

COURSE OUTLINE

Subject & Code: Engineering Drawing (SKV 1021)

Total Lecture Hours: 28 Hours

Synopsis:

This course provides a fundamental background in engineering drawing to the students, which will enable them to work more effectively in the various fields of engineering. It will emphasize on the introduction to engineering drawing, fundamentals of engineering drawing, geometry, orthographic and isometric drawing. This course also introduces the sectional and flowchart drawing and computer aided engineering drawing to the students.

Learning Outcomes:

At the end of the course, the student should be able to apply the knowledge of sketching and technical drawing in the various fields of engineering.

Generic Skills Addressed: Problem solving

COURSE OUTLINE

Week	Topic	Learning Outcome
1	Introduction to engineering drawing <ul style="list-style-type: none"> • Introduction • Drawing tools (Qcad software) • Basic theory of Qcad • Starting the Qcad • Coordinate system • Qcad commands • Evaluation/assessment system 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Understand the basic theory of Qcad • Draw using the Qcad software.
2	Fundamentals of engineering drawing <ul style="list-style-type: none"> • Alphabets and numbers • Engineering drawing layout • Types of line • Scales • Dimensioning 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Identify and using the basics of engineering drawing
3-5	Geometry <ul style="list-style-type: none"> • Introduction • Building a geometry • Geometry techniques for building a straight line • Geometry techniques for building a curved line • Techniques for drawing polygons and normal structures 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Build a geometry • Differentiate types of geometry technique for building • Apply the techniques for drawing polygons and normal structures
6&7	Orthographic drawing <ul style="list-style-type: none"> • Introduction • Significance and its application • Basic theory <ul style="list-style-type: none"> ○ First angle projection ○ Third angle projection • Techniques for spacing out drawing 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Identify the significance and application of the orthographic drawing • Apply the techniques of orthographic drawing • Using the techniques for spacing out drawing
8	Mid Term Break	
9-11	Isometric drawing <ul style="list-style-type: none"> • Introduction • Significance • Basic method • True length 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Understand the significance of isometric drawing • Apply the basics method of isometric drawing
12-14	Sections <ul style="list-style-type: none"> • Introduction and application • Symbols and positioning the cutting plane or sections • Types of cross section • Techniques for drawing sections • Conventions used in section drawing 	<i>It is expected that students will be able to:</i> <ul style="list-style-type: none"> • Identify the symbols and position the cutting plane/sections • Apply the technique for drawing sections
15	Revision Week	
16-18	Examination Week	

Teaching Methodology:

References:

Students are strongly advised to refer to at least one of the following texts:

1. Mainal, M.R., Samian, Y. & Ghani, B. "Lukisan Kejuruteraan (Asas)". Unit Penerbitan Akademik UTM. Kuala Lumpur, Malaysia, 1988.
2. Hanafiah, H. A., "Lukisan Kejuruteraan Berbantuan Komputer", UTM, Johor, Malaysia, 1988.
3. Elliot, S. D. "AutoCAD: A Consise Guide to Commands & Features for Release 13 for Windows", Fourth Ed., Mac Graw Hill, 1995.
4. Giesecke, F. E., "Technical Drawing and Design", Third Ed., Delmar Pub., New York, USA, 1994.
5. Maguire, D. E. & Simmons, C. H., "Technical Drawing", Second Ed., Hodder and Soughton, London, 1998.

Assessment:

Test 1: 25%

Test 2: 25%

Assignments : 50%

*Test 1 and Test 2 will be tentatively held in Week 7 and Week 13 respectively.