



Technical Drafting-11049

DFTG-1305

RT 2022 Section 0001 3 Credits 08/22/2022 to 12/11/2022 Modified 08/21/2022

Course Meetings

Course Modality

This is a Hybrid Lab class [HL]

<https://eagleonline.hccs.edu/> (<https://eagleonline.hccs.edu/>)

Meeting Days

Tuesdays

Meeting Times

2:00pm-4:50pm

Meeting Location

Spring Branch Campus, Room 317

Welcome and Instructor Information

Instructor: Prof. Francis Ha, BS, MA Office Phone: 713-718-5544

Office: Suite AD1 Office Hours: Online anytime

HCC Email: francis.ha@hccs.edu Office Location: Spring Branch Campus

Best method of contact: either on Canvas Inbox or email to: francis.ha@hccs.edu.

In case of emergency, please send text message to your instructor: 281-804-8090

Full-time Faculty: Professor Francis Q. Ha

Email: francis.ha@hccs.edu

Office: 713-718-5544

Phone: 281-804-8090 (text message only)

Website: <https://learning.hccs.edu/faculty/francis.ha> (<https://learning.hccs.edu/faculty/francis.ha>)

What's Exciting About This Course

This is the beginning course for all disciplines of the Drafting & Design Engineering Technology program.

My Personal Welcome

Welcome! 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.

Preferred Method of Contact

Canvas Inbox or email to francis.ha@hccs.edu

Office: 713-718-5544 (please leave your message if no answer since I may be in the classroom)

Course Overview

Course Description

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.

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.

Department Website

<https://www.hccs.edu/programs/areas-of-study/construction-industry--manufacturing/drafting--design-engineering-technology/>

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.

Student 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)

Departmental Practices and Procedures

Department Specific 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

Program-Specific Student Success Information

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.

Instructional Materials and Resources

Instructional Materials

The [HCC Online Bookstore \(https://hccs.bnccollege.com/shop/hccs-central/page/find-textbooks\)](https://hccs.bnccollege.com/shop/hccs-central/page/find-textbooks) provides searchable information on textbooks for all courses. Check with your instructor before purchasing textbooks because the book might be included in your course fees.

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.

The book 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

Please contact HCC bookstores for more info.

✓ Course Requirements

Assignments, Exams, and Activities

There are 10 assignments, a special project and a final project for this class. All drawings are drawn by hand as described on the Drafting Tool Requirements on the first week activities.

Submission: Students are responsible to convert the CAD format into pdf file before submitting online via Eagle’s Canvas. All assignments and projects should be turned in by the deadline (prior 11:59pm of the due date). This allows the instructor to grade the work, return to student, hence student could use the feedbacks as a learning tool. More details explained in class or on Canvas by your instructor.

Chapter Exams

There are two Chapter Exams: Exam 1, Exam 2 in this class. Exams are multiple-choice questions.

Final Exam

All students will be required to take a comprehensive departmental Final Exam consisting of multiple-choice questions. There is no make-up for Final Exam. All the information students need to prepare for the exam is in the [Final Exam Handbook](#).

22-0830

Type	Weight	Topic	Notes
Weekly Assignments	50%		<ul style="list-style-type: none"> There are 10 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. Note: One point penalty will be automatically deducted for each day of late submission. (Lateness: beyond 11:59pm on the due date).
Chapter Exams	20%		<ul style="list-style-type: none"> Two Chapter Exams (Exam-1, Exam-2) for this class. All exams consisting of multiple-choice questions. A week before the exam day, students will be provided the questions without the answers for self-review.
Final Exam	20%		<ul style="list-style-type: none"> Students who fail to perform the Final Exam will receive zero for this category. There will be no make-up for Final Exam since the instructor needs to submit the course grade results to the System by the deadline..
Attendance	10%		<ul style="list-style-type: none"> Class attendance is checked at every class meeting. See Attendance Procedures for more info. Attendance weight: Present: 100%, Late over 10': 50% and up; Absent: 0 22-0820

Grading Formula

Grade	Range	Notes

Grade	Range	Notes
A	90 and above	
B	80 to 89.99	
C	70 to 79.99	
D	60 to 69.99	
F	59.99 and below	Fx = The student stops to show up to the class until the last class meeting.

* Instructor's Practices and Procedures

Incomplete Policy

- In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.
- In case the 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 deadline will receive a final grade of zero and a course grade of F.

