

“... the power base for deciding for what does and what does not get built must be broadened to include primarily the ultimate users of a building, but also the significant others in its immediate social network.”  
Stephen Kurtzdeciding



Department of Architecture

**ARC 400** (2 cr/hrs)

## **Senior Project Preparation and Programming**

Fall Semester 091 (2009-2010)

# **Course Outline**

**Instructor: Dr. Rabee M. Reffat**

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Location: Room 319, Building 19

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Homepage: <http://faculty.kfupm.edu.sa/ARCH/Rabee/>

Lecture sessions:

Sundays and Tuesdays (1.10-2.00 PM) Room 410, Bldg 19

Consultation (office hours): U, M and TU (11.00 AM – 1.00 PM)

### **Course Description** (Undergraduate Bulletin)

In addition to teaching the basic techniques of architectural programming, this course is designed to help the senior student to prepare his proposal for the final project in ARC 408. Topics include: client objectives, functional relationships, facility space requirement development, site development requirements, site analysis, prioritizing functions, spatial restrictions and budget constraints. The student carries out research on his chosen building type and location, acquires the necessary approval based on the need for where it is planned for his project, visit the site and government offices to obtain the necessary maps, contour information, street locations and photographs. The student then writes a program for his project.

**Co-requisite: ARC 406**

### **Course Objectives**

The primary objective of this course is to provide students with concepts and techniques of architectural programming as a pre-design tool to develop a comprehensive architectural program for an approved project type of their choice. The expected comprehensive architectural program will potentially guide the design development of their graduation projects.

Towards achieving this objective, students will be provided with learning activities on concepts and techniques of architectural programming that will help them to:

- ④ Recognize architectural programming as an integral part of the overall design process.
- ④ Identify and discuss different design programming methods, including their strengths, weaknesses and appropriateness for particular design situations.
- ④ Recognize key issues to consider in selecting and implementing a particular programming approach.
- ④ Develop a programming procedure and apply it to a project.
- ④ Formulate and communicate program requirements to designers, users, clients and other stakeholders in the design.
- ④ Identify critical success factors in developing and managing an effective programming process.
- ④ Develop verbal presentation skills associated with sensible arguments of his proposed project program.
- ④ Develop technical writing skills to formulate the program document and project brief.

## Course Instructions

**Lectures** that will aim to: (a) provide learning experiences on concepts and applications of architectural programming and their underlying processes; and (b) emphasize issues that will help students to conduct programming activities to develop the project program report.

**Readings:** For each lecture there is a selected Readings that are essential in this course. Completing these readings prior to each lecture will certainly assist students to conduct a fruitful discussion and achieve an active participation in class sessions.

**Discussions and Presentations** that aim to provide a platform for exchanging ideas, sharing experiences, and keeping up a high momentum toward achieving their goals of a successful architectural program.

**Effective Participation Reward:** Extra bonus marks (up to five marks) will be awarded to active and fruitful participation in class discussions, readings, and presentations.

