



**Center of Excellence for Engineering**

---

**ENGR 1204 – Engineering Graphics I  
Fall 2016**

CRN 18468 | Felix Fraga Campus Room 210| Southeast College | Monday | 2:00 – 5:00 p.m. | 16 classes

2 credit-hour lecture course / 2 lecture & 1 lab/ 48 contact hours per semester  
Hybrid (in person and online) Course using Eagle Online (Canvas)

**Instructor:** Mrs. June E. Keller, P.E. (inactive)

**Instructor Contact Information:** Email preferred through Eagle Online (Canvas) at <https://eagleonline.hccs.edu/login/ldap> Or to [june.keller@hccs.edu](mailto:june.keller@hccs.edu) Or 713-718-8866 and leave message. If you email me you must put the Course (ENGR 1204), the CRN, and the day of the week the course meets in the Subject Line.

**Office location and hours:**

*60 minutes before class (pre-arranged and agreed to by the professor). 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. Feel free to contact me. Full office hours to be provided by the second week of classes.*

**Course Description:**

Through a combination of lecture, hands-on exercises, homework assignments, drawing problems and examinations, this course introduces the student to computer-aided design/drafting with the AutoCAD software and sketching. Students will generate two – and three-dimensional drawings based on the conventions of engineering graphical communication; topics include spatial relationships, multi-view projections and sectioning, dimensioning, graphical presentation of data, and fundamentals of computer graphics.

**Pre-requisites**

Completion of College Algebra, Math 1314, or acceptable placement scores or completion in or enrollment in Pre-Calc or higher.

**Course Goal**

Have students obtain an introduction to 2-D and 2-D drafting and AutoCad in order to solve engineering design problems.

**Course Learning Outcomes (ACGM)**

1. Discuss the basic steps in the design process.
2. Demonstrate proficiency in freehand sketching.
3. Demonstrate proficiency in geometric modeling and computer aided drafting and design (CADD).
4. Communicate design solutions through sketching and computer graphics software using standard graphical representation methods.

5. Solve problems using graphical geometry, projection theory, visualization methods, pictorial sketching, and geometric (solid) modeling techniques.
6. Demonstrate proper documentation and data reporting practices.
7. Complete a project involving creation of 3D rapid prototype models.
8. Function as part of a design team as a team leader and as a team member.

### Student Learning Outcomes

The student will be able to:

1. Demonstrate an understanding of a CAD working environment setup.
2. Create technical drawings using basic CAD commands and options..
3. Demonstrate proper use of CAD drawing management tools.
4. Use AutoCAD's precision drawing tools and methods to construct accurate 2D and 3D drawings.
5. Create and manage drawing layers, and control object colors and line types
6. Create, edit and modify text styles and text objects in AutoCAD.
7. Control the drawing display and utilize named drawing views.
8. Construct and edit polylines, multi-lines and splines.
9. Creating shapes and symbols
10. Special editing operations that increase productivity
11. Drawing geometric shapes and constructions.

### Instructional Methods

ENGR 1204 is an elective course for all Associate of Science in Engineering Science (ASES) majors. It is a required course for those students in the HCC-UT Tyler Engineering program.

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of engineering, modeling good teaching and learning strategies, and organizing and monitoring the design project that allows you to connect the information that you learn in this course to the real world of engineering.

I subscribe to the ancient quote from Confucius:

Tell me and I'll forget.  
Show me, and I may not remember.  
Involve me, and I'll understand.

As a student wanting to learn about the field of engineering, it is your responsibility to read the textbook, submit assignments on the due dates, study for the exams, participate in classroom activities, attend class, and enjoy yourself while experiencing the real world of a college education. The skills learned in this class are important keys to success. **The keys to success are EFFORT, APPROACH and ATTITUDE.**

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend the majority of class time involved in creating drawings. You will be involved in discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to come to class prepared to discuss, analyze and evaluate information from your text and other assigned readings.

### Student Assignments

Assignments have been developed that will enhance your learning. To better understand a topic, you will be given assignments on key information that you will need to remember for your success in your career as an engineer and a college student.

**In the world of engineering (or almost any professional field), it is imperative that you submit reports, plans or required paperwork on time, thus I require you to submit your written work on the due dates. Late written work will not be accepted at all or without a grading penalty at the sole discretion of the instructor.**

Detailed assignment instructions will be given in class and on EO.

