THE UNIVERSITY OF ARIZONA

ABE 220 – Introduction to AutoCAD

Fall 2017

2017-2018 Catalog Description

Introduction to computer aided design and drafting (CADD) concepts and techniques. Two-dimensional computer aided design and drafting techniques to construct basic shapes and make multi-view drawing. Aspects of the AutoCAD program's 2D tools from basic to the most powerful tools used in design and engineering. Introduction to 3D printing.

Credits and Contact Hours:

3 credits, three 2-hours optional help sessions per week hybrid course

Semesters: Fall, Spring, and Summer

Prerequisites: None

Co-requisites: None

Required, Elective, or Selected Elective: Elective

Instructor: Muluneh Yitayew

Contact Information and Instructions

Please use your university email account in all communications regarding this course. We cannot guarantee the delivery/receipt of messages using other email accounts.

Contact the Instructor with any questions regarding the course. Copy the Teaching Assistant on all correspondence with the Instructor.

Instructor:

Dr. Muluneh Yitayew

Email: myitayew@email.arizona.edu

Office: Shantz 531/533

Teaching Assistant:

Any email to the TA should also be carbon copied to the Instructor. The teaching assistant will monitor all the technical questions/answers from students and coordinate the lab monitors.

Email: _____

Office: _____

Lab Monitors:

1_____

2_____

3_____

Office Hours: By appointment if outside of the three 2-hour help sessions
There will be online office hours one day a week for 2-hours using GoToMeeting
Email response is within 24 hours on weekdays. No response on weekends

Locations and Times

This is a hybrid online course and as such there is no required meeting times. We will have three 2-hours help sessions per week in the Fall and Spring semesters and 2-hours per day in summer sessions in **Shantz 338**. Attendance to these help sessions is not required but encouraged for those who need help. Lab sessions are at the following times:

Wednesday	TBA
Thursday	TBA
Friday	TBA

Computer stations will be available in Shantz 338 for registered students during the lab hours. It is not mandatory, but you are encouraged to come to ask questions if you need help. The lab monitor and/or teaching assistant will be in charge of each session. The lab monitor may go over homework sets to clarify any issues that you may have on homework.

Assignments will be posted via D2L. You are free to work at your own pace as long as the assignment deadlines are met. However, you should complete each homework assignment in advance of its deadline as no late work will be accepted.

Teaching Format

The course as a hybrid online course with three 2-hours optional help sessions. It will be managed via D2L learning management system. A textbook containing follow-along tutorials will be used as the main resource for the class, along with some additional materials and problems that will be posted on D2L. It is recommended that you refrain from simply following each instruction in the tutorials and instead try to understand the principle upon which each step depends. This will help you in the scheduled quizzes for each chapter.

Instructional Objectives: At the completion of this course students will have the

1. Understanding of drafting skills
2. Understanding of editing techniques
3. Ability to work with complex objects
4. Ability to annotate drawings
5. Understanding of outputting work.
6. Understanding of advanced drawing and construction methods
7. Understanding of printing the model using 3D printing.

ABET Student Outcomes – Listed in ABET Criterion 3 for Engineering programs addressed by the course:

Learning outcome (c) Can design a system, component or process to meet desired needs within realistic constraints:

Learning outcome (k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Absence and Class Participation

The course is online and as such you are not required to attend any of the help sessions. If you are not able to do the assignments for the week because of excused absences such as sport activities or medical reasons, you have to notify the instructor ahead of time and you have to show a note for the excused absence.

Required Texts

AutoCAD 2017 Tutorial First Level 2D Fundamentals
Randy H. Shih SDC Publications.
Introduction to AutoCAD 2017: A Modern Perspective
Paul Richard and Jim Fitzgerald, Pearson Publication

Other Supplemental materials: Instructional Videos

Access to a personal computer running Windows 7 or above with an internet connection, is required for this course. As we are going to use the latest AutoCAD for each semester, students with new computers and Windows 10 operating system would have to download the latest version compatible with the textbook for each semester. Note: Having your own computer is not a requirement for this course. Computers in various OSCR labs and the libraries are available around campus with AutoCAD for your use to do assignments.

Note: AutoCAD is available for students for free both for Windows and IOS operating systems.

For Software/Hardware questions please consult the UA 24/7 at http://the24/7.arizona.edu/ or (520) 626-TECH (8324).