22-0820

Missed Assignments/Make-Up Policy

Assignment Submission Policy

1. Assignments must be converted to pdf format before submission online.
2. All assignments and projects should be turned in by 11:59pm of the due date.
3. One point (out of 100) penalty will be automatically deducted for each day of late submission. 22-0820

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. 22-0820

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<https://www.hccs.edu/studentprocedures> (<https://www.hccs.edu/studentprocedures>)

Attendance and Withdrawal Procedures

- As mentioned, you need to show up to class meeting, either face-to-face or online at the scheduled time. Class attendance is

counted toward the final grade.

- You may be dropped from the class and get an unsatisfied grade if you are absent more than 12.5% of the instructional hours as per HCC policy. For example: A 12.5% of the 16-week class equals to 2 class meetings. If you are absent more than 2 class meeting weeks, you may drop at the 3rd class and get the W or F grade.
- *HCC Course Withdrawal Policy: If you feel that you cannot complete this course, you will need to withdraw from the course prior to the Drop/Add deadline of withdrawal. Before you withdraw from your course, please take the time to contact with the instructor to discuss why you feel it is necessary to do so.* 22-0820

Student Conduct

Please see me for advice at the Faculty Statement about Student Success.

Instructor's Course-Specific Information

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement in-class or online assignments, exams, and activities. 22-0820

Faculty Statement about Student Success

Dear students,

This is my advice to you: In order to be successful in this class, get a highest grade, you only need to do the following things:

1. **Attend all required class meetings.** This is the key for your success in this class. If you are absent due to the serious sickness or emergency, please contact me at your earliest time.
2. **Do the assignment right after the class is over.** You should not wait until the due date. It is advised that you need to complete and submit at least a day prior the deadline.
3. **Study Self-Review for each Exam.** Please note, all Exam's answers are found in the Weekly Lectures and Slide Show (80%) and in the textbook (20%). Weekly video clips and lecture recordings, if available, could also help you to find the correct answers.

I am here to help you learn because your performance in my class is very important to me. So feel free to contact me should you have any problems. 22-0820

Faculty-Specific Information Regarding Canvas

This course section will use Canvas (<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)) to supplement in-class assignments, exams, and activities.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

HCC Policies and Information

Our Vision

Houston Community College shapes the future for all students with innovative, affordable, timely, responsive, and continuously improving educational programs and services. Partnered with the communities we serve, we take a defining role in regional economic, workforce, and social development.

<https://www.hccs.edu/about-hcc/> (<https://www.hccs.edu/about-hcc/>)

HCC Grading System

HCC uses the following standard grading system:

Grade	Grade Interpretation	Grade Points
A	Excellent (90-100)	4
B	Good (80-89)	3
C	Fair (70-79)	2
D	Passing (60-69), except in developmental courses.	1
F	Failing (59 and below)	0
FX	Failing due to non-attendance	0
W	Withdrawn	0
I	Incomplete	0
AUD	Audit	0
IP	In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit.	0
COM	Completed. Given in non-credit and continuing education courses.	0

Link to Policies in Catalog and Student Handbook

Here's the link to the HCC Catalog and Student Handbook: <https://catalog.hccs.edu/> (<https://catalog.hccs.edu/>)

In it you will find information about the following:

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

- Transfer Planning
- Veteran Services

Link to HCC Academic Integrity Statement

<https://www.hccs.edu/student-conduct> (<https://www.hccs.edu/student-conduct>) (scroll down to subsections)

Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<https://www.hccs.edu/campuscarry> (<https://www.hccs.edu/campuscarry>)

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 \(https://www.hccs.edu/email\)](https://www.hccs.edu/email) and activate it now. You may also use Canvas Inbox to communicate.

Office of Institutional Equity

Use the following link to access the HCC Office of Institutional Equity, Inclusion, and Engagement: <https://www.hccs.edu/eoo> (<https://www.hccs.edu/eoo>)

Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, 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 <https://www.hccs.edu/accessibility> (<https://www.hccs.edu/accessibility>)

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 (<mailto:Institutional.Equity@hccs.edu>)

<https://www.hccs.edu/titleix> (<https://www.hccs.edu/titleix>)

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/> (<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>)

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will 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:

- 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 material using the course objectives as a guide.

Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

<https://eagleonline.hccs.edu> (<https://eagleonline.hccs.edu>)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: <https://www.hccs.edu/online/> (<https://www.hccs.edu/online/>)

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/> (<https://eagleonline.hccs.edu/>)

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 making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments

- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](https://www.hccs.edu/studenthandbook) (<https://www.hccs.edu/studenthandbook>)

Copyright Statement

In order to uphold the integrity of the academic environment and protect and foster a cohesive learning environment for all, HCC prohibits unauthorized use of course materials. Materials shared in this course are based on my professional knowledge and experience and are presented in an educational context for the students in the course. Authorized use of course materials is limited to personal study or educational uses. Material should not be shared, distributed, or sold outside the course without permission. Students are also explicitly forbidden in all circumstances from plagiarizing or appropriating course materials. This includes but is not limited to publically posting quizzes, essays, or other materials. This prohibition extends not only during this course, but after. Sharing of the materials in any context will be a violation of the HCC Student Code of Conduct and may subject the student to discipline, as well as any applicable civil or criminal liability. Consequences for unauthorized sharing, plagiarizing, or other methods of academic dishonesty may range from a 0 on the specified assignment and/or up to expulsion from Houston Community College. Questions about this policy may be directed to me or to the Manager of Student Conduct and Academic Integrity.

Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

EGLS3

The EGLS³ ([Evaluation for Greater Learning Student Survey System](https://www.hccs.edu/egls3) (<https://www.hccs.edu/egls3>)) 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. EGLS³ surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<https://www.hccs.edu/egls3> (<https://www.hccs.edu/egls3>)

Housing and Food Assistance for Students

If you are experiencing any hardship related to food, shelter, mental health, or other basic needs areas, please visit the Basic Needs page for resources (<https://www.hccs.edu/cares> (<https://www.hccs.edu/cares>)). You have the option to take the Basic Needs Questionnaire and ask to be contacted by a counselor for additional assistance or support (<https://www.hccs.edu/basicneeds> (<https://www.hccs.edu/basicneeds>)). Furthermore, please notify the professor if you are comfortable doing so.

Student Resources

Tutoring

HCC provides free and convenient academic support, in a large variety of subjects, to HCC students in both an online environment and in-person on campus. Tutoring is provided by HCC personnel in order to ensure that it is appropriate. Visit the HCC Tutoring Services website for more information at <https://hccs.edu/tutoring> (<https://hccs.edu/tutoring>).

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 <https://library.hccs.edu> (<https://library.hccs.edu/>).

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve

student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <https://www.hccs.edu/supplemental-instruction> (<https://www.hccs.edu/supplemental-instruction>)

Resources for Students:

<https://www.hccs.edu/covid19students> (<https://www.hccs.edu/covid19students>)

Basic Needs Resources:

<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/> (<https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/>)

Student Basic Needs Application:

<https://www.hccs.edu/basicneeds> (<https://www.hccs.edu/basicneeds>)

COVID-19

Here's the link to the HCC information about COVID-19:

<https://www.hccs.edu/covid-19> (<https://www.hccs.edu/covid-19>)

Instructional Modalities

In-Person (P)

Safe, face-to-face course with scheduled dates and times

Online on a Schedule (WS)

Fully online course with virtual meetings at scheduled dates and times

Online Anytime (WW)

Traditional online course without scheduled meetings

Hybrid (H)

Course that meets safely 50% face-to-face and 50% virtually

Hybrid Lab (HL)

Lab class that meets safely 50% face-to-face and 50% virtually

Course Calendar

DFTG-1305 COURSE CALENDAR

Update: 22-0820

(Based on "Technical Drawing with Engineering Graphics" textbook, 15th Edition, by Frederick E. Giesecke)

Please see on our online Canvas for weekly class activity details by accessing to:

[Canvas > Modules > Week #](#)

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 draftsman in an engineering environment.
2. Identify the different types of engineering drawings.

3. Understand the technical skills required for a draftsman.
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. Bisect 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 part 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: Sectional Views (Chapter 8: Sectional 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 (Chapter 15: Axonometric Projection)

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 & Revolutions (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.

Additional Information

Departmental/Program Information

The mission of the Drafting and Design Engineering Technology Program is to provide the most current technical training in Architectural or Engineering Design Drafting disciplines.

AWARD TYPES: Associate in Science, Certificate Level 1

We offer degrees in 6 specializations: General, Architectural, Civil, Electrical, Mechanical, Piping.

For study plans and additional information visit:

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

Students are strongly encouraged to register at HCC Career Services. It provides valuable resources on professional resume preparation, access to current job openings and future career fairs.

<https://www.hccs.edu/support-services/career-planning/> (<https://www.hccs.edu/support-services/career-planning/>)

Process for Expressing Concerns about the Course

If you have concerns about any aspect of this course, please reach out to your instructor for assistance first. If your instructor is not able to assist you, then you may wish to contact the Department Chair.

Minh Pham

minh.pham@hccs.edu

713-718-8410