Course Specifications of:

Computer Applications in Architecture

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

Compulsory or Elective element of program: Elective

Department offering the program: Architecture

Academic year / Level: year/ 2012 -2013

Date of specification approval: June 2012

1. Basic Information
2. Title: Computer Applications in Architecture Code: Arc 512
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:

* Provide knowledge about latest technological applications in the area of architectural design.
* Develop architects ability for professional preparation of technical execution plans and work details, and follow up of project execution by the aid of advanced computer applications.
* Provide training in the direct application of up to date knowledge and advanced methods to attain original and distinguishable solutions for design problems.

2- Intended learning outcomes of course (ILOs):

1. **Knowledge and understanding**

2.1.4 Identify a comprehensive overview of the practical aspects of architectural design, emphasizing the process of identifying forces influencing design and application of developed designs.

1. **Intellectual skills**

2.2.2 Solve specialized problems in architectural design area.

2.2.3 Critically and analytically read research papers and topics related to architecture field.

2.2.4 Assess the risks and hazards in architectural practices.

1. **Professional and practical skills**

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

1. **General and transferable skills**

2.4.1 Communicate effectively using different means.

2.4.2 Utilize technology in the fields related to architectural design.

2.4.5 Conduct self-learning and continuous education practices.

3- Contents

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| Topic No. | Topic | No. of weeks | Total no. of hours |
| 1 | Knowledge acquaintance of computer programs in architecture | 1 | 3 |
| 2 | Knowledge acquaintance of computer programs in architecture | 1 | 3 |
| 3 | basic skills for program uses in support of architecture design | 1 | 3 |
| 4 | basic skills for program uses in support of architecture design | 1 | 3 |
| 5 | (three dimensions/ modeling/ animation) | 1 | 3 |
| 6 | artificial intelligence applications | 1 | 3 |
| 7 | Computer programs used in architecture : AutoCAD and Quizzes | 1 | 3 |
| 8 | Midterm Exam | 1 | 3 |
| 9 | Computer programs used in architecture : 3D max | 1 | 3 |
| 10 | Computer programs used in architecture : Sketch up | 1 | 3 |
| 11 | Computer programs used in architecture : Photoshop | 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 |
| 2.1.4 | * 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. |
| 2.2.2  2.2.3  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. |
| 2.4.1  2.4.2  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). | Project presentation |

5-Assessment schedule

Assessment 1 Assignment son weeks 9-11-14

Assessment 2 Quizzes on week 7

Assessment 3 midterm exam on week 8

Assessment 4 Oral exam on week 15

Assessment 5 Final exam on week 16

6- Weighting of assessments

30% Home assignments

10% Quizzes & midterm exam

30% Oral examination

30% Final-term examination

100% Total

7- List of References

6.1 Essential books.

* John S. Gero. Computer applications in architecture. lsevier Applied Science Publishers, Limited, 1977.
* Govindarajalu.Computer Architecture and Organization: Design Principles and Applications.Tata McGraw-Hill Education, 2004

8- Facilities required for teaching and learning

Lecture room equipped with overhead projector

Presentation board, computer and data show

Course coordinator: **Associate professor dr./** Magdy Barakat .

Course instructor: **Associate professor dr./** Magdy Barakat.

Date 25 /10 / 2013