



EGD TEK 101 (3 units) – Engineering Graphics with CAD – Syllabus

Spring 2025 (February 10 – April 6)
Section #: 15415 LEC & 15416 LAB

Prerequisite: None

Course Description:

This course covers the principles of engineering drawings in visually communicating engineering designs and an introduction to computer-aided design (CAD). Topics include the development of visualization skills; orthographic projections; mechanical dimensioning and tolerancing practices including a brief introduction to geometric dimensioning and tolerancing (GD&T); and the engineering design process. Assignments develop sketching and 2-D and 3-D CAD skills. The use of CAD software is an integral part of the course.

Student Learning Outcomes:

1. Design drawings using CAD software and the principle of orthographic projection.
2. Interpret and apply geometric dimensioning and tolerancing in engineering graphics.

Course Objectives:

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

- A. Relate the importance of accurate presentation of ideas, design, and drawings in the engineering process.
- B. Discuss the importance of neat and accurate lettering and learn the principles of perspective drawing.
- C. Differentiate between the various types of projection and application of the three-dimensional models; learn the operation of the various basic drafting tools such as triangles, T-square, compass, dividers, protractor, engineering scale, and architectural scale.
- D. Employ introductory skills in two computer aided drafting (CAD) software tools.
- E. Identify the set-up of a drawing and the various settings required.
- F. Employ the function required to create a drawing such as, lines, grids, template, layers, and dimensioning.
- G. Identify and illustrate the techniques of auxiliary views, section views, dimensioning and tolerancing on

- H. Interpret and apply geometric tolerancing in engineering graphics as a technical communication tool.
- I. Identify visualization techniques of viewing three dimensional objects from a variety of views and cut sections from a perspective point of view.
- J. Identify and explain orthographic projection, the glass box concept, third angle projection, and create an orthographic drawing.
- K. Demonstrate proficiency in the language of Engineering Graphics including the definitions of orthographic projection, the glass box concept, tolerance, third angle projection, and auxiliary views.
- L. Understand the function of the various drafting tools required to create an engineering drawing.
- M. Practice 3-D CAD with hands-on experience utilizing the set-up of a drawing and the various settings required, the functions required to create a drawing such as lines, grids, templates, layers, and dimensioning. Apply the fundamentals of 3-D CAD by creating basic drawings to achieve competence in the presentation skills of a professional engineering drawing.
- N. Practice 2-D CAD with hands-on experience utilizing the set-up of a drawing and the various settings required, the functions required to create a drawing such as lines, grids, templates, layers, and dimensioning. Apply fundamentals of 2-D CAD by creating basic drawings to achieve competence in the presentation skills of a professional engineering drawing.
- O. Experiment with the concept of 'intersection' and 'visibility' by using two rods and viewing their respective positions. Practice the application of industry standards in visualizing three dimensional objects from a variety of views.
- P. Practice and illustrate the techniques of auxiliary views, section views, dimensioning and tolerancing on engineering graphical drawings.
- Q. Apply the theory of descriptive geometry by practicing orthographic projection, the glass box concept, third angle projection and creating orthographic drawings.
- R. Apply the various types of projections by sketching a variety of three-dimensional models; learn to use basic drafting tools such as triangles, T- square, compass, dividers, protractor, engineering, scale, and architectural scale.
- S. Practice the art of lettering and apply the principles of perspective drawing.

Instructor: A. Anwar – Use canvas internal message system to send me an email and I will respond by the next day. If for some reason, you are unable to access canvas, then as a last resort, you may send email me to my school email.

