HOUSTON COMMUNITY COLLEGE

Drafting and Design Engineering Technology Department

https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/drafting--design-engineering-technology/

DFTG 1305: Technical Drafting | CRN | #19580 | Spring 2020
Hybrid Class | 16 Weeks (01.21-05.12-2020)
West Loop Campus | Room: C143 | Tuesdays 6:00pm-8:50pm
6 Credit Hours | 96 hours per semester - 3 hours in-class, 3 hours online

Instructor Contact Information

Instructor: **Francis Ha,** BS, MA Office Phone: 713-718-5544
Office Hour: Tues/Thurs 11:00am-2:00pm - Location: Spring Branch Campus AD3
Tues 5:30pm-6:00pm; 8:50pm-9:30pm - Location: West Loop Campus C143
Please email in advance to setup appointments – Email: **francis.ha@hccs.edu**

Please feel free to contact me concerning any problems that you are experiencing in this course. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics.

Instructor's Preferred Method of Contact

I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

What's Exciting About This Course

This course is designed to provide the *beginning* drafting student with fundamental *manual* drafting skills. It covers an introduction to the principles of drafting to include terminology and fundamentals, including sizes and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and dimensioning.

My Personal Welcome

Welcome to Technical Drafting — I'm delighted that you have chosen this course. Please feel free to contact me concerning any problems that you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for my assistance. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics. See me either before or after class as I may not have an office at this campus.

Prerequisites and/or Co-Requisites

This class does not require any prerequisite. However, it is strongly recommended that you should take DFTG-1309 Basic AutoCAD at the same semester. You can also enroll DFTG-1310

MicroStation as well. Please carefully read and consider the repeater policy in the Student Handbook https://www.hccs.edu/resources-for/current-students/student-handbook/

Eagle Online Canvas Learning Management System

This section of DFTG-1305 will use Eagle Online Canvas (https://eagleonline.hccs.edu) to supplement in-class assignments, exams, and activities. **HCC has officially defined hybrid to be a course that is taught half the time (3.0 hours or 50% of time) in a traditional face-to-face classroom environment and the remaining 3.0 hours or 50% of time online.** HCCS Open Lab locations may be used to access the Internet and Eagle Online Canvas. It is recommended that you **USE FIREFOX OR CHROME AS YOUR BROWSER**. *(Schedule for coming open lab will be announce once it is available)*

HCC Online Information and Policies

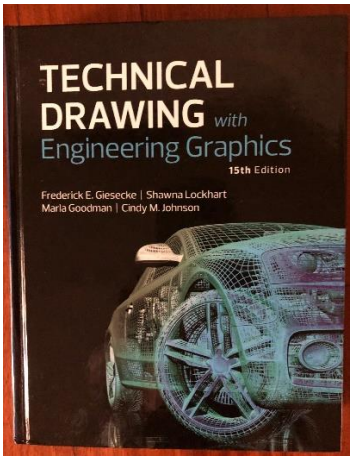
Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: http://www.hccs.edu/online/

Scoring Rubrics, Sample Assignments, etc.

Look in Eagle Online Canvas or Instructor Learning Web for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. https://eagleonline.hccs.edu/login/ldap

INSTRUCTIONAL MATERIALS

Textbook Information



The textbook listed here is *required* for this course.
"Technical Drawing with Engineering Graphics"
(15th edition or newer)
Author: Frederik E. Giesecke and his group.
Publisher: Prentice Hall, Pearson Education Inc.
ISBN-13: 978-0-13-430641-4

It is included in a package that contains the text as well as an access code and are found at the HCC Bookstore. You may either use a hard copy of the book, or rent the e-book from Pearson.
Order your book here: HCC Bookstore

Temporary Free Access to E-Book

None.

Other Instructional Resources

Online via Eagle's Canvas

Publisher's Digital Workbook

None.

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the HCC Tutoring Services website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at http://library.hccs.edu.

Supplementary Instruction

Supplemental Instruction for Drafting and Design Engineering Technology Department provides student access to open lab with the Lab assistant. Addition HCC supplement for academic course enrichment can be found at the following link: http://www.hccs.edu/resources-for/current-students/supplemental-instruction/.

Course Overview

This course Demonstrates an understanding of geometric construction, various view selections, and principles of working drawings, competency in drafting principles in plane geometry, technical sketching, orthographic projection theory and practice, auxiliary views, and competency in sectioning, dimensioning, and tolerance.

