

 HCC Houston Community College	Drafting & Design Engineering Technology	Northwest College
Fall 2013 CRN #63196	<h1 style="text-align: center;">Syllabus</h1>	DFTG-1358 Elect/Electronic Drafting
Semester Credit Hours (SCH): 96 Credit Hours: 3 Format: Lecture: 1/3 Lab and/or Web: 2/3 Weekly class meetings: 6 hrs for 16-wk regular semester (4 hrs for WE class) 8 hrs. for 2 nd Start 12-wk term (4.8 hrs for WE class) 12 hrs. for Summer 8wk term (7.2 hrs for WE class) 19.2 hrs for Summer 5-wk term (11.52 hrs for WE class) WE: Web Enhanced classes include online assignments	Instructor: Prof. Francis Ha, BS, MA, Lead Faculty Office: Spring Branch campus, Suite 200 (between Murphy Deli and Science Hall) Email: fh.class@yahoo.com (for class related) francis.ha@hccs.edu (for business) francisha@yahoo.com (for emergency)	CRN numbers: <input type="checkbox"/> TUE 6:00pm-10:00pm Telephones: Assitant: 713-718-7264 Direct: 713-718-5544

13-0529

COURSE DESCRIPTION: A study of the principles of layout of electrical and electronic drawing, stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, and electrical one-line diagrams. Students will gain a knowledge of electronic components and their graphic symbology of electrical and electronics schematic.

LEARNING OUTCOMES/OBJECTIVES:

Upon successfully completion of the course, the student will demonstrate:

- a. **Knowledge:**
 - Be able to identify electronic component symbols.
 - Understand PCB schematic diagrams, flow charts, and electronic system structure.
- b. **Skill:**
 - Ability to apply electronic symbols into the circuit diagrams and assembly PCBs.
 - Ability to create detailed component-level electronics drawings.

TEXTBOOK • **“Fundamentals of Electrical and Electronic Drafting Design”**

by Francis Ha, Dynamic Design Group, 2012 Edition

- Hands-out materials prepared by the instructor.

BASIC COMPUTER SKILL REQUIREMENTS

Before taking this class, student must be familiar with the basic functions of Microsoft Windows. If you are not comfortable using a computer and working with MS Windows, you should not take this class. Basic functions include the use of keyboard, mouse, and printer. You must also be able to perform the following tasks:

- **Windows Operating System:** Use the Start menu, create folders, use desktop icons, work with MyComputer, Copy or Move files/folders to other location, use Search to locate files and folders, Minimize/Restore Windows. Ability to use computer to search online for assigned projects.
- **Applications:** Cut, Copy, and Paste texts, Rename, use Save / SaveAs functions.

MATERIALS REQUIRED: Flash Drive, 2GB or larger. All assignments must be done in a CAD software (AutoCAD or MicroStation).

CLASS RULES

- a. **All cellualars must be turned off during the class meeting.**
- b. **You must initial the Sign-In Green Form for every class meeting.**
- c. If you are not be able to make the class, please notify your instructor as early as possible by email.
- d. Do not change computer's current Windows settings, including the screen saver, AutoCAD display.
- e. It is recommended that students save assignments to the jump drive before leaving.
- f. At the last day of the semester, please save your work to your flash drive, not the computer's hard drive.
- g. Unless otherwise instructed, please do not shut down your computer before leaving.

LAB REQUIREMENTS: Student can use computer at the labs or at home of his/her choice. The labs to be opened if there is a class in session. If the lab is being used by other class, student is encouraged to ask the instructor before using the available computer. Lab assistants, if any, are also available for technical help.

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 two 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.
- Note: Students are required to initial his/her name on the provided form (Green Form) upon showing up to the class.

GRADING PROCEDURE:

A = 90 –100

B = 80 – 89

C = 70 – 79

D = 60 – 69

F = below 59

The drawing portion of the above evaluation criteria shall be based to the following portions of the drawing development:

Layout	25%;	Dimensional accuracy	40%;	Neatness	25%;	Timely completion	10%.
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STUDENT EVALUATION

Attendance (lecture session)	20%
Drawing assignments	40%
Chapter Exams	10%
Final Project	20%
Final Exam	10%
Total:	100%

ASSIGNMENTS

You will be given a number of assignments after the lecture. Unless otherwise permitted by the instructor, all assignments need to be turned in the following week.

Notes: If the same assignment contains more than 2 sheets (i.e. 1A & 1B), you need to staple them together. Please **do not** staple multiple assignments together (i.e. Assignment 1 to Assignment 2, etc...)