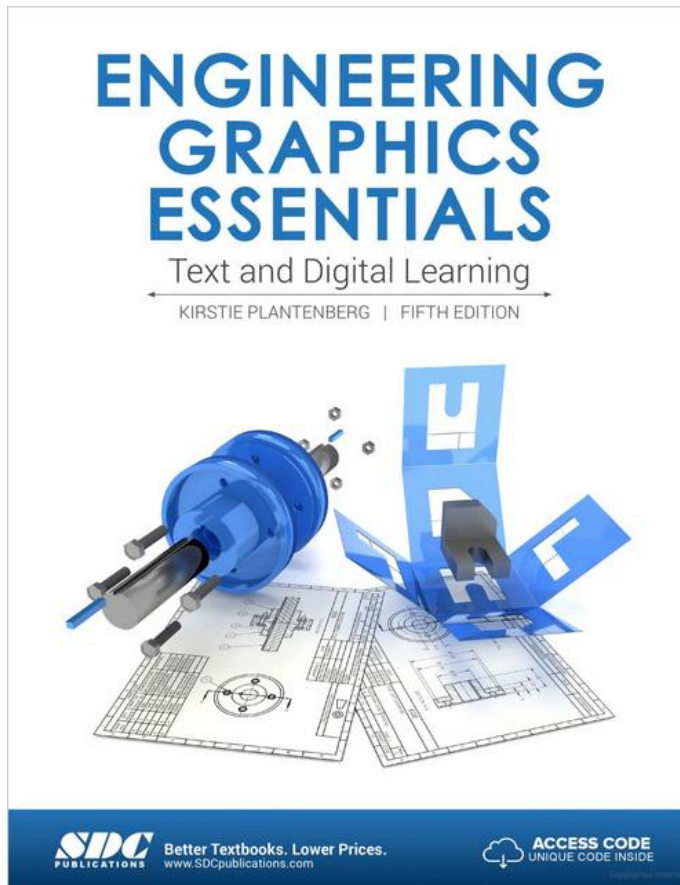
Email: anwara@lamission.edu

Website: <http://www.lamission.edu/~anwara>

Office Hours: Instructor will be available to answer any questions you might have about the course material or assignments via email or during the scheduled office hours via the online zoom conferencing session. The online office hours are scheduled for [Fridays from 9:00 AM to 10:00 AM](#) and may change depending on student feedback for their availability. https://ilearn.laccd.edu/courses/306567/external_tools/119650

Textbook: Engineering Graphics Essentials – Text and Digital Learning
Author: Kirstie Plantenberg, 5th edition
Publisher: SDC Publications
ISBN-13: 978-1630570521
ISBN-10: 1630570524

A Mission College Bookstore: <https://eagleslanding.lamission.edu>



Grading: Each student's grade will be calculated as follows:

20% - Weekly Homework Assignments (Seven H.W Assignments Total)
25% - Exam #1
25% - Exam #2
20% - Labs (7 Labs)
10% - Online Discussions

100% Total Grade

Gradebook Access:

To view your grade in the course at any time during the semester, click on the [“Grades”](#) in Canvas.

Spring 2025 IMPORTANT DATES

February 10, 2025	Instructions begin for Spring 2024
February 19, 2025	Deadline to add using an add permission code
February 19, 2025	Deadline to drop without a “W” notation
March 23, 2025	Deadline to drop with a “W” notation on record

Accommodations for DSPS students:

LAMC students with verified disabilities who are requesting academic accommodation should use the following procedure:

1. Obtain documentation of your disability from a licensed professional. You can use the [LAMC Disability Verification Form](#). Students exiting high school can use their IEP as a qualifying document.
2. Make an appointment with a Disabled Students Programs and Services (DSP&S) Counselor or Specialist to review your documentation and discuss reasonable accommodations. Please call DSP&S at (818) 364-7732 or use the Online Counter Support on the [DSP&S page](#) to schedule an eCounseling appointment.
3. Bring your disability documentation to your DSP&S eCounseling appointment, which will be held through Cranium Café. Be sure to use a laptop or computer with Chrome or Firefox (no smart phones) and a working video camera and microphone.
4. Every semester, you are required to meet with your DSP&S Counselor to review your academic progress and accommodation letter. After meeting with them, your written accommodation agreement will be emailed to your professor(s).

Please complete this process in a timely manner to allow adequate time to provide accommodation. Students who have questions with technology accessing Cranium Café or the webpage should send an email to Online Counter Support for further assistance; contact Adrian Gonzalez at gonzala@lamission.edu or Rachel Povolotsky at povolor@lamission.edu.

Management of Stress and Mental Health:

If you, or someone you know is in distress due to pressure of succeeding in school and contending with work, financial issues, relationships, managing time effectively, getting enough sleep, etc., please visit the Student Health Center (SHC), which offers a broad range of confidential student services including counseling and mental health services. The SHC is located in the Administrative Services Building. The SHC webpage is lamission.edu/healthcenter and the phone number is 818-362-6182. The National Suicide Prevention Lifeline number is 800-273-8255.

Student responsibilities:

Students are responsible for being aware of all announcements that are made in class, such as changes in exam dates, due dates of homework, and cancellation of discussion sessions due to instructor's absence. **Students are responsible for announcements made on days that they are absent.**

Students are expected to adhere to all school policies, and to abide by the standards of student conduct as described in the *2024-2025 Los Angeles Mission College Catalog*.

Resources:

- **Bookstore:** For hours of operation, book availability, buybacks, and other info. Call (818) 364-7798 or 364-7768 or visit <http://eagleslanding.lamission.edu/>
- **Counseling Department:** For appt. and info call (818) 364-7655 or visit <https://www.lamission.edu/counseling/>
- **Extended Opportunity Programs and Services:** For appt. and info. Call (818) 364-7645 or visit <http://www.lamission.edu/eops/>
- **Financial Aid:** For info. & applications call (818) 364-7648 or visit <http://www.lamission.edu/financialaid/>
- **Library:** For info. on library hours, resources, workshops, and other services contact (818) 364-7105 or 364-7106 or <http://www.lamission.edu/library/>
- **Tutoring Services in Learning Center:**
Laboratories for Learning, Writing, Math & Science. Walk-in and appointment services offered. Call (818) 364-7754 or visit <http://www.lamission.edu/learningcenter/>
- **STEM Program:** For those interested in pursuing a science, technology, engineering and math, please call the STEM counselor at (818) 364-7600 (ext4161) or visit <http://www.lamission.edu/stem/>

