



Department of Architecture

College of Engineering

Salahaddin University - Erbil

Subject: Computer Applications (AutoCAD)

Course Book –Year 1 (Spring semester)

Lecturer's name:

Polla Dilshad Ibrahim

Academic Year: 2021/2022

Course Book

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| 1. Course name | Computer Applications (AutoCAD) |
| 2. Lecturer in charge | Polla Dilshad Ibrahim |
| 3. Department/ College | Architecture |
| 4. Contact | e-mail: polla.ibrahim@su.edu.krd Tel: 07507436029 |
| 5. Time (in hours) per week | Theory: 1 Practical: 3 |
| 6. Office hours | Sunday to Thursday 8:30 to 3:30 |
| 7. Course code | |
| 8. Teacher's academic profile | <p>I got my BSc in architecture at university of Salahaddin in 2011. Then I got my MSc in Sustainable architecture at University of Sheffield, United kingdom in 2014.</p> <p>My research interests are in Sustainable Architecture Design , Building Simulation, Low Impact Materials, Design Processes and Methodologies. Considering architectural design within a broad social, environmental and economic context.</p> <p>Through my academic career I contributed to several modules. Like Architectural design 3rd stage and 2nd stage. Building Construction 2nd stage, Working Drawing 3rd stage and computer applications 1st stage.</p> |
| 9. Keywords | CAD, Architectural programs, Drawings, 2D drawing, AutoCAD |
| 10. Course overview: | <p>AutoCAD is a 2-D and 3-D computer-aided drafting software application used in architecture, construction and manufacturing to assist in the preparation of blueprints and other engineering plans. Professionals who use AutoCAD are often referred to as drafters. The AutoCAD course (2D) was designed for students to be involved with the architectural and engineering design fields. The purpose of this course is to provide students with an understanding of the importance of modern graphic communication to the design process. Students will experience CAD technical drawings by creating drawings that are neat and correctly dimensioned.</p> |
| 11. Course objective: | <p>This course helps students to be familiarized with current approaches of Computer Aided Design CAD and Computer Aided Modelling CAM. The students will be prepared to utilize AutoCAD software in an efficient and effective way for both university level of studying and professional practice in private sector.</p> <p>AIMS:</p> <p>To introduce students to using computers and architectural software such as AutoCAD. To upgrade students' abilities to distinguish between design and CAD. To introduce students to present their projects using computer skills.</p> |

| 17. The Topics: | | Lecturer's name |
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| | | Polla Dilshad Ibrahim ex: (4 hrs) Theoretical and practical |
| Weeks | Lecture subject | |
| Week 1 | Introduction to AutoCAD , Course out line , Installing AutoCAD on students laptops, | |
| Week 2-3 | Getting Started <ul style="list-style-type: none"> • Exploring the AutoCAD 2017 for Windows User Interface • Setting Drawing Unit Starting Basic Drawing Skills: <ul style="list-style-type: none"> • Navigating 2D Drawings • Drawing Lines and Rectangles • Canceling, Erasing, and Undoing • Using Coordinate Systems • Drawing Circles, Arcs, and Polygons • Filletting and Chamfering Lines • Working with Layers | |
| Week 4-5 | Editing Entities: <ul style="list-style-type: none"> • Creating Selection Sets • Move and Copy • Rotate and Scale • Working with Arrays • Trim and Extend • Lengthen and Stretch • Offset and Mirror • Grip Editing | |
| Week 6 | Using Drawing Aids: <ul style="list-style-type: none"> • Grid and Snap • Ortho and Polar Tracking • Running Object Snaps | |
| Week 7 | Shaping Curves: <ul style="list-style-type: none"> • Drawing and Editing Curved Polylines • Drawing Ellipses • Drawing and Editing Splines • Blending Between Objects with Spline | |
| Week 8 | Controlling Object Visibility and Appearance: <ul style="list-style-type: none"> • Changing Object Properties • Setting the Current Layer • Altering the Layer Assignments of Objects • Controlling Layer Visibility • Applying Line type • Assigning Properties by Object or by Layer • Managing Layer Properties | |

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| Week 9-10 | Working with Blocks and Xref: <ul style="list-style-type: none"> • Defining Blocks • Inserting Blocks • Editing Blocks • Redefining Blocks • Working with Groups • Working with Global Blocks • Accessing Content Globally • Storing Content on Tool Palettes • Referencing External Drawings and Image |
| Week 11 | Hatching and Gradients: <ul style="list-style-type: none"> • Specifying Hatch Areas • Associating Hatches with Boundaries • Hatching with Patterns • Hatching with Gradient |
| Week 12 | Creating and Editing Text: <ul style="list-style-type: none"> • Creating Text Styles • Writing Lines of Text • Writing and Formatting Paragraphs of Text Using MTEXT • Editing Text |
| Week 13 | Creating and Editing Dimensions: <ul style="list-style-type: none"> • Dimension Style • Adding Dimensions • Editing Dimensions |
| Week 14 | Working with Layouts and Annotative Objects <ul style="list-style-type: none"> • Creating Annotative Styles and Objects • Creating Layouts • Adjusting Floating Viewports • Overriding Layer Properties in Layout Viewports • Drawing on Layout |
| Week 15 | Printing and Plotting <ul style="list-style-type: none"> • Configuring Output Devices • Creating Plot Style Tables • Using Plot Style Tables • Plotting in Model space • Plotting Layouts in Paper space • Exporting to an Electronic Format |

18. Practical Topics (If there is any)

There will be practical part in all lectures and topics

19. Extra notes:

This course has a strong relation with students' future career. Excellent AutoCAD skill is required by all professional Architecture and Engineering firms. Thus, it is recommended to do a lot of practise while you are in the lecture as well as at home. Good users of such kind of applications can better visualize their design while they are students and after they graduate as Architect.

20. Peer review