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. *Reduction of points could be applied to late submissions. In general, a minus 5% would be applied to every late week.*

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 are 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. At Northwest college, please call 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 absences, that is, you may be dropped from a course after accumulating absences in excess of 12.5 percent of the total hours of instruction (lecture and lab).

For example: - A 3 credit hour lecture/lab class meeting 6 hours per week – 2 absences (12 hrs.) is 12.5% of the class.

- A 3 credit hour lecture/lab class meeting 3 hours x2 times per week – 4 absences (12 hrs.) is 12.5% of the class.

Administrative drops are at the discretion of the instructor. It is your responsibility to drop a course, should you choose not to complete it. Failure to withdraw officially will result in you receiving a grade of “F” in the course.

Note: Although it is your responsibility to officially withdraw from a course, it is always a good idea to discuss any attendance problems with your instructor first. Class attendance is very important, but your instructor may be able to help you catch up. If you become ill or know you are going to miss class for some reason, tell your instructor as soon as possible.

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 to be 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://northwest.hccs.edu>

***The Final Examination Date & Time:**

Will be notified by the instructor.

"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 *(since Fall,2011)*

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

DFTG-1358 – ELECTRICAL/ELECTRONICS DRAFTING
COURSE CALENDAR

Week 1	Orientation: Introduction, Goal, Textbook, Assignments, CAD skill requirements, Quizzes, Project, Exams, Grading, 3.5" Diskettes, Attendance Policy, Instructor & Students' telephone numbers, E-mail. INTRODUCTION TO ELECTRICAL/ELECTRONICS DRAFTING (Chapter 1, pp.5-12) Responsibilities of Engineers & Drafters, Drafting job and types, Drafting skills requirements. DRAFTING FUNDAMENTALS (Chapter 2, pp.13-28) Drawing Sizes, Title Blocks, Types of Drawings, CAD Rules.	
Week 2	Session 1 - DRAWING DIAGRAMS (Chapter 3, pp. 29-35) Block Diagram, Flow Diagram, and Single Line Diagram, Drafting Rules.	<input type="checkbox"/> Assignment #1 (Block Diagram)
Week 3	Session 2 - ELECTRICAL COMPONENTS AND HARDWARE (Ch.4, pp.36-53; Ch.6, pp.70-83) - Functions, Symbols and Types of Battery, Coil, Transformer, Terminal ID, etc...	<input type="checkbox"/> Assignment #2 (Electronic Symbols)
Week 4	ELECTRICAL COMPONENTS AND HARDWARE (cont.)	<input type="checkbox"/> Assignment #3 (Schematic diagram)
Week 5	Session 3 - LOGIC DIAGRAM (Chapter 5, pp.59-69) Purpose, Type, Shape, Symbol, Method of Drawing, Logic State and True Table.	<input type="checkbox"/> Assignment #4 (Logic Gates)
Week 6	Session 4 - INTEGRATED CIRCUITS Type, Specifications, IC Packages, IC Design and Manufacturing. Exam #1 (Sessions 1, 2, & 3)	<input type="checkbox"/> Assignment #5 (Logic Diagram)
Week 7	Session 5 – CABLE ASSEMBLY Wire and Cable Characteristics, Cable Jacket, Conductor's Insulation, Markers, Heat-shrinkable Tube, AWG standards, Connectors.	<input type="checkbox"/> Assignment #6 (Pictorial Diagram)
Week 8	Session 6 - ONE-LINE ELECTRICAL DIAGRAM RISER DIAGRAM	<input type="checkbox"/> Assignment #7 (Engineers Sketch)
Week 9	Session 7 - SCHEMATIC DIAGRAM (Chapter 5, pp.54-59) Purpose, Symbol, Path, Line, Reference Designation, Schematic Rules.	<input type="checkbox"/> Assignment #8 (Basic Artwork)
Week 10	Session 8 –SCHEMATIC DIAGRAM APPLICATIONS Exam #2 (Sessions 1, 2, 3, 4, 5, & 6)	<input type="checkbox"/> Assignment #9 (Artwork Design)
Week 11	SCHEMATIC DIAGRAM APPLICATIONS (cont.)	
Week 12	<input type="checkbox"/> Final project hands out and instructions	<input type="checkbox"/> Final Project
Week 13	Final Project: Instructions: Procedures Session 1-4 review	
Week 14	Work on final project Session 5-8 review	
Week 15	All-session review - Work on final project All weekly assignments due.	
Week 16	Final Exam (all sessions) - Final Project due.	