Course Description Sample

Subject: Engineering Drawing

This course description provides a brief survey of the most important characteristics, expected learning output, showing whether students have made full use f the learning opportunities. These characteristics have to be matched with the description of the program.

1. Educational Institution	Shatt Al-Arab University College
2. Department / Center	Mechanical power engineering Techniques
3. Course Title /Code	MPAC101 / Engineering Drawing
4. Lecturer Name	Iman ghazi Mohammed
5. Type of Teaching	Attendance
6. Academic Year /Term	Midterm
7. Total No. of Teaching Hours	125 hours / every week 6 hours
8. Date f Preparing this Course Description	15/11/2023

9. **Course Objectives**

a. Increasing engineering awareness using the basics of engineering drawing and the use of technology for drawing
b. Analyze shapes with the ability to determine the projections of binary and draw triangular shapes

10. **Course Output, Methodology and Evaluation**

(A) **Cognitive Objectives**

A1- Knowing the basics of drawing and distinguishing the basic principles of the drawing process and the available dimensions.
A2- Solve and draw complex geometric and electronic shapes through the use of technology
A3- Understand the basic engineering principles of drawing tools
A4- Determining the projections of the binary
A 5- Distinguish the types of pieces and indicate how to draw them

(B) **Skill Objectives Related to the Program**:

B1 - Identify complex problems in drawing and determine how to solve through the availability of tools
B2 - Applying mathematical analysis to draw different shapes using different measurements
B3 - Circuit analysis and interpretation to draw electronic circuits in a professional manner and print them using electronic circuit printers
B 4- Linking the theoretical aspect with discussions and how to use tools to extract unavailable forms that cannot be obtained within the geographical area

Methods of Teaching and Learning

Study lectures Discussions between different student groups about the application of theories Establishing workshops and theoretical presentation on how to use the basics of drawing to draw simple and complex electrical and electronic circuits. Use of various means to increase understanding and clarification. Extra-curricular discussions and assignments to increase understanding of graphic examples and applications used in applications and electronic circuits

Methods of Evaluation

Number	calendar element	degree

(C) **Sentimental and Value Objectives**

C1- Enhancing thinking and planting moral responsibility for learning and thinking about a set of protective solutions to solve mathematical problems and how to analyze and draw electronic circuits with the possibility of printing them locally or externally
C2 - Develop a thinking strategy for the student to analyze binary drawings in different forms and transform them into triangular forms
C3 - Respect for self and the other through discussions aimed at improving drawing skills with full knowledge of the latest programs and their accessories in the process of drawing different shapes
C4- Developing modern engineering techniques and skills and tools necessary for practicing the engineering profession and trying to use available techniques to produce more modern forms.

Methods of Teaching and Learning

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Methods of Evaluation

Quarterly exams
Quizzes
Other extra-curricular exams

D) General and Qualitative Skills (other skills related to the ability of employment and personal development)

D1- Communication skills and the correct delivery of information
D2 - Analysis and investigation to produce complex drawings using available tools
D3- Using modern technology to draw electronic circuits
D4 - The importance of teamwork to produce what is required, as the goal is not achieved without the presence of an integrated team

11. **Course Structure**

Week	No of Hours	Required Learning Output	Title of Subject	Teaching Method	Evaluation
1	6 working hours per week	Introduction to Autodesk AutoCAD • Starting the Software • User Interface • Working with Commands • Cartesian Workspace • Opening an Existing Drawing File • Saving a Drawing File		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
2		Basic Drawing & Editing Commands • Drawing Lines • Erasing Objects • Drawing Lines with Polar Tracking • Drawing Rectangles • Drawing Circles • Undo and Redo Actions		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
3		Projects - Creating a Simple Drawing • Create a Simple Drawing • Create Simple Shapes		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
4		Drawing Precision in AutoCAD		Practical lectures	Assessment varies according to

		• Using Running Object Snaps • Using Object Snap Overrides • Polar Tracking at Angles • Object Snap Tracking • Drawing with Snap and Grid			assessment methods; achievement test + class assignment
5		Making Changes in Your Drawing • Selecting Objects for Editing • Moving Objects • Copying Objects • Rotating Objects • Scaling Objects • Mirroring Objects • Editing with Grips		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
6		Advanced Object Types • Drawing Arcs • Drawing Polylines • Editing Polylines • Drawing Polygons • Drawing Ellipses		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
7		Advanced Editing Commands • Trimming and Extending Objects • Stretching Objects • Creating Fillets and Chamfers • Offsetting Objects • Creating Arrays of Objects		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
8		Mid-term exam		Practical lectures	Assessment varies according to

					assessment methods; achievement test + class assignment
9		Adding Dimensions •Dimensioning Concepts •Adding Linear Dimensions •Adding Radial and Angular Dimensions •Editing Dimensions Text •Working with Annotations •Adding Text in a Drawing •Modifying Multiline Text •Formatting Multiline Text •Adding Notes with Leaders to Your Drawing		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
10		Hatching •Hatching •Editing Hatches		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
11		3D modeling		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment

12		Convert 2D To 3D.		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
13		Exercises drawing		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
14		Printing Your Drawing •Printing Layouts •Print and Plot Settings		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment
15		Preparatory week before the final Exam		Practical lectures	Assessment varies according to assessment methods; achievement test + class assignment

12.**Infrastructure**

a. Textbooks	Mastering AutoCAD 2010 and AutoCAD LT 2010 1st Edition

b. References	AutoCAD 2010 Command Reference, AutoCAD tutorial 2011
c. Recommended books and periodicals (journals, reports, etc.)	
d. Electronic references, internet websites, etc	Getting Started with the Basics in AutoCAD 2017

13. **The Plan of Improving the Course**

Adding vocabulary to the curricula as part of the development taking place in the course, at a rate not exceeding 5%.
Adding new and modern sources, along with adding videos explaining the drawing process