Core Curriculum Objectives (CCOs)

The Department of Labor has identified skill sets that U.S. employers want most in entry level employee. It is our commitment to prepare every student with the knowledge and skills needed to succeed in today's dynamic environment. The HCCS Drafting & Design Engineering Technology Department has specified that the course address the following core objectives:

- *Interpret/communicate data: Selects and analyzes information and communicates the results to others using oral, written, graphical, pictorial, or multi-media methods.*
- *Monitors and corrects performance: Distinguishes trends, predicts impact of actions on system operations, diagnoses deviations in the function of a system, organization, and takes necessary action to correct performance.*
- *Design/improve systems: Prevents, identifies, or solves problems in machines, computers, and other technologies.*
- *Creative thinking: Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and reshapes goals in ways that reveal new possibilities.*
- *Students will be presented with a civil engineering problem for which they will be required to design solution.*
- *Based on known trends and their creativity, each student will be responsible designing a solution and diagnose deviations and solve problems in the function of the design and take actions necessary to improve on and correct performance.*
- *Evaluation of these skills will be based on the creativity, functionality and efficiency of*

the civil design.

Learning Outcomes and Objectives

a. Understand the drafter's role in industry
b. Exposure to ANSI drafting standards & standard drawing sheet sizes used in industry
c. Use of manual drafting instruments
d. Proficiency in using and reading an architect, metric, decimal, and engineers' scale
e. Understanding the alphabet of lines used on engineering drawings
f. Technical sketching and freehand lettering
g. Geometric Constructions
h. Multi-view Projections (create drawings of simple objects using Multi-view or Orthographic Projection)
i. Apply dimensions to drawings using ANSI drafting practices
j. Isometric Drawing (create an Isometric view of an object from given multi views)
k. Sectional Views (create full, half, partial, removed, revolved, offset views of objects with dimensions)
l. Auxiliary Views (create full and partial views with dimensions)

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course contents. Additional time could be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reviewing in-class lectures via Power Points that are available on Canvas.
- Reading the textbook
- Attending class in-person and/or online
- Completing assignments
- Participating in-class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the materials using the course objectives as your guide.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to**:**

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and make up
- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required

As a student, it is your responsibility to**:**

- Arrive class on time and attend class in-person and/or online
- Participate actively by reviewing course materials, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and submit on time and perform all exams

- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least passing score on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

ASSIGNMENTS, EXAMS, AND ACTIVITIES

Assignments

There are eight assignments, a mid-term project and a final project for this class. Unless otherwise notified, students are required to submit assignments and projects using scanned .PDF file and submit online via Eagle's Canvas. All assignments and projects should be turned in on time as instructed. (This allows the instructor to grade the work, return to student hence the student use the feedbacks as a learning tool). More details explained in class or on Canvas by the instructor.

Exams

There are three in-class Exams: Exam 1, Exam 2 and Final Exam in this class. The exams are multiple-choice questions.

In-Class Activities

Students are required to participate all exercises or assignment discussions in class.

Final Exam

All students will be required to take a comprehensive departmental final exam consisting of multiple-choice questions. All the information students need to prepare for the exam is in the *Final Exam Handbook*.

Students who are absent from the final exam without discussing their absence with the instructor in advance or within 24 hours afterward will receive a course grade of F or I (Incomplete). In case the absent student gets an "I" grade, he or she must complete the assigned make-up work by the instructor. Any student who does not complete the task by the end of the following long semester will receive a final grade of zero and a course grade of F.

Grading Formula

The Drafting and Design Engineering Technology department adopt a points-based grading system with a maximum 100 points.

Attendance	20%
Drawing assignments	40%
Chapter Exams	10%
Final Project	20%
Final Exam	10%
Total:	**100%**

Grading Procedure:

Grade	Total Points
A	90+
B	80-89.99

C	70-79.99
D	60-69.99
F	<600
Fx	Stop to show up to the class until the end of the semester.

HCC Grading Scale can be found on this site under Academic Information:
http://www.hccs.edu/resources-for/current-students/student-handbook/

COURSE CALENDAR

Course Contents for DFTG-1305
(Based on Technical Drawing, by Frederick E. Giesecke)
Please see your instructor for updated class schedule.

The objectives, order of presentation and source of reference for each unit shall be as follows:

Unit 1: Introduction to Drafting (Chapter 1: World Wide Graphics)
At the end of this unit, the student will be able to:
1. Understand the function of a draftsperson in an engineering environment.
2. Identify the different types of engineering drawings.
3. Understand the technical skills required for a draftsperson.
4. Identify the various trade publications, associations and standards used in industry

Unit 2: Drafting Instruments (Chapter 2: Layouts and Lettering)
At the end of this unit, the student will be able to:
1. Identify drafting equipment and describe its usage.
2. Describe the types and standard sizes of drafting paper.
3. Use the different drafting scales to create a simple drawing.
4. Identify and draw the alphabet of lines.
5. Draw horizontal, vertical and inclined lines in a prescribed manner.