Class Policies:

- 1. Withdrawals and Exclusions:** If you fail to login to Canvas and complete the orientation and the expected assignments during the first week of the course, you will be excluded from the course as a NO SHOW. After that, I may still drop you for lack of activity (not logging into Canvas and not submitting assignments). If you wish to drop the class, you must drop the class yourself, *officially*. Failure to do so may result in a grade of "F" in the class. A new state policy in effect as of 2012 limits students to **three attempts per course**. Receiving a grade or a "W" for a course count as an attempt, **regardless of when the course was taken**. Withdraw by the deadline to avoid a "W". For spring 2025 the deadline to avoid a "W" is **Wednesday, February 19th**.
- 2. Cell Phone:** No cell phones or other electronic devices will be allowed during exams/or zoom lecture sessions. You may receive an F on an exam if your cell phone or other electronic devices are out during the exam (For in Person Classes).
- 3. Standards for Student Conduct:** Dishonesty, such as cheating or knowingly furnishing false information to instructors and college personnel, turning in work that is not one's own will be grounds for disciplinary action at LAMC according to the Standards of Student Conduct as described on the LAMC Catalog. The penalty may range from no credit for the assignment up to an "F" grade and disciplinary action. Students are expected to adhere to all school policies, and to abide by the standards of student conduct as described in the LAMC catalog. Any infringement upon the rights of other students in the class will not be tolerated. Please refer to [LACCD Board Rule 9800](#) for further information.
- 4. Communication Policy:** Pay attention to my emails and canvas announcement, which will be my main channel of communication with you. You can use the inbox option in Canvas to communicate with me. I will respond to emails within 24 hours with the exception of weekends and holidays.

AI Policy:

You may use Generative AI Tools to help you do the work in this class. If you use AI as a tool, explain which AI tool you used, how you used it, what prompts you provided to the AI tool, and what other contributions you made. It is your job to ensure your work meets the standards of the class.

Bottom line:

- you can use AI to help you better understand concepts in the lecture material (no need to report)

- you can use AI to help you write assignments (but you can only use it to HELP you write it; it needs to ultimately be your own work — and you must include how you used AI in your submission)

COVID-19 Safety On Campus

Please read the instructions below carefully in case you need to visit the campus.

Check-In Before Arriving

To keep our students, employees, and visitors safe, LACCD requires all students, employees, and visitors to be assessed for COVID-19 symptoms each day before entering any LACCD campus or facility. Please complete the campus check-In questionnaire using your 'Cleared4' link and obtain your daily pass. Once on campus don't forget to complete the check-in process by scanning your pass at the station set up in the main entrance of CMS building.

Wearing Masks on Campus

In compliance with Health Orders from the Los Angeles County Department of Public Health, the Los Angeles Community College District, Board Policy 2800, approved August 4, 2021, all students, employees and visitors, regardless of vaccination status, shall wear a surgical grade mask or N-series mask (no cloth masks) while inside any District building, classroom, library, gymnasium, facility or other indoor setting. These requirements are in place to fulfill the Board's statutory obligation to protect its students, faculty, employees, and visitors from the risks associated with the spread of infectious diseases, including the spread of the COVID-19 virus and its variants.

If you test positive for COVID19 please follow the up-to-date procedures for Covid19 positive students: [EOC Updated Message January 27 2022.pdf \(laccd.edu\)](#)

For COVID19 updates please visit: [Coronavirus \(laccd.edu\)](#)

TENTATIVE SCHEDULE

February 10th thru April 6th - 2025

Meeting	Date	Topic	Assignments	Assignments Due
Week 1	February 10, 2025	Lecture 1- Engineering Graphics & Lecture #2 - Sketching & Tools	HW #1 & HW #2	None
Week 2	February 17, 2025	Lecture 3 - DWGs & Letters & Lecture #4 - Creating Geometry	HW #3 & HW #4 & Lab #1	HW #1 & HW #2
Week 3	February 24, 2025	Lecture 5 - Auxiliary Views	HW #5 & Lab #2 & Discussion #1	HW #3 & HW #4 & Lab #1
Week 4	March 3, 2025	Lecture 6 - Section Views	HW #6 & Lab #3	HW #5 & Lab #2
Week 5	March 10, 2025	Lecture 7 - Design Process & Exam #1	Lab #4 & Lab #5	HW #6 & Lab #3
Week 6	March 17, 2025	Lecture 8 - Dimensioning & Tolerancing	HW #7 & Discussion #2	Lab #4 & Lab #5
Week 7	March 24, 2025	Lecture 9 - Fundamentals of GD &T	Lab #6 & Lab #7	HW #7
Week 8	March 31, 2025	Lecture 10 - Solid Modeling & Exam #2	None	Lab #6, & Lab #7