



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: 2022/2023

Course Book

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.</p> <p>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.</p> <p>To upgrade students' abilities to distinguish between design and CAD.</p> <p>To introduce students to present their projects using computer skills.</p>

12. Student's obligation

Students have to attend the lectures to fully understand the program components and capabilities in the theoretical part, later on they will be asked to practise what have been explained in the practical part. In the most lectures, students' class works are assessed and marked.

Attendance Policy

Attendance is required in this class and students should be in class on time. No leave permission is given by the lecturer because students are evaluated daily.

13. Forms of teaching

Teaching methods of this course include Lecturing, Group works and practical activities through the use of computer, data show, white board, etc. Usually, in the theoretical part there will be a lecture presented by the lecturer using Microsoft PowerPoint, computer and data show. Autodesk AutoCAD software is used to show the students what are the tabs and icons of the program and how they can be used in their drawings.

14. Assessment scheme

(30%) Midterm practical exam

class evaluation (home works)
(20%) + Class activity+ quizzes

20% + 30%= (50%) Final Exam

TOTAL = % 50

100%	Total marks
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15. Student learning outcome:

By the end of this course, students are expected to be able to:

Learn and use all components of AutoCAD program in a proper way. They can draw 2D floor plans of any particular project also draw elevations and section or any other drawings.

16. Course Reading List and References:

- Key references:
AutoCAD for Dummies (Book)
Mastering AutoCAD and AutoCAD LT (Book)
 - Useful references:
AutoCAD and AutoCAD LT Essentials (Book)
 - Magazines and review (internet):
- Online tutorials
- <https://www.autodesk.com/shortcuts/autocad>
<http://www.cadtutor.net/>
www.youtube.com
<https://thesourcecad.com/autocad-tutorials/>

17. The Topics:		Lecturer's name
		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 	

	<ul style="list-style-type: none"> Managing Layer Properties
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: <p>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.</p>	

20. Peer review