Course Specifications of:

 Urban Design and Sustainability

Program(s) on which the course is given: M. sc - Urban Design

Compulsory or Elective element of program: Elective

Department offering the program: Architecture

Academic year / Level: Master of Science year 2014 / 2015

Date of specification approval: 23-1-2012

1. Basic Information

Title: Urban Design and Sustainability Code: Arc 617

Credit Hours: 3 Lecture: 3 Practical:

Semester work: 120 Final Exam:90 Practical:90 Total: 300

1. Professional Information

1- Overall aims of course:

By the end of the course the student will be able to

* Provide students principles of environmental systems and approaches to sustainability.
* Understand Tools, means and policies for ensuring qualitative communities urban environment

 2- Intended learning outcomes of course (ILOs):

**a-Knowledge and Understanding**

2.1.1 Recognize systematically and with great depth a substantial body of knowledge in urban design and its impact on the environment.

2.1.2 Define the context in which the urban form operate and be aware of the methods of sustainability of natural resources.

2.1.3 Recognize political, social, economic, ethical and aesthetic significance of Urban Design practice.

2.1.4 Arrange research and set its objectives, hypothesis, and systematic acquisition and understanding of urban design issues.

2.1.5 Recognize in detail applicable techniques that may be used in research in the area of Urban Design.

2.1.7 Define the principles of assembly and integration of the inter-disciplinary approaches of Urban Design solutions.

**b-Intellectual Skills**

2.2.1 Analyze, evaluate and determine constraints and incentives of success that affect the selection of urban systems.

2.2.3 Explain appropriate systematic and logical approaches to achieve outcomes and solve design and/or research problem.

2.2.4 Conduct a research study and/or write a scientific essay about an urban design research problem.

2.2.5 Explain how to develop original problem solving techniques in urban design that lead to achieve results and the ability to discuss and debate these results based on proof evidence.

2.2.6 Discuss how to make informed judgments on complex issues in specialist fields, often in the absence of complete data.

2.2.7 Classify and link content, sources and feasibility of models in urban development.

**c-Professional and Practical Skills**

2.3.1 Analyze, examine and overview issues governing good urban design practice such as: socio-culture and economic criteria that affect the decision-making.

2.3.2 Write and evaluate professional Urban Design reports.

2.3.3 Operate in complex and unpredictable/specialized contexts and develop methods and tools of doing research in urban design.

2.3.4 Produce design solutions that satisfy each of the dimensions of urban design

2.3.5 Plan, develop and deliver bibliographically-based written research

2.3.6 Use appropriate techniques for establishing, measuring and reviewing success criteria.

**d-General and Transferable Skills**

2.4.1 Practice Communicating effectively using different medias.

2.4.2 Choose and process information from a wide range of sources, analyze it critically and apply this information to research, individually or in group using technological techniques (IT).

2.4.3 Assess your-self and identify your own personal learning needs.

2.4.4 Examine Self-management, including the setting of work priorities, independent working, self-reflection and the formulation of self-development strategies.

2.4.5 Manage Working effectively within a team, adopting any required role within that team, including leadership and/or educate others

3- Contents

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| Topic No. | Topic | No. of weeks | Total no. of hours |
| 1 | Introduction | 1 | 3 |
| 2 | Changing our Definitions of Growth and Progress | 1 | 3 |
| 3 | Resource Consumption and Environmental Pollution | 1 | 3 |
| 4 | Sustainability in Architecture | 1 | 3 |
| 5 | **Principles of Sustainable urban Design :** Economy of Resources | 1 | 3 |
| 6 | **Principles of Sustainable urban Design :** Life Cycle Design | 1 | 3 |
| 7 | **Principles of Sustainable urban Design :** Humane Design | 1 | 3 |
| 8 | **Principles of Sustainable urban Design :** Humane Design | 1 | 3 |
| 9 | **Methods for Achieving Sustainable urban Design :** Life Cycle Design/ Economy of Resources  | 1 | 3 |
| 10 | **Methods for Achieving Sustainable urban Design :** Humane Design | 1 | 3 |
| 11 | Environmental assessment methods | 1 | 3 |
| 12 | Project follow up  | 1 | 3 |
| 13 | Project follow up  | 1 | 3 |
| 14 | Submission and discussions | 1 | 3 |
| 15 | Oral exam | 1 | 3 |
| 16 | Final exam | 1 | 3 |
|  TOTAL | 16 | 48 |

4- Course Matrix

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| ILO’s code number | Teaching/learning methods and strategies | Assessment methods and strategies |
| 2.1.12.1.22.1.32.1.42.1.52.1.7 |