Students will be required to successfully complete the following:

Three written examinations each covering a portion of the text and materials presented in class

Drawings created the day of each of the exams done in class

A Chapter Review for each Chapter submitted in EO

Drawings created in class, and out of class from the companion website or Autodesk 360 and the textbook and **SUBMITTED IN EAGLE ONLINE (EO) as a .DWG file**. There will be exercises assigned after each class. In general, students who fail to do these assigned exercises do not do well in the course. All the exercises will be graded for credit. Students are strongly encouraged to attempt all exercises. The effort spent will enable you to perform better in tests and exams. All your exercises must be turned in as an attachment on EO. 60% of your grade in this course comes from drawings.

Written final exam covering Chapters 1-15 Basic and Chapters 1-7 Advanced of the textbook and materials presented in class (you must take the final to pass this course). There will be a 2D and a 3D drawing to create due the day of the final exam.

**Assessments (none of these are optional) Failure to complete any of the assignments below will result in a grade of F for class.**

Exams (3 of them)	20%
Exam Drawings	20%
Final Exam	10%
Final Exam Drawing(s)	10%
Chapter Reviews	5%
Classwork Drawings	20%
Homework Drawings	15%

Note on Classwork: You must be present in class to do the classwork. If you are not present, you receive a grade of zero. Classwork is due no later than 24 hours after class which would be on a Tuesday by 2:00 p.m. The lowest 2 Classwork grades will be dropped.

**PLEASE NOTE THAT THE LAST DAY OF INSTRUCTION IS Monday, November 28<sup>th</sup>, 2016. No work may be submitted after this date.**

**FINAL EXAM: During regular class hours on Monday, December 5th.**

#### Instructional Materials



**Textbook AutoCad and its Applications – Comprehensive 2016-** 23<sup>rd</sup> edition. By Terence M. Shumaker, David A. Madsen, David P. Madsen. Goodheart – Wilcox Publishing Company (ISBN 978-1-63126-431-3). This might or might not be available at the HCC bookstore. Brownish Cover. You can also use the Basic and the Advanced versions by the same authors, but it is more expensive because you are purchasing two books. These books may be purchased as an e-book from the publisher.

e-book: [www.g-wonlinetextbooks.com](http://www.g-wonlinetextbooks.com)

***Bring your textbook to every class. If you purchase an e-book, then bring your own reader (or computer) to class. The classroom computers will be used for AutoCad during class. You may not use your cellphone as an e-reader. You may not have both the textbook and AutoCad open on the same device during class.***

---

**Additional Materials:**

You need something to keep your papers, notes, study papers, etc. organized. Any method is fine with me, just be able to get at the materials quickly.

**You need a USB flash drive to save your drawings on.**

**Supplemental Materials:** Will be provided by the professor at each class period.

**Lab Portion of the Course:** Lab will be held at the end of each class. This course is a 2 hour lecture, 1 hour lab course. A typical class will start with lecture and end with lab. All classwork must be done IN CLASS. If you finish early you are more than welcome to stay and work on your homework.

**EGLS<sub>3</sub> – 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.

**Other Useful Websites:**

**Link to Companion Site:** <http://www.g-wlearning.com>

**Eagle Online ver 2.0:** <https://eagleonline.hccs.edu/login/ldap>

**Online Tutorials (get a free account using hcc email):** <http://www.hccs.cadlearning.com>

**AutoDesk Site (get free student version of AutoCad 2016):** [www.autodesk.com](http://www.autodesk.com)

**HCCS Student Sign-Ins:** <http://www.hccs.edu/district/students/student-sign-ins/>

**Student Handbook:** Students are responsible to adhere to all policies outlined in the *HCC Student Handbook*. Located at: <http://www.hccs.edu/district/students/student-handbook/>

**HCC Policy Statement – ADA**

Any student with a documented disability (e.g. physical, learning, psychiatric, developmental, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Support Services (DSS) Counselor at

the beginning of each semester. Faculty members are authorized to provide only the accommodations requested by the DSS office. The link is at <http://www.hccs.edu/district/students/disability-services> . Click on “Meet the staff” to obtain contact information on all ADA counselors.

### **HCC Policy Statement – Sexual Harassment**

HCC shall provide an educational, employment, and business environment free of sexual harassment. Sexual harassment is a form of sex discrimination that is not tolerated at HCC. Any student who feels that he or she is the victim of sexual harassment has the right to seek redress of the grievance. HCC provides procedures for reviewing and resolving such complaints through its Grievance Policy. Substantiated accusations may result in disciplinary action against the offender, up to and including termination of the employee or suspension of the student. In addition, complainants who make accusations of sexual harassment in bad faith may be subject to equivalent disciplinary actions.

