



Drafting and Design Engineering Technology Department

DFTG 2331: Advanced Technologies in Architectural Design and Drafting (Revit-Commercial) | CRN | #21793

Spring 2021 | 16 Weeks (01.19.2021-05.16.2021)
100% Online | Weekly Online Meeting | Thursday 2:00 – 4:00 PM
6 Credit Hours | 96 hours per semester

Instructor Contact Information

Instructor:	Iwao Takahashi, Ph.D.	Office Phone:	N/A
Office:	N/A	Office Hours:	TBA (Upon Contact)
HCC Email:	iwao.takahashi@hccs.edu	Office Location:	N/A

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

Please contact me @ my email, iwao.takahashi@hccs.edu. I will respond you within 48 hours.

What's Exciting About This Course

This course is to learn intermediate level Revit function, Commercial facility design, sustainability (energy optimization), and Virtual Reality presentation.

The course description: "Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture."

My Personal Welcome

Welcome to DFTG 2331: Advanced Technologies in Architectural Design and Drafting. I would like to provide you an excitement this semester experiencing creativity and design technology of architecture. We will learn BIM process with the use of Revit software and I will be with you during this semester to guide your success.

Prerequisites and/or Co-Requisites

DFTG 1376. Must be placed into GUST 0341 in reading, ENGL 0300 or 0347 in writing and MATH 0306 in math. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Eagle Online Canvas Learning Management System

This section of Drafting DFTG 2331 (6192-15350-DFTG-2331) 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 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



Required Textbook:

The Aubin Academy Revit Essentials For Architecture: Covers Version 2021 And Beyond.

Paul Aubin

ISBN-13: 978-0-578-73106-3

Recommended Course Textbook

The Aubin Academy Revit MEP 2015, Author: Paul F Aubin, Darryl McClelland, and Martin Schmid

ISBN-13: 978-1500435431

Temporary Free Access to E-Book

N/A

Other Instructional Resources

Course Software

Autodesk Revit 2019, Student Free software is available from Autodesk Website at:

<http://www.autodesk.com/education/free-software/all>.

Course Resources

Students are recommended to use the following recourses:
Sustainable Building Design, <http://sustainabilityworkshop.autodesk.com/>

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 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 <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

Course Overview

This course is to teach Intermediate level Revit software along with architectural design and drafting through Commercial facility design, sustainable design principle, energy optimization and virtual reality experience.

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

Learning Objectives can be found:

- Identify appropriate use and procedures of architectural design and construction specific software designing residential building.
- Analyze building materials characteristics with energy efficiency, and application to the commercial building.
- Participation to an educational workshop currently emphasized in the related industries.
- Develop the application of aesthetic, functional, and technological aspect of building design activity..

Learning Objectives

Upon completion of the course, the student should be able to:

- Comprehend the intermediate level of Revit software function and identify the building materials and construction method energy efficiency relevant to these functions.
- Create a sustainable commercial building design with appropriate process and procedure, method, and technology.
- Identify current industry emphasis of importance for building design and construction.
- Demonstrate professionalism.

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 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:

- 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
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the [HCCS Student Handbook](#)

Assignments, Exams, and Activities

Assignment

- Laboratory work, Commercial Green Building for Architecture, MEP, and Structure – (50% evaluation of grade)
- Whole Building Energy Analysis and Peak Load Building Thermal Load Determination – (10%)
- Sustainable Design Essay – (10 % of evaluation of grade)
- Demonstration of professionalism through course activities, online discussions, and participations to the course work – (10% evaluation of grade)

Exams

- Demonstration of knowledge and skills of Revit software through mid-term and final examination – (20% evaluation of grade)

In-Class Activities

- Commercial building design work
- Energy simulation
- Virtual Reality Lab Session
- Student Presentation

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 Incomplete. Any student who does not take a makeup exam by the end of the following long semester will receive a final exam 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.

Project (Commercial Green Building Design) and Presentation	50
Energy Analysis (Whole and Peak)	10
Sustainable Design Essay	10
Mid-term Exam	10
Final Exam	10
Professionalism and Online Discussions	10
Total	100

Grade	Total Points
A	90+
B	80-89.9
C	70-79.9
D	60-69.9
F	<60

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

Weekly Course Calendar

Week	Dates	Topic
1	1/19-1/24	Syllabus Course Introduction
2	1/25-1/31	Design Process and Schematic Design
3	2/1-2/7	Whole Building Energy Analysis
4	2/8-2/14	Schematic Design Presentation, Virtual Reality Lab Work
5	2/5-2/21	Preliminary Design - Architecture
6	2/22-2/28	Preliminary Design - Architecture and Structure
7	3/1-3/7	Preliminary Design - Structure
8	3/8-3/14	Midterm Examination, Virtual Reality Lab Work
9	3/22-3/28	Preliminary Design - HVAC
10	3/29-4/4	Preliminary Design - HVAC

11	4/5-4/11	Construction Documents - Architecture
12	4/12-4/18	Construction Documents - Architecture
13	4/19-4/25	Construction Documents - Architecture
14	4/26-5/2	Construction Documents – Details, Virtual Reality Lab Work
15	5/3-5/9	Final Exam
16	5/10-5/16	Student Presentation

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. 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

EGLS³

The EGLS³ (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. EGLS³ 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/epls3-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/>

COVID-19 Policy and Information

Following Page shows detailed information of Spring 2021:

<https://www.hccs.edu/resources-for/current-students/communicable-diseases/updates/hcc-plans-for-the-spring-2021-semester.html>