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| Acquisition of core knowledge and understanding is achieved mainly through lectures, seminars, reading, project work and independent study cases |

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| Assessment will be through individual coursework assignments, oral arranged discussions about particular issues and criticism of design research. In addition to given final examinations.  |

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|  2.2.12.2.22.2.32.2.42.2.52.2.62.2.7 |

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| Analysis and problem solving skills are developed through tutorials, and projects’ design discussions  |

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| Design and research skills are assessed through student proposals for creative design concepts reflecting particular visionary creative ideas, and provide objec  |

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| 2.3.12.3.22.3.32.3.42.3.52.3.6 |

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| Projects demonstrations, practical work, practical based projects in selected particular sites, and visits for site analysis.  |

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| Practical skills are assessed through projects prepared concept designs and individual coursework assignments |

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|  2.4.12.4.22.4.32.4.42.4.5 |

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| Presentations of projects as well as seminars  |

 | Project presentation |

5- Assessment schedule

Assessment 1 Assignments on week’s 7-9-11-14

Assessment 2 Oral exam on week 15

Assessment 3 Final exam on week 16

6- Weighting of assessments

40% Home assignments

30% Oral examination

30% Final-term examination

100% Total

7- List of References

### Douglas Farr,(2008), Sustainable Urbanism. New Jersey: Wiley& Sons, Inc.

### Institute of National planning Egypt – (Cairo 1996) Human development report 1996 , under the project document EGY/93/007 of technical cooperation with the United Nations development program (UNDP)

### Kent, F., (2001) : Man AS The Measure of all things Urban. Publication on International Herald Tribune News Paper.

### William H.Whyte- The social life & small urban spaces – 1980- The conservation foundation Washingtion. D.C.P

### Broadbent Geoffrey,(2003), Emerging concepts in urban design. Taylor & Francis.

### http/ SUSTAINABLE ARCHITECTURE

8- Facilities required for teaching and learning

Lecture room equipped with overhead projector

Presentation board, computer and data show

9- Intended learning outcomes of course (ILOs) Matrixes

**9.1 Matrix 01: Course contents & ILO's**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No. of weeks** | **Course Content** | **Total no. of hours** | **a. Knowledge andunderstanding** | **b. Intellectual Skills** | **c. Professional Skills** | **d. General Skills** |
| 2.1.1 | 2.1.2 | 2.1.3 | 2.1.4 | 2.1.5 | 2.1.7 | 2.2.1 | 2.2.2 | 2.2.3 | 2.2.4 | 2.2.5 | 2.2.6 | 2.2.7 | 2.3.1 | 2.3.2 | 2.3.3 | 2.3.4 | 2.3.5 | 2.3.6 | 2.4.1 | 2.4.2 | 2.4.3 | 2.4.4 | 2.4.5 |
| 1 | Introduction | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Changing our Definitions of Growth and Progress | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Resource Consumption and Environmental Pollution | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Sustainability in Architecture | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | **Principles of Sustainable urban Design :** Economy of Resources | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | **Principles of Sustainable urban Design :** Life Cycle Design | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | **Principles of Sustainable urban Design :** Humane Design | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | **Principles of Sustainable urban Design :** Humane Design | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | **Methods for Achieving Sustainable urban Design :** Life Cycle Design/ Economy of Resources  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | **Methods for Achieving Sustainable urban Design :** Humane Design | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Environmental assessment methods | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Project follow up  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Project follow up  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Submission and discussions | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | Oral exam | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | Final exam | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**9.2 Matrix 02: Aims & ILOs**

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| **Aims****ILO's** | **1** | **2** |
| 2.1.1 |  |  |
| 2.1.2 |  |  |
| 2.1.3 |  |  |
| 2.1.4 |  |  |
| 2.1.5 |  |  |
| 2.1.7 |  |  |
| 2.2.1 |  |  |
| 2.2.2 |  |  |
| 2.2.3 |  |  |
| 2.2.4 |  |  |
| 2.2.5 |  |  |
| 2.2.6 |  |  |
| 2.2.7 |  |  |
| 2.3.1 |  |  |
| 2.3.2 |  |  |
| 2.3.3 |  |  |
| 2.3.4 |  |  |
| 2.3.5 |  |  |
| 2.3.6 |  |  |
| 2.4.1 |  |  |
| 2.4.2 |  |  |
| 2.4.3 |  |  |
| 2.4.4 |  |  |
| 2.4.5 |  |  |

Course coordinator: Dr. Ahmed Awad

Course instructor: Dr. Ahmed Awad

Date 23/ 1 / 2015