Examination and Projects

There will be no exam for this course instead there will be six quizzes to be completed in d2l according to the schedule. There will also be three individual projects during the fall and spring semesters and two individual projects for the summer sessions to be completed before the end of the semester (sessions). Homework and projects should be regarded as learning experiences, during which CAD skills can be both demonstrated and improved. Note: We consider projects as replacements to exams and as such we expect you to do projects by yourself without anybody's help even a paid tutor. There will not be help session on the weeks the projects are assigned.

Both homework and projects should be completed on time and submitted to d2l drop boxes on or before the deadline. Assignments turned in late will be severely penalized. Any homework or project turned in late within 24 hours of the deadline will receive 50% of the score; any assignment submitted after the 24 hour period will receive no credit. The D2L dropbox timestamp will be used to determine when an assignment was submitted.

Grading Criteria Breakdown

Quizzes	15%
Homework	40%
Projects	45%
Total	**100 %**

The final grade distribution is as follows:

90%-100%	A
80%-89.9%	B
70%-79.9%	C
60%-69.9%	D
<59.9%	E

The final grade distribution will be scaled in order to reflect the overall class performance each semester.

Assignment Format

All homework assignments will be released when the student returns this signed syllabus to the 'Syllabus' dropbox.

You will turn in your computer files via the D2L dropbox. You are required to read instructions carefully and ensure that all required files are turned in. You can easily forget to press the submit button when using D2L, so please remember to verify that your file is in the drop box after you submit it. It is your responsibility to make sure that your files are properly submitted. You will receive no credit for any assignment you fail to submit on time, regardless of the reason. An exception will be made for documented medical emergencies.

All files for each assignment must be submitted in a single .zip archive folder along with any previously created files that are reused in the assignment. When you use AutoCAD, you will find that many files are dependent (referencing other files). If you fail to include all of the referenced files you will receive only partial credit for the assignment. One problem per assignment randomly selected will be graded. The score on that one problem will reflect the student's mastery of the presented material. Incomplete or missing problems will result in a fractional percentage being subtracted from the homework score BEFORE grading is conducted. It behooves the student to complete the entire assignment accurately and punctually.

Help Session Lab Policy

Help sessions are held to assist students in understanding the concepts and techniques in AutoCAD in addition to those provided by text tutorials. They are for students who may have difficulties in completing assignments. We want to keep the lab as a positive learning

environment. Your cellphone has to be in vibrate mode and if you have to accept a call you have to do it outside the lab. You can use your headphone loud enough for you but not so loud to be heard by others.

Threatening Behavior

The University of Arizona seeks to promote a safe environment where students and employees may participate in the educational process without compromising their health, safety or welfare. The Arizona Board of Regents' Student Code of Conduct, ABOR Policy 5-308, prohibits threats of physical harm to any member of the university community, including to one's self. Threatening behavior can harm and disrupt the University, its community and its families.

Threatening behavior means any statement, communication, conduct or gesture, including those in written form directed towards any member of the university community that causes a reasonable apprehension of physical harm to a person or property. A student can be guilty of threatening behavior even if the person who is the object of the threat does not observe or receive it, so long as a reasonable person would interpret the maker's statement, communication, conduct or gesture as a serious expression of intent to physically harm. You are encouraged to read more on the Dean of Students Website.

Code of Academic Integrity

Integrity and ethical behavior are expected of every student in all academic work. This Academic Integrity principle stands for honesty in all class work, and ethical conduct in all labs and clinical assignments. This principle is furthered by the student Code of Conduct and disciplinary procedures established by ABOR Policies 5-308 through 5-404 *(see chapter 5)*, all provisions of which apply to all University of Arizona students. This Code of Academic Integrity (hereinafter "this Code") is intended to fulfill the requirement imposed by ABOR Policy 5-403.A.4 and otherwise to supplement the Student Code of Conduct as permitted by ABOR Policy 5-308.C.1. This Code of Academic Integrity shall not apply to the Colleges of Law or Medicine, which have their own honor codes and procedures.

Students are responsible for understanding and following the UA Code of Academic Integrity. Students engaging in academic dishonesty diminish their education and bring discredit to the academic community and the campus. Students should avoid situations likely to compromise academic integrity.

Academic Integrity at the University of Arizona is the principle that stands for honesty and ethical behavior in all homework, tests and assignments. All students should act with personal integrity and help to create an environment in which all can succeed.

Dishonesty will not be tolerated in this course. This includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will be reported to the Dean of Students Office and receive a sanctions, such as a failing grade on the assignment, exam, and/or in the course. Students should refer to the UA Code of Academic Integrity if they can question.