### **HCC Policy Statement – Title IX**

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](http://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.

### **HCC Policy Statement: Academic Honesty**

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials 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 students’ test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
- Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another’s work and the unacknowledged incorporation of that work in one’s own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of O or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

### **HCC Policy Statement - Attendance**

*Class Attendance - It is important that you come to class!* Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to attend all lecture and labs regularly. You are expected to participate in outside class activities. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, students may be dropped from a course after accumulating absences in excess of 12.5% hours of instruction. The six hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

Attendance sign-in. Students are responsible for signing in at each class period.

### **STUDENTS WHO MISS MORE THAN 6 HOURS (2 class days) SHOULD EXPECT TO RECEIVE A COURSE GRADE OF "F." TARDIES AND LEAVING EARLY COUNT TOWARDS THE TOTAL ABSENCES.**

This reflects the 12.5% attendance policy addressed in the student handbook for this 2-credit, 48 contact-hour course.

If some unavoidable situation arises which causes you to miss class, then please keep me advised. Please be on time for class. Leaving class during the lecture is inconsiderate to others and will not be tolerated. Class starts promptly.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, you are responsible for all material missed. It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in paper if you unavoidably miss a class.

Class attendance equals class success. Certain assignments will be done ONLY in class and cannot be made up.

### **HCC Course Withdrawal Policy**

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal. Before, you withdraw from your course; please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals **throughout** their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor *may* "alert" you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If you plan on withdrawing from your class, you **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a “W” on your transcript. \*\*Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines. **Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.** If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade.

**W date for Fall 2016 is Friday, October 28<sup>th</sup>, 2016 by 4:30 pm. I will not withdraw or drop you since that is your responsibility.**

### **Repeat Course Fee**

The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC will charge a higher tuition rate to students registering the third or subsequent time for a course. 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.

### **Classroom Behavior**

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Attendance is strongly recommended. It is the rare student who can learn material on their own and do well in a class they do not attend. For the benefit of your fellow classmates and me, please refrain from regularly arriving late to class or leaving early. In addition, please do not disturb the class with pagers, phones, or conversation with your fellow students during class. Needless to say, this is extremely distracting and rude to others and the instructor.

In addition, it is *common courtesy* if you need to leave a “meeting” early, you notify the “manager” who is conducting the meeting and you sit close to the exit door. You also will be expected to go to the restroom, get a drink, return phone messages, etc. before you enter the “meeting”, so please begin practicing these behaviors now before you enter the “real life classroom”, ie. the workplace.

Regularly violating these common courtesy rules will detract from your final grade in the class.

### **Use of Camera and/or Recording Devices**

As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. To show respect of your fellow students and instructor, you will turn off your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor.

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations.

**Instructor Requirements**

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 class activities, discussions, and lectures
- 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

To be successful in this class, it is the student's responsibility to:

- Attend class and participate in class discussions and activities
- 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
- Complete all assignments including the final exam

**Grading**

The professor will conduct quizzes, exams, and assessments that you can use to determine how successful you are at achieving the course learning outcomes (mastery of course content and skills) outlined in the syllabus. If you find you are not mastering the material and skills, you are encouraged to reflect on how you study and prepare for each class. I welcome a dialogue on what you discover and may be able to assist you in finding resources on campus that will improve your performance.

The final course average will be computed using the following scale.

AVERAGE	GRADE
90% < Final Average < 100%	A
80% < Final Average < 90%	B
70% < Final Average < 80%	C
60% < Final Average < 70%	D
Final Average < 60%	F

**Grading Percentages:**

Average of grades 3 written exams to be given during the course (20%)

Average of grades from drawing(s) (done in class the day of the exam) (20%)

Chapter Reviews (5%)

Classwork - Drawing exercises from companion website (20%)

Homework - Homework exercises from textbook or handed out by instructor (15%)

Multiple choice comprehensive final exam (10%)

Final Exam Drawing(s) (10%)

**Cell Phones and Other Electronic Devices:** Please turn phones off or put them on vibrate mode. Listening devices, i.e., ipods, MP3's, etc. are to be stored away during class time. Text messaging is not allowed during class as it can be distracting to other students. **Abusers will be asked to leave class and marked absent.** Absences will effectively lower your course grade.