## Course Contents, Readings, Assessment Tasks and Grades

Week	Day	Date	Class Activities	Readings	Tasks & Assessment	Grade
W1	Sun.	Oct. 04	Lecture: Introduction & Senior Project Selection Guidelines & Resources		Task 1: Release Write ONLY one page on your "Proposed Senior Project"	
	Tue.	Oct. 06	Class Discussion: Discussion & feedback on senior project selection			
W2	Sun.	Oct. 11	Lecture: Researching your Project: Literature Review		<b>Task 1: Submission</b> Task 2: Release "Project Literature Review"	<b>5%</b>
	Tue.	Oct. 13	Class Discussion: Literature Review			
W3	Sun.	Oct. 18	Researching your Project: Case studies How to select your case and what to do with them.		<b>Task 2: Submission</b> Task 3: Release Case Analysis (4 cases & comparison)	<b>3%</b>
	Tue.	Oct. 20				
W4	Sun.	Oct. 25	Lecture: Programming as Design	Robinson, J. and Weeks, J., Programming as Design, <i>Journal of Architectural Education</i> , 1983. Available Online from course homepage		
	Tue.	Oct. 27	Class Discussion: Case Analysis queries and difficulties			
W5	Sun.	Nov. 01	Lecture: Site Selection Criteria & Information Gathering	Chapter 6: Gathering and Analyzing Information, <i>Programming for Design: from Theory to Practice</i> , Cherry, E., 1999, pp. 119-181.	<b>Task 3: Submission</b> Task 4: Release Site Selection	<b>7%</b>
	Tue.	Nov. 03	Class Discussion: Site Selection Results – Discussion			
W6	Sun.	Nov. 08	Lecture: Identifying goals and objectives of your project	Chapter 3: Goals: The Promise for Quality, Duerk, D., <i>Architectural Programming: Information Management for Design</i> , 1993, pp. 36-46.	<b>Task 4: Submission</b> Task 5: Release Project Goals and Objectives	<b>5%</b>

	Tue.	Nov. 10	Class Discussion: Goals and Objectives			
<b>W7</b>	Sun.	Nov. 15	Lecture: Site and Climatic Analysis	Chapter 6: Gathering and Analyzing Information, <i>Programming for Design: from Theory to Practice</i> , Cherry, E., 1999, pp. 119-181.	<b>Task 5: Submission</b> Task 6: Release Site Analysis	<b>10%</b>
	Tue.	Nov. 17	Lecture: Values become issues: Human, Environmental, cultural, technological, temporal, economic, aesthetic, safety	Chapter 3: Values become Issues, <i>Architectural Programming and Pre-design Manager</i> , Hershberger, R., 1999, pp. 73-122.		
<b>Id al-Adha Vacation ( November 21 - December 2, 2009)</b>						
<b>W8</b>	Sun.	Dec. 06	Lecture: Values become issues: technological, temporal, economic, aesthetic, safety	Chapter 3: Values become Issues, <i>Architectural Programming and Pre-design Manager</i> , Hershberger, R., 1999, pp. 123-170.		
	Tue.	Dec. 08	Class Discussion: Site Analysis			
<b>W9</b>	Sun.	Dec. 13	Lecture: Identifying Performance & Design Requirements for your Project	<i>Architectural Programming and Pre-design Manager</i> , Hershberger, R., 1999, Chapters 4,5	<b>Task 6: Submission</b> Task 7 Release Performance and Design Requirements	<b>10%</b>
	Tue.	Dec. 15	Class Discussion: Performance & Design Requirements			
<b>W10</b>	Sun.	Dec. 20	Lecture: Identifying your clients, User activities, and Space Identification	<i>Architectural Programming and Pre-design Manager</i> , Hershberger, R., 1999, Chapters 6. & Chapter 3: Clients, <i>Programming for Design: from Theory to Practice</i> , Cherry, E., 1999, pp. 51-78.	<b>Task 7: Submission</b> Task 8 Release: Identifying your clients, User activities, and Space Identification	<b>5%</b>
	Tue.	Dec. 22	Class Discussion: Identifying your clients, User activities, and Space Identification			
<b>W11</b>	Sun.	Dec. 27	Lecture: Space Allocation	<i>Architectural Programming and Pre-design Manager</i> , Hershberger, R., 1999, Chapter 7.	<b>Task 8: Submission</b> Task 9 Release: Space Allocation, Relationship Matrices and Diagrams	<b>5%</b>
	Tue.	Dec. 29				

