

COURSE SYLLABI

Course number and name	AE131-2 Computer Applications in Architecture 1
Credits hours	3 Credit hours
Contact hours	4 Contact hours; 1 for lecture, 1 for Tutorial and 2 for practical
Instructor name	Eng. Yahya Alamri
Textbook	https://help.autodesk.com/view/RVT/2020/ENU/
Other supplemental materials	Schmitl G, Information Architecture: Basis and Future of CAPD, Birkhauser
Specific course information	
Catalog description	In this course the main subject of study will be the calculation and methods for the layout of individual control points for the construction of roads and highways based on design requirements. It covers the calculation and layouts of simple circular curves, compound and reverse curves, and vertical curves. This course also presents the fundamental principles of photogrammetry. It covers the photogrammetric optics metric camera calibration, geometry of aerial photographs; photo coordinates measurements and transformation, stereoscopic viewing, parallax and orientations. Flight planning and cost estimation in aerial mapping work are considered. This course also presents the fundamental principles of GPS positioning.
Prerequisite	CSC 101 + ME 131)
Required / Elective	Required
Specific goals for the course	
Course Learning Outcomes (CLO)	CLO1: Understand the user interface and 2d, 3d views and enable students to use templates and basic project settings. CLO2: Enable students to apply and draw levels and grids as datum elements for the model. CLO3: Select suitable Advanced drawing tools and shortcuts to design plan, elevation and section. CLO4: Applying building drawings, structures and 3D components.
Student outcomes that addressed by the course	The following student outcomes are addressed by the course: SO2: An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors SO6: an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. SO7: an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.
List of topics to be covered	<ul style="list-style-type: none"> • Definition of course. • Introduction to AutoCAD • (Draw window - Line).

- (Draw window - polyline, circle, hatch, and arc).
- (Draw window - Options and Layers)
- (Modify window move, copy, stretch, scale, trim, extend, mirror, erase, explode, blend curves).
- (Dimension, Text, Block and Insert, Multiline & Edit)
- Introduction for Revit
- Adding Dimensions
- Drawing the levels
- Basic Drawing & Editing Commands.
- Modify Revit Tools
- Making Changes in Your Drawing wall, window, door and furniture.
- Floor, ceiling, Elevations and Sections drawing , Openings and Stairs.
- Family – Extrusion , Blend , Revolve, Sweep

CLO-SO Map							
SOs	SO1	SO2	SO3	SO4	SO5	SO6	SO7
CLOs							
CLO 1							√
CLO 2		√					
CLO 3		√					
CLO 4						√	