Course Specifications of:

**Environmental Design Domains and Trends**

Program(s) on which the course is given: Postgraduate Diploma - Architectural Design.

Compulsory or Elective element of program: Compulsory

Department offering the program: Architecture

Academic year / Level: year/ 2013 -2014

Date of specification approval:June 2012

1. Basic Information
2. Title:Environmental Design Domains and Trends Code: Arc 504
3. Credit Hours: 3 Lecture: 3 practical
4. Semester work: 120 Final Exam:90 Practical: 90 Total: 300
5. Professional Information

1- Overall aims of course:

* Develop a deeper understanding of the mutual influences between architecture and environment.
* Provide knowledge about how to architecturally respect the environmental requirements
* Upgrade architects professional performance in the design field.
* Promote an understanding of how the boundaries of knowledge and architecture are advanced through research.

2- Intended learning outcomes of course (ILOs):

1. **Knowledge and understanding**

2.1.1 Describe basics and fundamentals of quality in architectural design field and professional practice.

2.1.2 List ethical and legal principles of architectural design phases.

1. **Intellectual skills**

2.2.4 Assess the risks and hazards in architectural practices.

1. **Professional and practical skills**

2.3.1Acquire and apply the range of skills necessary to become a professional architect.

1. **General and transferable skills**

2.4.5 Conduct self-learning and continuous education practices

3- Contents

|  |  |  |  |
| --- | --- | --- | --- |
| Topic No. | Topic | No. of weeks | Total no. of hours |
| 1 | The concept of environment and environmental preponderance | 1 | 3 |
| 2 | The concept of environment and environmental preponderance | 1 | 3 |
| 3 | human comfort and climate | 1 | 3 |
| 4 | heat transfer and behavior | 1 | 3 |
| 5 | heat transfer and behavior | 1 | 3 |
| 6 | natural ventilation | 1 | 3 |
| 7 | natural ventilation | 1 | 3 |
| 8 | passive ways of energy savings | 1 | 3 |
| 9 | passive ways of energy savings | 1 | 3 |
| 10 | computer programs and climate and degree of comfort analysis | 1 | 3 |
| 11 | computer programs and climate and degree of comfort analysis | 1 | 3 |
| 12 | environmental design and clusters of buildings | 1 | 3 |
| 13 | environmental design and clusters of buildings | 1 | 3 |
| 14 | Submission and discussions | 1 | 3 |
| 15 | Oral exam | 1 | 3 |
| 16 | Final exam | 1 | 3 |
| TOTAL | | 16 | 48 |

4- Course Matrix

|  |  |  |
| --- | --- | --- |
| ILO’s code number | Teaching/learning methods and strategies | Assessment methods and strategies |
| 2.1.1  2.1.2 | * Acquisition of core knowledge and understanding is achieved mainly through lectures, seminars, tutorials, directed reading, project work for design concepts, argued and valued against objectives, and presented in independent study repoort. | Assessment will be through individual coursework assignments, oral arranged discussions and raise arguments regarding particular topics architecture design and application issues and write individual assays, as well as prepare and write a term scientific report about particular topic. In addition to written final examinations. Grades distribution system is shown in the curriculum table below. |
| 2.2.4 | Analysis and problem‐solving skills are developed through tutorial/problem design and small group discussion reports regarding staff selected topics. | Analysis and design skills and level of creativity are assessed through oral, preparation of alternative design concepts and written research essays. |
| 2.3.1 | Projects demonstrations, practical work, projects and sites analysis based on field visits. | Practical skills are assessed through projects write-ups, coursework exercises and project reports and presentations and final forums discussions and arguments raised about creative ideas demonstrated and adopted methodology, and process carried out to achieve the design objectives. |
| 2.4.5 | Presentations of one major term paper researching particular topic of architectural design or applied field case professionally practiced, in annual seminars (compulsory to be attended by a panel of departmental staff and other students). | research presentation |

5-Assessment schedule

Assessment 1 Assignmentson weeks 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

6.1 Essential books.

1. Bennets, Helen, Antony Radford, and T. J. Williamson. *Understanding Sustainable*

*Architecture*. London: Spon Press, 2002.

1. *Big and Green: Sustainable Skyscrapers for the Twenty-first Century*. New York:

Princeton Architectural Press, 2003.

1. Brown, G. Z., and Mark Dekay. *Sun, Wind & Light: Architectural Design Strategies*. NewYork: Wiley, 2000
2. Bloomer, Kent C., and Charles Moore. *Body, Memory and Architecture (A Yale*

*paperbound)*. New Haven: Yale University Press, 1977.

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 | 2.2.4 | 2.3.1 | 2.4.5 |
| 1 | The concept of environment and environmental preponderance | 3 |  |  |  |  |  |
| 2 | The concept of environment and environmental preponderance | 3 |  |  |  |  |  |
| 3 | human comfort and climate | 3 |  |  |  |  |  |
| 4 | heat transfer and behavior | 3 |  |  |  |  |  |
| 5 | heat transfer and behavior | 3 |  |  |  |  |  |
| 6 | natural ventilation | 3 |  |  |  |  |  |
| 7 | natural ventilation | 3 |  |  |  |  |  |
| 8 | passive ways of energy savings | 3 |  |  |  |  |  |
| 9 | passive ways of energy savings | 3 |  |  |  |  |  |
| 10 | computer programs and climate and degree of comfort analysis | 3 |  |  |  |  |  |
| 11 | computer programs and climate and degree of comfort analysis | 3 |  |  |  |  |  |
| 12 | environmental design and clusters of buildings | 3 |  |  |  |  |  |
| 13 | environmental design and clusters of buildings | 3 |  |  |  |  |  |
| 14 | Submission and discussions | 3 |  |  |  |  |  |
| 15 | Oral exam | 3 |  |  |  |  |  |
| 16 | Final exam | 3 |  |  |  |  |  |

**9.2 Matrix 02: Aims & ILOs**

|  |  |  |
| --- | --- | --- |
| **Aims**  **ILO's** | **1** | **2** |
| 2.1.1 |  |  |
| 2.1.2 |  |  |
| 2.2.4 |  |  |
| 2.3.1 |  |  |
| 2.4.5 |  |  |

Course coordinator :Associate Prof. **Nahed Fathy**

Course instructor: Associate Prof. **Nahed Fathy**.

Date 26 /10 / 2013