<b>W12</b>	Sun.	Jan. 03	Workshop:			
	Tue.	Jan. 05	Application of space identification			
<b>W13</b>	Sun.	Jan. 10	Lecture: Identify Design Imperatives		<b>Task 9: Submission</b> Task 10 Release: Identify Design Imperatives	<b>15 %</b>
	Tue.	Jan. 12	Class Discussion: Identify Design Imperatives			
<b>W14</b>	Sun.	Jan. 17	Lecture: Program Preparation	<i>Architectural Programming and Pre-design Manager, Hershberger, R., 1999, pp. 376-433.</i>	<b>Task 10: Submission</b> Task 11 Release: Program Document (Compiling all previous task submissions into one complete document & Pin-up boards)	<b>5%</b>
	Tue.	Jan. 19	Lecture: Review & Approach to Senior Project Studio			
<b>W15</b>	Sun.	Jan. 24	Class Discussion: Final Submission			
	Tue.	Jan. 26	<b>Task 11 Submission: Program Documents and Pin-up Boards</b>			<b>20 %</b>

**Attendance, punctuality and participation**

**10%**

## Learning Outcomes

*On successful completion of this course, students should be able to:*

### **Cognitive Outcomes**

- Acquire architectural programming methods.
- Utilize different design programming methods for particular design situations.
- Develop a programming procedure and apply it to a project.
- Develop a comprehensive architectural program for a selected/given project.
- Develop verbal presentation skills associated with sensible arguments of his proposed project program.
- Produce a profound technical program document as well as visually/graphically presented architectural program.

### **Skills/Presentation**

- Develop effective communication writing skills in developing the architectural program document of their senior project
- Develop graphical presentation skills in developing the pin-up boards of the architectural program of their senior project
- Acquire entrepreneurial skills through contact with potential clients of the senior project

### **Values/Attitudes**

- Develop a balanced, practical and creative view of on addressing architectural problems
- Timely commitments to lecture and tasks

## Textbook, References, Resources & Notices

### Textbook:

[Programming for design : from theory to practice](#)

by *Cherry, Edith*

Publisher: Wiley

Pub Date: 1999

Call#: NA2728 .C47 1999

### Architectural Programming Reference available at KFUPM & CED libraries:

1. [Architectural programming and predesign manager](#)

by *Hershberger, Robert G.*

Publisher: McGraw-Hill

Pub Date: 1999

Subject: Architectural design -- Data processing  
Computer-aided design

Call#: NA2728 .H47 1999

2. [Problem seeking : an architectural programming primer](#)

by *Penta, William., Parshall, Steven A.*

Publisher: Wiley

Pub Date: 2001

Call#: NA2728 .P46 2001

Further resources including teaching materials, links, notices and grades will be made available at the course homepage at:

<http://faculty.kfupm.edu.sa/ARCH/rabee/teach.html>

## Guidelines and Responsibilities

### Participation & Attendance:

You are required to show up at classes on time. Your punctuality, active participation in the class and cooperation with group work are the primary criteria for evaluating the performance of your participation. If you have any special circumstances that might lead to late attendance or absence, you **MUST** contact the Course Instructor whenever these circumstances emerge.

### Course Workload and Submissions

You are expected to spend 4 hours per week as a study time, in addition to your class time for readings and completing required tasks. Therefore, be mindful of your time and effort and avoid chronic problems of inaccuracy and inherent last minute and overnight hasty submissions.

**The submission due dates are firm.** Manage your time well right from the beginning. It will certainly help you to meet the deadlines smoothly.

### Plagiarism

All work presented must be the students' own. Direct copying breaches intellectual copyright and is called plagiarism, which will incur penalties of zero mark.

### Consultation & Help!

Make a good use of these hours for direct contact with your instructor to share your concern, learning progress, difficulties in understanding concepts, lack of motivation, etc. Be open minded and have a direct communication with your Instructor to share with him your concerns especially at times when you are in need of further clarifications, or do not feel much excited to work, or not that encouraged to participate in your class, or feel overloaded with other work. Certainly, your instructor will try to help in one way or another to ease the situation. Finally, remember that your instructor is always available to support and motivate you for a better learning experience and a fruitful academic life.

*Best wishes!*

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