



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 521	Course Title: Research and Programming	Academic Year/Level: 5th year / 9th semester
Specialization: Architecture	No. of Instructional Units Credit 2 Lecture 1 Tutorial 3	Prerequisite None

2- Course Aim

This course presents a concise framework of academic research and programming. It introduces various methods and techniques for conducting research work, and producing complete research documents (e.g. reports, papers, essays, and dissertations). The course is a practical application for different research techniques and is considered a pre-requisite to graduation project. Developing programmes and proposals for projects in architecture, urban design and related disciplines is particularly investigated.

The course aims to:

- Provide basic knowledge of research fundamentals and methodology;
- Develop the student's ability and skills in data gathering and site analysis;
- Give broad understanding of different methods of developing programmes for architectural projects.

3- Intended Learning Outcomes

a- Knowledge and Understanding	Through knowledge and understanding, students will be able to: <ul style="list-style-type: none">• Explain various steps and techniques of effective research and programming• Describe the elements and contents of their projects through well-defined programmes.• Distinguish between techniques of research such as data collection, resources, analysis of information, documentation, referencing and citing of sources
b- Intellectual Skills	Through intellectual skills, students will be able to: <ul style="list-style-type: none">• Develop project programmes for architectural projects.• Analyse data.• Organise their thoughts into well-documented reports.
c- Professional Skills	Through professional and practical skills, students will be able to: <ul style="list-style-type: none">• Conduct comprehensive research for projects using appropriate methods.• Prepare project programmes competently.
d- General Skills	Through general and transferable skills, students will be able to: <ul style="list-style-type: none">• Effectively communicate with colleagues and clients using a variety of techniques• Present researches in seminars or group meetings, discuss findings, defend his/her ideas, and communicate effectively in writing and verbally.• Work coherently and successfully as part of a team in projects, assignments,..etc.• Independently seek knowledge, set aims, targets, objectives and plan to meet them with a deadline (time management).

4- Course Content

Week No.1	Introduction to academic research
Week No.2	Fundamentals of research
Week No.3	Planning the focus of research
Week No.4	Researching library resources
Week No.5	Citing sources and different resources
Week No.6	Reading and recording information
Week No.7	Continuation of the previous lecture and evaluation.
Week No.8	Writing stage for research reports
Week No.9	Devising a tentative program
Week No.10	Architectural programming
Week No.11	Architectural programme writing
Week No.12	Continuation of the previous lecture and evaluation.
Week No.13	Progressing with drafts
Week No.14	Multiple topic session
Week No.15	Revision

5- Teaching and Learning Methods

The course comprises a combination of:
Lectures, discussion sessions, research assignment, and coursework.

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

Asses No.	Procedures used		Start Week No.	Subm. Week No.	Weighting of Asses.
	Type	To assess			
1	Assignment: Study and Analysis Background studies Site analysis and Design Approach Opportunities Constraints & Objectives Objectives, Considerations & Design Principles Proposing 3 alternatives for graduation Project Conclusion: Choice of Project	Knowledge and understanding.	1	3	10%
2	Assignment: Projects Data Collection and Surveying	Knowledge and understanding.	3	4	10%
3	Assignment: Data Development Net areas Bubble Diagrams (Functional Relationship) Site analysis Diagrams (approaches, exits, etc..) Site Surveying (Submission for Oral Exam on the 7th week)	Knowledge and intellectual skills.	5	7	10%
4	Assignment: Similar Projects Analysis	Knowledge and practical skills.	7	9	10%
5	Assignment: Concept Analysis of Different Projects	Knowledge and practical skills.	10	12	10%
6	Assignment: Submission of Final Project's Programme	All skills	13	14	20%
7	Final exam	All skills.		16	20%
Total					100%

8- List of References:

a- Course Notes	Notes are handed out on a weekly basis.
b- Required Books (Textbooks)	N/A
c- Recommended Books	<ul style="list-style-type: none"> • Dees, Robert. <i>Writing The Modern Research Paper</i>. Boston, Allyn & Bacon, 2000. • Hershberger, Robert G. <i>Architectural Programming and Predesign Manager</i>. New York, McGraw Hill, 1999. • Rosa, A. and Eschholz, P. <i>The Writer's Brief Handbook</i>. Boston, Allyn & Bacon, 1999. • Zeisel, John. <i>Inquiry by Design</i>. New York, Cambridge University Press, 1990..
d- Periodicals, Web Sites, etc.	N/A