

King Saud University
College of Architecture and Planning
Department of Architecture and Building Sciences

ARCH 265
Computer Skills-1

Prepared By
Dr. Ziad A Alameddine
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Course Description

A Course Identification and General Information

1. Course title and code: Computer Skills – 1 (ARCH 265)
2. Credit hours: 3
3. Program(s) in which the course is offered: B.A. Arch.
4. Name of faculty member responsible for the course:
Dr. Ziad A Alameddine
5. Level/year at which this course is offered: 4th Level
6. Pre-requisites for this course (if any): NONE
7. Co-requisites for this course (if any): NONE
8. Location if not on main campus: N/A

B Objectives

- To understand typical drafting concepts found in many CAD programs (e.g., layering and grouping).
- To work efficiently and comfortably with the selected drafting package (through supervised drafting sessions).
- To learn pertinent techniques to accelerate the drafting process, while maintaining accuracy and readability of drawings (multiple selections, drawing entity selection, linking files, etc.).

C. Course Description:

This course provides an introduction to Computer-Aided Drafting (CAD), which is one of the most direct computer applications in architecture. The course introduces drafting concepts pertaining to CAD in general, and those that are particular to a selected drafting package. Throughout the course, the emphasis is placed on two-dimensional drawing techniques. The course is primarily based on developing and enhancing computer modelling skills through hands-on experience.

1 Topics to be Covered		
Topics	Weeks	Contact hours
Introduction, definition of terms, and course requirements.	Wk1	4
Basic drawing commands	Wks 2&3	8
Modifying and editing commands	Wks 4&5	8
Layering and Grouping commands	Wks 6&7	8
Midterm Examination	Wk 8	8
Text and Dimensioning commands	Wks 9&10	8
Layouts and printing	Wks 11&12	8
Project/Course Report	Wks 13&14	8

2. Schedule of assessment tasks for students during the semester

	Assessment task (e.g. essay, test, group project, examination etc.)	Week due	Proportion of Final Assessment
1	Class exercises and experimentation	2, 12	30%
2	Weekly class exercise - homework	3, 12	
5	Project/Report	13, 14	
3	Quizzes	Occasional	5%
4	Exams	8	10%
6	Attendance and participation	Continuous	10%
7	Course report	Week 14	5%
8	Final Exam	End of term	40%

Essential References

- Yarwood, A. (2010). Introduction to AutoCAD 2011: 2D and 3D Design, Elsevier ISBN: 978-0-08-096575-8

Electronic Materials, Web Sites etc

- AutoCAD tutorials: CADTutor - <http://www.cadtutor.net/>
- Designer Today magazine - <http://directory.designertoday.com/CAD/AutoCAD.aspx>

(2-1) Lectures Notes:

(2-1-1) Lectures 1: Introduction

1.1 Management of the course

1.2 objectives

1.3 Resources

1.4 Grading Policy

1.5 AutoCAD concepts

(2-1-2) Lectures 2: Drawing commands.1

2.1 Interface

2.1.1 Input methods

Keyboard – Mouse - Point and Write

2.1.2 Coordinate systems

Cartisian - Polar

2.1.3 Snap

Snap - Object snap – End - Mid

2.1.4 Grid & Limits

2.2 Drawing commands

2.2.1 Line

2.2.2 Arc

2.3 Editing commands

2.3.1 Erase

2.3.2 Grip editing

(2-1-3) Lectures 3: Drawing commands.2

3.1 Revision

3.2 Object snap modes

3.3 Drawing commands

3.3.1 Construction lines (XLine)

3.3.2 Lines

3.3.3 Ray

3.3.4 Polylines

Rectangles - Polygons

3.3.5 Boundary

3.4 Editing commands

3.4.1 Pedit

3.4.2 Join relate to break

3.4.3 Explode

3.4.4 Introduce copying commands

Copy - Offset

(2-1-4) Lectures 4: Editing Commands.1

4.1 Copying commands

Copy (relate move) - offset - array

4.2 Selection options

All – previous – last - filter

4.3 Drawing and editing Multilines

(2-1-5) Lectures 5: Editing commands.2

5.1 Manipulation

Move - rotate

5.2 distortion

Stretch – lengthen – Scale – Trim - Extend

5.3 Additive

Chamfer - fillet

(2-1-6) Lectures 6: Grouping commands.1

6.1 Object properties

6.1.1 Layers

Layer properties manager

On/ off - Freeze/ Thaw – Lock- other

Naming conventions

Layer 0 - Relation to blocks - Importance

6.1.2 Colors

Concept -relation to line width in printing

6.1.3 Line types

Loading lines

6.2 Groups

6.2.1 How to create? and Why?

6.2.2 Turnings groups on and off

Ctrl+Shift+A

(2-1-7) Lectures 7: Grouping commands.2

7.1 Blocks

7.1.1 Making

7.1.2 Making external file

7.1.3 Inserting

7.1.4 Managing

Purge – editing- updating

7.1.5 Libraries

7.1.6 Scaling

7.2 External reference

Attach – detach - bind

(2-1-8) Lectures 8: Mid-Term Exam

(2-1-9) Lectures 9: Supplementary commands

9.1 Text

9.2 Dimensions

9.3 Hatching

(2-1-10) Lectures 10-11: Printing

10.1 Paper space

10.2 MView

10.3 MEdit

(2-1-11) Lectures 12-14: Project/Course Report