ARCE-1352

Syllabus

Semester: Spring 2017
Class (CRN) # 11792

Professor/Instructor: Dac Ho
Contact phone number: 713-718-8026
Email: nhon.ho@hccs.edu
Office location: Room 114 Stafford

Faculty Department Chair: Francis Ha
Phones: 713-718-5544
Rowena Hubbard, Dept. Assistant: 713-718-7833
Email: francis.ha@hccs.edu
Office: 1265 Pinemont Dr., Suite 151, MC 1376
Houston, Texas 77018.

Any question or concern, please contact your instructor first. You can also contact Lead Faculty or department administration for further assistance. Thank you.

Message from the instructor (instructor: this is optional. You can keep or delete)

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 or at my office.

PREREQUISITE: DFTG 1305

COURSE DESCRIPTION:
An in-depth study of drafting methods and principles used in public works civil engineering.

TEXT:
Structure, Civil, And Pipe Drafting by David L. Goetsch 2nd Ed. or newer, published by Delmar, Thompson Learning

MATERIALS:
Writing material, (Pen & Pencils) and drafting tools (Straight Edge Ruler).

COURSE OBJECTIVES:
Introduction to Basic Structural Drafting-Design and Structural Building Materials; with appropriate application of Computer Aided Drafting techniques.

KNOWLEDGE:
a. Understand symbols and terminology of Structural engineering Drafting
b. Understand the content of structural engineering drawings
c. Familiarity with commonly accepted Structural drafting procedures.
d. Large-scale Structural Plans and Elevations relative to Steel Detailing and Structural
e. Design of steel beam connections, welding and concrete structural components.

SKILLS:
a. Prepare of a Floor Plan, Column Plans and Steel Framing Plans of Structural drawings
b. Develop presentation of plan and Elevation of typical structural Building sections
c. Calculation of structural beams, understand load bearing partitions, create detail structural steel sections.
d. Create structural documents for buildings, CAD drawings shop fabrication and concrete structural designs.

ATTITUDES BEHAVIORS
a. Follow step-by-step instructions in creating drawings via verbal and written instructions
b. Show respect for others and personal items.
c. Exhibit patience and follow Computer Lab procedures (No Internet or excess email use.)
SCANS SKILLS:
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.

Toward this end the following skills will be included in this course:
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.

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.

STUDENT EVALUATION (you can modify these percentages):

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance (lecture sessions)</td>
<td>20%</td>
</tr>
<tr>
<td>Drawing assignments</td>
<td>40%</td>
</tr>
<tr>
<td>Chapter Exams</td>
<td>10%</td>
</tr>
<tr>
<td>Final Project</td>
<td>20%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

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 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 Services (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 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 the calendar for 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, you instructor may be able to help you catch up with the class. Please let your instructor knows 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.

**REPEAT COURSE**

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."

**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](http://www.hccs.com)

**ADVISING**

A senior advisor is connected to this class section and will meet with the class within the first two weeks of instruction. The senior advisor will review the advising syllabus and the ways in which you can communicate with him/her. Students are required to meet with their senior advisor at least twice within the semester. Participation in these advising sessions is required and will be a part of the grade in this success class.

**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.

**HCC PUBLIC EMERGENCY PLAN**

Every member of the Houston Community College community should understand his or her role in emergency situations. All faculty, staff, and students should review this plan so they can support their colleagues should an emergency arise. Evacuation routes and assembly areas are posted throughout the campus(s). If you are faced with a situation that requires evacuation, proceed in an orderly fashion to the designated assembly area. If a situation arises that requires you to shelter-in-place, you will be given instructions to proceed to a designated area - do not leave the building. **In Case of Emergency** Dial 911 or call HCC Police at 713-718-8888. To update your emergency contact information, log into PeopleSoft on the Student Sign-Ins page. The "Run.Hide.Fight." videos provide the information you need to survive an active shooter event. (Fall 2015)

**DISCRIMINATION**
Students should be aware that discrimination and/or other harassment based on race, sex, gender identity and gender expression, national origin, religion, age, disability, sexual orientation, color or veteran status is prohibited by HCC Policy G.1 Discrimination and Harassment and D.1.1 Equal Educational Opportunities. Any student who feels they have been discriminated against or harassed on the basis of race, sex, gender identity, gender expression, national origin, religion, age, disability, sexual orientation, color or veteran status including sexual harassment, has the opportunity to seek informal or formal resolution of the matter. All complaints/concerns should be directed to the Office of Institutional Equity, 713 718-8271 or oie@hccs.edu. Additional information may be obtained online. Visit http://www.hccs.edu/district/departments/institutionalequity/
Complaints involving sexual misconduct to include but not limited to: sexual assault, stalking, dating violence, sexual harassment or domestic violence should be directed to the HCC Title IX Coordinator, Renée Mack at 713 718-8272 or renee.mack@hccs.edu (Fall 2015).