**Basic Competencies:**

**Reading:** The student is expected to read his/her textbook before he/she comes to class. Read the sections which will be covered in class and other references and web links.

**Writing:** The writing is expected to be at a college level with solid content and in accordance with the structure presented in class.

**Speaking:** The student should be prepared to present material, participate in class discussions and activities at every class period in a clear and concise manner.

**Listening:** The student is responsible for any material presented in class during lectures.

**Critical Thinking:** Application problems are an integral part of engineering. You will be asked to solve problems with deeper layer(s) or reasoning and understanding.

**Computer Literacy:** Students must have access to a computer outside of class to use for assignments. A portion of this class is conducted online in the Eagle Online EO Learning System. Certain assignments will be conducted only in the EO. Students must have an email that they check regularly that is linked to the college email system. Students are also responsible for checking EO on a regular basis for updates, new assignments, changes, etc. The professor will not send both an email and post in EO.

---

**Testing Policy:** On exam days the lecture and activities will be given the first half of class and the test will be given the last half of class. This way if a student needs extra time to finish the test, this will not conflict with the time needed for the lecture. Students are not permitted to leave the room and return once the test paper has been administered. On non-multiple choice items, partial credit will be given for correct work only, and the amount of partial credit awarded will be determined by the instructor. **There will be no make-up tests under any circumstances.** If you miss an exam, I will substitute the final exam grade for 1 missed exam only. The second missed exam will have a grade recorded of 0 (zero).

**Calculator Policy:** A simple scientific calculator may be used, but is not required. Cell phones may NOT be used as a calculator.

**Right to Modify this Syllabus:** The instructor reserves the right to modify this syllabus at any point in the course. Modifications will be announced in class and/or posted on EO or via email.

**Medical Conditions:** If you have some medical condition that will affect your attendance and participation in this class, please let me know as soon as possible. Sit in the class where you can exit quickly if necessary.

**Schedule:** A schedule will be provided in class and all graded activities have dates given in Eagle Online. Please bring any discrepancies to the attention of the instructor between the schedule provided in class and the dates in Eagle Online. When in doubt, email the instructor.

The link to the academic calendar showing important dates is found at:

<http://www.hccs.edu/district/events-calendar/academic-calendar/fall/fall-reg-term/>

**EXTRA CREDIT:** Please see the following link: <http://www.math.uh.edu/~tomforde/NoExtraCredit.html> . Change the words "Your Math" in the title to "Any". Extra credit will be available throughout the class and will not be accepted late.

**Student ID Card:** Obtain your Student ID card from the Cashier's office. You will need to show this ID card at certain times and it contains your Library ID# which you will need to access the HCC library resources. You should always have your student ID and your driver's license with you when on campus.

**Computer Information:** For all systems, your ID is your 10-digit student ID number which starts with the letter W and a password that you select. Login problems: call 713-718-8800 for assistance in password reset.

**At the top of every HCC webpage is a tab called STUDENT SIGN-INS.** This page has links to everything you need in one place. <http://www.hccs.edu/district/students/student-sign-ins/>

**CAMPUS COMPUTERS:** All HCC campuses have student computer labs that you can use. Days and Hours of operation vary. Call the Campus Location you are interested in and ask what hours the computer lab is open. Here is the link to campus locations: <http://www.hccs.edu/district/about-us/campuslocator/>. AutoCad 2016 is located on several stations at both the Fraga Campus Open Lab and on Eastside Campus in the Open Lab in the Angela Morales Building.

**STUDENT EMAIL:** You need to access your student email ASAP. All information sent from the college and from me will go to your student email. If you are having login problems, call 713-718-8800. First extra credit opportunity worth +1 point on Exam 1 is to send Mrs. Keller an email from your student email pleasantly asking for the extra credit by midnight, August 22<sup>nd</sup>, 2016.

**STUDENT SYSTEM (aka PEOPLESOFT).** This is the system where you registered for class, paid your fees, see your grades, financial aid, parking pass, etc. The professor uses this system to take attendance, send emails, and post your final grade.

**EAGLE ONLINE (CANVAS) (LEARNING MANAGEMENT SYSTEM):** This system is where all the course materials and assignments are posted. You will turn in most assignments here. Extra credit opportunity worth +1 point on Exam 1 is to send Mrs. Keller an email from EO pleasantly asking for the extra credit by midnight, August 22<sup>nd</sup>, 2016.

**LEARNING WEB:** All HCC professors are required to post their Vitae (resume) here along with the syllabus for classes they are teaching.