of a screw thread.
2. Define typical thread specifications
3. Draw detailed, schematic, and simplified threads in section and elevation

Unit 10: Introduction to Pipe Drawing (Chapter 25 in Textbook)

At the end of this unit the student will be able to:

1. Understand the basic principles of pipe drafting.
2. Identify the various symbols and standards used in the industry
3. Create a simple isometric schematic of a piping system.
4. Create a fully dimensioned architectural drawing (floor plan).

Unit 11: Map Drafting (Chapter 24 in Textbook)

At the end of this unit the student will be able to:

1. Read and draw a plat, topographic contour map, street contour map, and highway plan and profile
2. Read the elevation of a tract of land using contour line. Identify the scale and compass orientation of a topographic
3. Read and notate property boundaries on a land survey map.
4. Create a profile map from a set of contour lines.

Unit 12: Structural Drawing (Chapter 23 in Textbook)

the end of this unit the student should be able to:

1. Identify, draw, and label various structural steel shapes.
2. Identify welding symbols used in steel fabrication of structural components
3. Create a structural truss or floor plan drawing.