**TITLE IX OF THE EDUCATION AMENDMENTS OF 1972, 20 U.S.C. A§ 1681 ET. SEQ.**
Title IX of the Education Amendments of 1972 requires that institutions have policies and procedures that protect students’ rights with regard to sex/gender discrimination. Information regarding these rights are on the HCC website under Students-Anti-discrimination. Students who are pregnant and require accommodations should contact any of the ADA Counselors for assistance.
It is important that every student understands and conforms to respectful behavior while at HCC. Sexual misconduct is not condoned and will be addressed promptly. Know your rights and how to avoid these difficult situations.
Log in to: www.edurisksolutions.org. Sign in using your HCC student e-mail account, then go to the button at the top right that says Login and enter your student number. (Spring 2016)

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**COURSE WEEKLY CALENDAR**

**COURSE SCHEDULE**
Structural Drafting
ARCE 1352

Note:
- Please complete all Chapter Review Assignments on time. Chapter Reviews are due the following week after each Lecture or when assigned.

Week 1
- Review of Syllabus and Course Schedule., with discussion.
- Chapters 1&2: Introduction to Structural Drafting ( Chap. 1)
- Typical Structural Drafting Department ( Chap.2)
- LAB Assignment 1: Linetypes, Line Symbols & CAD Settings

Week 2

Revised 2/11/2017
Review and Discuss with students/ Syllabus and CAD Drawing assignments.
Chapters 3 & 4: Structural Steel & Concrete Shapes/ & Welding Symbols
Lecture: Welding Symbols & Steel Shapes
American National Standards Institute (ANSI) and Fabrication

Week 3
Review
/ Continuing on Structural Shapes and symbols.
Shop Drawings, Fabricated steel shapes and detailing
Chapter 5 Lecture: Welding Symbols & Steel Connectors
Lab Assignment 2:

Week 4
(Chapter Reviews) Exam 1
Chapter 5 Structural Connections (Welded, Bolted and Riveted)
Lecture: Welding Symbols & Concrete Connectors
Reference material: Soil Investigation and Foundations

Week 5
Ref. Mat’l : Lecture on Soil, Concrete Foundation: drawing and details Practice/ sketches and sketching
Chapter 6 Lecture: Column Foundation/ Steel Framing Plans

Week 6
Continuing on foundation assignment
Steel construction, Steel Framing plans: Common abbreviations, commonly used symbols
Double line and Single line drawings
Chapter 7 Lecture: Structural Steel Sections

Week 7
Finish foundation drafting problem
Structural steel sections: Full Sections, Cross Sections,
Common hatch patterns, Uncommon hatch patterns / Lecture:
Structural Steel, Lab Assignment 4: 6

Week 8
Mid-Term Exam
Reference Material H.O. / CMU in reference manual

Week 9
Lecture on CMU construction
Assignment 4: on CMU construction
Connection Details, Steel/Steel, Steel/Concrete
Chapter 8 Lecture: CMU / Steel Connection Details

Week 10
Conclude CMU Construction assignment
Reinforced concrete shapes
Concrete reinforcement methods and detailing
Chapter 9 & 10 Lecture: Fabrication Details

Week 11
Soil investigation, concrete foundation, form of foundation:
drawing and details
Chapter 11 Lecture: Precast Concrete
Lab Assignment 6:

Week 12
(Chapter Review) Exam 3
Chapter 12 Lecture: Continue /Precast Concrete

Week 13

Quiz 4
Conclude on Precast Concrete
Chapter 14 Lecture: Precast Concrete Fabrication
Lab Assignment 7:

Week 14
Review: Precast Concrete Fabrication
Chapters 20 & 21 Lecture: Wood frame construction

Week 15
Conclude Wood frames construction.
Chapters 22 & 23 Lecture: Wood Frame Roofs and Post &
Beam
Lab Assignment 8: “
Review for Final-Exam”

Week 16
Final Exam