COLLEGE OF ENGINEERING
General Engineering

GENG 111 / Engineering Graphics

Fall 2022

Instructor Information

Name:
Academic title:
Office:
Phone:
E-mail:
Office Hours:

TA Information

Names:
Office:
Phone:
E-mail:
Office Hours:

Class/Laboratory Schedule

Coordinator Information

Name: Dr. John-John Cabibihan
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Course Information

Catalog Description:
This course discusses the fundamental concepts of engineering graphics. It gives also an introduction to computer graphics using CAD software. The following topics are covered: Drawing conventions such as standards, line types and dimensioning; drawing of inclined and curved surfaces; deducting the orthographic views from a pictorial; drawing full and half sections; deducting an orthographic view from given two views; pictorial sketching (isometric and oblique).

Credits:
3 credit hours

Contact Hours:
2 Lecture hours and 3 Lab hours

Prerequisites:
None

Textbook(s):
Technical Drawing with Engineering Graphics, FE Giesecke, A Mitchell, HC Spencer and IL Hill, 14th ed., Prentice Hall, 2011

References:

1. "Manual of Engineering Drawing" by Simmons C.H. and Mguire, D.E., 2nd ed., Elsevier.
2. Graphics Concepts for Computer Aided Design", Lueptow, R.M., 2nd ed., Prentice Hall, 2008.
3. Interpreting Engineering Drawings, Jensen, C.H. and Helsel, G.D., 7th ed., Thomson Delmar Learning, 2007. ISBN: 1-4180-5573-5 / ISBN13: 978-1-4180-5573-8.

Course Objectives:

- Recognizing the standards of engineering graphics and developing the ability of using manual and digital media to produce them.
- Developing the ability of deducing orthographic projections and producing fully dimensioned engineering drawings.
- Comprehending visually the relationship between 2D and 3D engineering drawings utilizing CAD software packages.

Course Learning Outcomes (CLOs):

1. Recognize the value of engineering graphics as a language of communication.
2. Infer the nature of engineering graphics, the relationships between 2D and 3D environments.
3. Comprehend and deduce orthographic projections of an object.
4. Visualize wide variety of objects and drawing the missing views.
5. Comprehend and deduce section views.
6. Produce three dimensional drawings utilizing CAD software.

Relationship of Course Learning Outcomes (CLOs) to Student Outcomes (SOs):

Course Learning Outcomes (CLOs)	**Related Student Outcomes (SOs)**						
	1	**2**	**3**	**4**	**5**	**6**	**7**
1							X
2	X						
3	X						
4	X						
5	X						
6							X

Student Outcomes (SOs)

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Topics Covered:

Topics	**Weeks**
Introduction: graphic language, standards, instruments, letters…etc	1
Basics for interpreting drawings, line types, types of drawings and sketches	1
Orthographic views. Deducing front, top, and side views from a pictorial	3
Dimensioning	1
Pictorial sketching: isometric and oblique	3
Drawing a missed view from given two	2
Sectional views: full and half sections	3
Total	14

Method of Instruction

Instruction in this course incorporates a number of activities: lectures, in-class and take home exercises and drawing sessions, presentations and discussions for enhancing students understanding of engineering graphics

Lectures entail discussion and presentation of major concepts in engineering graphics. Lectures will place emphasis on a number of generic topics that include: the role and importance of graphics for the engineering profession, drawing instruments, projection, types of graphics, dimensioning, utilizing CAD software, Isometric drawings, missing views, sectioning and drawing conventions.

Exercises include in-class and take-home assignments that develop students' ability to understand components, features, and characteristics of objects. The first set of exercises will place emphasis on sketching and using manual media, while other exercises will focus on developing students' abilities to utilize CAD software in producing two and three dimensional drawings.

Discussions offer a forum for students' participation as well as the instructors to debate the quality of work and the tasks performed by the students. At regular interventions, discussion of students' progress and development in comprehending engineering graphics will take place. Based on these discussions and presentations, students will have the opportunity to realize the problems they may encounter and compare their work with that of their colleagues. Additional exercises may be assigned to those who might have difficulties.

Assessment Methods and Grading Policy*

Class Exercises	20%
Laboratory Exercises	20%
Midterm Exam for Manual Drawings	30%
Midterm Exam for Computer-Aided Drawings	---
Final laboratory exam	30%
Final Exam	---
	100%

*Subject to change, depending on CENG-TIEE instructions.

ABET Contribution of Course to Professional Component

Subject Area (Credit Hours)
College-Level Math & Basic Science:
Engineering : 3 cr
Engineering Design :
Broad Education :

Computer/Software Usage

AutoCAD

Laboratory Projects

AutoCAD

Course Ground Rules

Attendance: Class attendance is mandatory according to the Qatar University regulations. It is student's responsibility to keep track of her attendance and follow up the class notes, assignments, and announcements in a missed session.

Late submission: submit the required classwork and homework on time. There will be deductions for late submission.

Please try to come to class on time. If you are late, just open the door and have a seat quietly.

University Code of Conduct

QU expects its students to adopt and abide by the highest standards of conduct in their interaction with professors, peers, staff members and the wider university community. Moreover, QU expects its students to act maturely and responsibly in their relationships with others. Every student is expected to assume the obligations and responsibilities required from them for being members of the QU community.

As such, a student is expected not to engage in behaviors that compromise their integrity, as well as the integrity of QU. Further information regarding the University Code of Conduct may be found on the web at http://www.qu.edu.qa/students/code-of-conduct

Support for Students with Special Needs

It is Qatar University policy to provide educational opportunities that ensure fair, appropriate and reasonable accommodation to students who have disabilities that may affect their ability to participate in course activities or meet course requirements. Students with disabilities are encouraged to contact their Instructor to ensure that their individual needs are met. The University through its Special Needs Section will exert all efforts to accommodate for individuals' needs.

Contact Information for Special Needs Section:
Tel-Female: (00974) 4403 3843
Tel-Male: (00974) 4403 3854
Location: Student Activities Building
Email: specialneeds@qu.edu.qa

Academic Support and Learning Resources

The University Student Learning Support Center (SLSC) provides academic support services to male and female students at QU. The SLSC is a supportive environment where students can seek assistance with academic coursework, writing assignments, transitioning to college academic life, and other academic issues. SLSC programs include: Peer Tutoring, the Writing Lab, Writing Workshops, and Academic Success Workshops. Students may also seek confidential academic counseling from the professional staff at the Center.

Contact Information for Students Support and Learning Resources:
Tel: (00974) 4403 3876
Fax: (00974) 4403 3871
Location: Female Student Activities Building
E-mail: learningcenter@qu.edu.qa

Student Complaints Policy

Students at Qatar University have the right to pursue complaints related to faculty, staff, and other students. The nature of the complaints may be either academic or non-academic. For more information about the policy and processes related to this policy, you may refer to the student handbook.

Declaration

This syllabus and contents are subject to changes in the event of extenuating circumstances. The instructor (with approval of the Head of Department) reserves the right to make changes as necessary. If changes are necessitated during the term of the course, the students will be notified by email communication and posting the notification on the online teaching tool Blackboard. It is the student's responsibility to check on announcements made while they were absent.

Faculty Name:
Last Modified:
Date: