



University/Academy: Arab Academy for Science, Technology & Maritime Transport
Faculty/Institute: College of Engineering & Technology
Program: B.Sc. Architectural Engineering and Environmental Design

Form no. (12): Course Specification

1- Course Data

Course Code: AR 215	Course Title: Visual Studies 3 (Shade & Perspective)	Academic Year/Level: 2nd year / 3rd semester
Specialization: Architecture	No. of Instructional Units Credit 3 Lecture 2 Tutorial 2	Prerequisite ME151

2- Course Aim

The course intends to teach the principles of architectural representation and develop the student's skills in drawing perspective. Students study simple forms graphically by transforming visual information into a two-dimensional image with shade and shadow. The course also examines the language of architectural form and deals with the techniques of analyzing and representing it by different means of rendering. Students learn how to form architectural 3D forms manipulating the shade and shadow of architectural elevations emphasizing an environmental approach. Topics include:

- (a) **Shade and Shadow:** Fundamentals; shade of points, lines, planes, volumes. Exercises on shade and shadow of different architectural elements; arches, stairs, curves and other architectural elements.
- (b) **Perspective:** Fundamentals of perspective; plane of image, position of the observer (station point), cone of vision, angles of vision, vanishing points (one point, two points), architectural perspective. Shade and shadow in perspective, reflection in perspective and presentation skills.

The course aims to:

- Provide the student with the main knowledge of architectural representation.

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: <ul style="list-style-type: none">• Express creative ideas and concepts using high quality rendered architectural drawings.• Express the architectural design in 3D.
b- Intellectual Skills	Through intellectual skills, students will be able to: <ul style="list-style-type: none">• Analyze the issues which influence the processes and delivery of design.• Suggest creative ideas and concepts that are appropriate for the environmental and sustainable approaches by understanding the effect of shade, shadow and different compositions of 3D volumes to achieve the human comfort inside the built environment.
c- Professional Skills	Through professional and practical skills, students will be able to: <ul style="list-style-type: none">• Prepare architectural drawings and presentations• Perform different architectural presentation techniques.• Visualize 3D forms and thinking.
d- General Skills	Through general and transferable skills, students will be able to: <ul style="list-style-type: none">• Communicate effectively with colleagues and others using a variety of written visual and oral presentation methods.• Express personal opinion freely and correctly in oral, reading and written forms.

4- Course Content

Week No.1	Introduction to sciagraphy definition of shade & shadow. How they are used in architectural drawings: shadow of point, line and planes.
Week No.2	Shadow of planes: Parallel and oblique planes.
Week No.3	Shadow of volumes: Different types of volumes (cylinder, cube, polygons, etc.)
Week No.4	Application of shade and shadow on the architectural drawings: Application on Plans, elevations, and site plans.
Week No.5	Application of shade and shadow on the architectural drawings: Application on Plans, elevations, and site plans.
Week No.6	Application of shade and shadow on the architectural drawings: Application on Plans, elevations, and site plans.
Week No.7	Continuation of the previous lecture and evaluation.
Week No.8	Introduction to perspectography. Drawing perspective using measuring points: Different expressions: Picture plane, station point, cone of vision, vanishing points, ground line and horizon line, using perspective as communication tool. Detecting the vanishing points and selecting an appropriate view point.
Week No.9	Drawing and presenting a 3D architectural element- simple form: Drawing perspective for the main building blocks, using measuring points. Learning to deduce the rest of building details.
Week No.10	Drawing and presenting a 3D architectural element- pitched roof: Application on drawing perspectives using two measuring points through a given architectural drawings for a building block. Different presentation techniques using pencils, water color, pasteletc
Week No.11	Presentation techniques of perspective: Different presentation techniques using pencils, water color, pasteletc. Different presentation elements and their implementation on the 3D drawing.
Week No.12	Continuation of the previous lecture and evaluation.
Week No.13	Choosing a project to apply the course outcome in: shade and shadow techniques and perspective drawings.
Week No.14	Project development.
Week No.15	Project evaluation and general revision.

5- Teaching and Learning Methods

The course is delivered through a series of:
Lectures, supervised assignments and a project work.

6-Teaching and Learning Methods for Students with Special Needs

- Consulting with lecturer during office hours.
- Consulting with teaching assistant during office hours.
- Private sessions for redelivering the lecture contents.
- For handicapped accessibility, please refer to program specification.

7- Student Assessment

Students must present: One assignment per week, a two weeks duration project per semester & a six-hour exam. Students have to present a Portfolio during the Final Jury which will demonstrate the learning outcomes throughout the academic semester and a selection of previous phases of the projects in appropriate form of documentation and presentation.

Asses No.	Procedures used		Start Week No.	Subm. Week No.	Weighting of Asses.
	Type	To assess			
1-12	Drawing exercise (2 per week)	Knowledge and understanding	1	6	20%
13	Drawing exam	Knowledge and intellectual skills Practical skills		7	10%
14-22	Drawing exercise (2 per week)	Knowledge and understanding.	8	13	20%
23	Research.	Knowledge and understanding Transferable skills	13	15	15%
24	Portfolio exam	All skills			5%
25	Drawing exam	Knowledge and intellectual skills Practical skills			20%
Total					100%

8- List of References:

a- Course Notes	Notes are handed to students on a weekly basis.
b- Required Books (Textbooks)	<ul style="list-style-type: none"> • MONTAGUE, John, <i>Basic Perspective: A visual Approach</i>, 3rd Ed., Wiley, N.Y., 1998. • CHING, Francis D.K., <i>Design Drawing</i>, John Wiley & Sons Inc., Canada, 1998
c- Recommended Books	<ul style="list-style-type: none"> • LIN, Mike W., <i>Architectural Rendering Techniques / A Color Reference</i>, Wiley, N.Y., 1985. • UDDIN, M.Saleh, <i>Axonometric & Oblique Drawing: A 3-D Construction, Rendering, & Design Guide</i>, McGraw-Hill, N.Y., 1997. • ESSEN, Koos, <i>Presenting Architectural designs / Three dimensional visualization techniques</i>, U.K.: Waltman- Delft, 1988. • LOCKARD, W.k., <i>Design Drawing Experiences</i>, U.S.A: Norton & Company, 2000. • DRPIC, Ivo D., <i>Architectural Delineation / Professional Shortcuts</i>, Library of Congress, 1993. • CHEN, John S. M., <i>Architecture in Color Drawings</i>, McGraw-Hill, 1996. • PORTER, Tom & GOODMAN, Sue, <i>Manual of Graphic Techniques 4</i>, Architectural Press, 1998.
d- Periodicals, Web Sites, etc.	N/A