The University Libraries have some excellent tips for avoiding plagiarism on their website.

Specific Student Code of Academic Integrity CADD

Because CAD has become an essential tool in modern engineering design and analysis, we expect everyone to be proficient in its application by the end of the semester. To accurately assess each student's proficiency, we insist every student does his/her work without collaborating with any other student or other person in doing the homework, quizzes and projects. Graded homework and projects must be the product of independent effort. **No file sharing** is permitted, and will be viewed as an integrity violation (cheating) when detected. Downloading work from the internet and submitting as one's work is also considered cheating. **You have to work on your own file from start to end of any assignment.** Graders are able to check your files and ascertain that it is your work. Failure to abide by this rule constitutes a violation of the Code of Academic Integrity and will result your name being reported to the Dean of Students Office for cheating and disciplinary action taken as determined by the University's rules concerning dishonest scholarship: http://deanofstudents.arizona.edu/codeofacademicintegrity. The instructor reserves the right to lower your semester grade by one letter grade or fail you in the course if you are found guilty of cheating.

As a first homework assignment, each student pledges to abide by these rules by signing the "signature" line (at the end of this syllabus) and submitting the syllabus to the D2L dropbox. Students who do not submit a signed form will be administratively dropped from the class after the first week.

Nondiscrimination and Anti-harassment policy

The University of Arizona is committed to creating and maintaining an environment free of discrimination. In support of this commitment, the University prohibits discrimination, including harassment and retaliation, based on a protected classification, including race, color, religion, sex, national origin, age, disability, veteran status, sexual orientation, gender identity, or genetic information. The University encourages anyone who believes he or she has been the subject of discrimination to report the matter immediately as described in the section below, "Reporting Discrimination, Harassment, or Retaliation." All members of the University community are responsible for participating in creating a campus environment free from all forms of prohibited discrimination and for cooperating with University officials who investigate allegations of policy violations. http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

Accessibility and Accommodations

At the University of Arizona we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, you are welcome to let me know so that we can discuss options. You are also encouraged to contact Disability Resources (520-621-3268) to explore reasonable accommodation.

If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as outlined, or which will require academic accommodations, please register to the DRC office and notify us at the beginning of the semester

Confidentiality of Student Records

Family Educational Rights and Privacy Act of 1974 (FERPA) is the federal law that governs the rights of students and institutional responsibilities with respect to student records. FERPA is a

federal law designed to protect the privacy of a student's educational record. More details on what FERPA is about and specifics of what constitutes an Education Record can be accessed Here.

If you have any questions regarding any of the information provided on this site, please contact the University of Arizona Office of the Registrar via email at REG-reghelp@email.arizona.edu

Important Notes Specific to ABE 220

- Hardware and Software – Computers do crash! It is your responsibility to use a reliable computer and submit your homework on time. Anytime you are doing assignments, save your files frequently.

- Plagiarism in CADD– You are committing plagiarism if you either intentionally or accidentally make "direct use or close imitation of the part/assembly drawings and approaches of another student." Avoid accidentally imitating someone else's drawing procedure. Also keep in mind that you will be guilty of plagiarism even if you merely share proprietary information for the final project. Be very careful with your part drawings and assembly files of your homework and final project. Do not share them with anyone. Also, make sure that you delete all homework and project files from publicly shared computers after you save copies of the files in your USB drive.

- Honor System - We rely fully on an honor system for this web-based class. Those who are in violation of the honor code will be subject to various sanctions, including expulsion from the institution. We have **zero tolerance policy for integrity violation (Cheating).**

Schedule of Activities

Activity	Deadline End of	Quizzes	
Introduction Install AutoCAD 2017 and sign syllabus Describe and set the Workspace	Week 1		
AutoCAD Fundamentals	Week 2	Quiz 1	
Basic Object Construction Tools	Week 3		
Geometric Construction and Editing Tools	Week 4	Quiz 2	
Object Properties and Organization	Week 5		
Project 1	Week 6		
Orthographic Views and Multiview Drawings	Week 7	Quiz 3	
Basic Dimensioning and Notes	Week 8		
Templates and Plotting	Week 9	Quiz 4	
Parametric Drawing Tools	Week 10		
Auxiliary Views and Editing With GRIPS	Week 11	Quiz 5	
Project 2	Week 12		
Section Views	Week 13		
Assembly Drawings and Blocks	Week 14	Quiz 6	
Project 3 and 3D Printing	Weeks 15-16		