**Ministry of Higher Education and Scientific Research**

**Supervision and Scientific Evaluation Body**

**Quality Assurance and Academic Accreditation Office**

# 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.

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| 1. Educational Institution | Shatt Al-Arab University College |
| 2. Department / Center | Computer Technology Engineering |
| 3. Course Title /Code | FUND 9103 / Engineering Drawing |
| 4. Lecturer Name | Hussein Fouad abbas almazini |
| 5. Type of Teaching | Attendance |
| 6. Academic Year /Term | Midterm |
| 7. Total No. of Teaching Hours | 90 hours / every week 3 hours |
| 8. Date f Preparing this Course Description | 11/7/2022 |

## 9. **Course Objectives**

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| 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**

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| 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**:

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| 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**

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| Study lectures<br>Discussions between different student groups about the application of theories<br>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**

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| Quarterly exams |
| Quizzes |
| Other extra-curricular exams |

## (C) **Sentimental and Value Objectives**

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| 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. |

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

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| D 1- Communication skills and the correct delivery of information |
| D2 - Analysis and investigation to produce complex drawings using available tools |
| D 3- 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** |
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| 1 | 3 working hours per week | -Get a quick introduction to AutoCAD<br>-Drawing Setup in AutoCAD<br>-Use precision drawing tools such as Grid, Object Snap, and Polar Tracking to create accurate measurements in drawings. | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |

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| 2 | | -Get a quick introduction to AutoCAD<br>-Drawing Setup in AutoCAD<br>-Use precision drawing tools such as Grid, Object Snap, and Polar Tracking to create accurate measurements in drawings. | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 3 | | -Get a quick introduction to AutoCAD<br>-Drawing Setup in AutoCAD<br>-Use precision drawing tools such as Grid, Object Snap, and Polar Tracking to create accurate measurements in drawings. | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 4 | | Coordinate method<br>(Direct distance method<br>Absolute coordinate<br>Relative coordinate<br>Polar coordinate) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 5 | | Coordinate method<br>(Direct distance method<br>Absolute coordinate<br>Relative coordinate | | Practical lectures | Assessment varies according to assessment methods; achievement |

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| | | Polar coordinate) | | | test + class assignment |
| 6 | | Coordinate method (Direct distance method Absolute coordinate Relative coordinate Polar coordinate) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 7 | | Coordinate method (Direct distance method Absolute coordinate Relative coordinate Polar coordinate) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 8 | | Drawing Objects in AutoCAD ( multiline ,construction line, polyline ray, helix) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 9 | | Drawing Objects in AutoCAD ( multiline ,construction line, polyline ray, helix) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 10 | | Drawing polygon, donut, arc, circle Drawing ellipse, point, and spline. | | Practical lectures | Assessment varies according to |

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| | | | | | assessment methods; achievement test + class assignment |
| 11 | | Drawing polygon, donut, arc, circle Drawing ellipse, point, and spline. | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 12 | | Drawing polygon, donut, arc, circle Drawing ellipse, point, and spline. | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 13 | | Modify menu ( copy, move, mirror, array, offset, scale, rotate, erase, properties,…) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| 14 | | Modify menu ( copy, move, mirror, array, offset, scale, rotate, erase, properties,…) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |

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| 15 | | Modify menu ( copy, move, mirror, array, offset, scale, rotate, erase, properties,…) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Properties and Layers in AutoCAD and dimension . | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Properties and Layers in AutoCAD and dimension . | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Introduction to 3D Modeling Exercises to convert 2d to 3d | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Introduction to 3D Modeling Exercises to convert 2d to 3d | | Practical lectures | Assessment varies according to assessment methods; |

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| | | | | | achievement test + class assignment |
| | | Introduction to 3D Modeling<br>Exercises to convert 2d to 3d | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Using UCS in drawing | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Using UCS in drawing | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Drawing solid objects (Box, cone ,sphere ,cylinder, torus)<br>Modifying solid objects | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Drawing solid objects (Box, cone | | Practical lectures | Assessment varies |

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| | | ,sphere ,cylinder, torus)<br>Modifying solid objects | | | according to assessment methods; achievement test + class assignment |
| | | Drawing solid objects (Box, cone ,sphere ,cylinder, torus)<br>Modifying solid objects | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Drawing surfaces objects<br>3d operation (Move, rotate, align, mirror) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Drawing surfaces objects<br>3d operation (Move, rotate, align, mirror) | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |
| | | Mesh editing<br>Render and materials | | Practical lectures | Assessment varies according to assessment methods; achievement |

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| | | | | | test + class assignment |
| | | Mesh editing<br>Render and materials | | Practical lectures | Assessment varies according to assessment methods; achievement test + class assignment |

## 12.**Infrastructure**

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| 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 2010 |

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

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| اضافة مفردات للمناهج ضمن التطور الحاصل في المقرر وبنسبة ال تتجاوز 5% |
| مع إضافة فيديوهات تشرح عملية الرسم إضافة مصادر جديدة وحديثة |