Unit 3: Lettering (Chapter 2: Layouts and Lettering)
At the end of this unit, the student will be able to:
1. Draw guidelines for lettering.
2. Demonstrate good engineering lettering style and technique.
3. Identify the different methods for producing lettering on an engineering drawing.

Unit 4: Geometric Constructions (Chapter 4: Geometry)
At the end of this unit, the student should be able to:
1. Define common shapes
2. Beset angles and lines
3. Divide a line into equal parts

4. Construct a perpendicular from a point to a line
5. Construct a tangent from a point to a circle
6. Construct an ellipse

Unit 5: Technical Sketching (Chapter 3: Sketching)
At the end of this unit, the student will be able to:
1. Understand the principles of good free-hand sketching.
2. Create a free-hand isometric & oblique sketch of an object.
3. Create a free-hand multi-view sketch of an object

Unit 6: Multi-view Projection (Chapter 6: Orthographic Projection)
At the end of this unit the student will be able to:
1. Define the six views used in multi-view projection.
2. Draw selected views of a given object.

Unit 7: Dimensioning part I and II (Chapter 11: Dimensioning)
At the end of this unit, the student will be able to:
1. Understand the basic principles of dimensioning.
2. Identify the components of dimensioning (dimension line, extension line, leader, etc.)
3. Create a fully dimensioned mechanical drawing.
4. Create a fully dimensioned architectural drawing (floor plan).

Unit 8: Section Views (Chapter 8: Section Views)
At the end of this unit, the student will be able to:
1. Understand the principles of sectional views.
2. Identify the components of sectional views (cutting plane, sectional lining etc.).
3. Identify and draw the different types of sectional views.

Unit 9: Isometric Projection (In-class lecture)
At the end of this unit, the student will be able to:
1. Draw an isometric view of an object from three given views.
2. Draw isometric circles.
3. Draw inclined surfaces in isometric.

Unit 10: Auxiliary Views (Chapter 9: Auxiliary Views)
At the end of this unit, the student should be able to:
1. Understand the principle of auxiliary views.
2. Draw auxiliary views of an object.
3. Understand the principle of revolutions.

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

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. Please note that a make-up exam is not a retake. That is, make-up exams are allowed only for missed exams with the permission from the instructor. NO make-up test is given for the final examination**.**

Academic Integrity

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. Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance): http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/

Attendance Procedures

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. 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.

Student Conduct

Students are responsible for knowing and obeying the HCC rules such as maintaining high standards of academic integrity, respecting the rights of others. A student who violates these rules, whether on or off campus or on-line, will be subject to adjudication and potential disciplinary action in accordance with the Student Handbook. Please carefully read and consider the repeater policy in the Student Handbook https://www.hccs.edu/resources-for/current-students/student-handbook/

Instructor's Course-Specific Information (As Needed)

My teaching philosophy is emphasized on "Analytical". I focus on the relationship of Descriptive Geometry as an "analytical" graphic visualization process. This helps student to

gain a conceptual understanding of how to analyze and represent 3-D objects in 2-D space for the purpose of designing, making and extracting.

Electronic Devices

Out of consideration for others, please turn your cell phone to the silent mode.
No texting is allowed while class is in session. No Internet surfing during lectures and labs.
Absolutely no Internet site with obscene or nude pictures.

HCC POLICIES

Here's the link to the HCC Student Handbook http://www.hccs.edu/resources-for/current-students/student-handbook/ In it you will find information about the following:

Academic Information	Incomplete Grades
Academic Support	International Student Services
Attendance, Repeating Courses, and Withdrawal	Health Awareness
Career Planning and Job Search	Libraries/Bookstore
Childcare	Police Services & Campus Safety
disAbility Support Services	Student Life at HCC
Electronic Devices	Student Rights and Responsibilities
Equal Educational Opportunity	Student Services
Financial Aid TV (FATV)	Testing
General Student Complaints	Transfer Planning
Grade of Fx	Veteran Services

EGLS^3

The EGLS^3 (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS^3 surveys are only available for the Fall and Spring semesters. –EGLS3 surveys are not offered during the Summer semester due to logistical constraints.
http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/

Campus Carry Link

Here's the link to the HCC information about Campus Carry:
http://www.hccs.edu/departments/police/campus-carry/

HCC Email Policy

When communicating via email, HCC requires **students to communicate only through the HCC email** system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

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 Students at their

college for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (http://www.hccs.edu/departments/institutional-equity/)

Disability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/support-services/disability-services/

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:
David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.
https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/

Department Chair Contact Information

Nelson Simpson – Department Chair
nelson.simpson@hccs.edu
Phone: 713-718-5234