Course Specifications of:

GIS and Urban Data Profiles

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: GIS and Urban Data Profiles Code: Arc 631

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

* Collecting information and inserting it in best and fasts way
* Understand and use it in practical work
* How to manage the long term land morphology analysis .

2- Intended learning outcomes of course (ILOs):

**a-Knowledge and Understanding**

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.

**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.

2.3.5 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

|  |  |  |  |
| --- | --- | --- | --- |
| Topic No. | Topic | No. of weeks | Total no. of hours |
| 1 | Introduction | 1 | 3 |
| 2 | G.I.S. models and programs | 1 | 3 |
| 3 | G.I.S. models and programs | 1 | 3 |
| 4 | land morphology analysis | 1 | 3 |
| 5 | land morphology analysis | 1 | 3 |
| 6 | spatial patterns analytical techniques | 1 | 3 |
| 7 | spatial patterns analytical techniques | 1 | 3 |
| 8 | geographical pattern | 1 | 3 |
| 9 | geographical pattern | 1 | 3 |
| 10 | Case studies | 1 | 3 |
| 11 | Case studies | 1 | 3 |
| 12 | Project follow up | 1 | 3 |
| 13 | Project follow up | 1 | 3 |
| 14 | Project follow up | 1 | 3 |
| 15 | Submission and discussions / 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 |
| 2.1.4  2.1.5 | |  | | --- | | Acquisition of core knowledge and understanding is achieved mainly through lectures, seminars, reading, project work and independent study cases | | |  | | --- | | Assessment will be through individual coursework assignments, oral arranged discussions about particular issues and criticism of design research. In addition to given final examinations. | |
| 2.2.1  2.2.2  2.2.3  2.2.4  2.2.5  2.2.6  2.2.7 | |  | | --- | | Analysis and problem solving skills are developed through tutorials, and projects’ design discussions | | |  | | --- | | Design and research skills are assessed through student proposals for creative design concepts reflecting particular visionary creative ideas, and provide objec | |
| 2.3.1  2.3.2  2.3.3  2.3.4  2.3.5  2.3.6 | |  | | --- | | Projects demonstrations, practical work, practical based projects in selected particular sites, and visits for site analysis. | | |  | | --- | | Practical skills are assessed through projects prepared concept designs and individual coursework assignments | |
| 2.4.1  2.4.2  2.4.3  2.4.4  2.4.5 | |  | | --- | | 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

* [Timothy L. Nyerges](http://www.amazon.com/Timothy-L.-Nyerges/e/B001HOCB5K/ref=sr_ntt_srch_lnk_2?qid=1329592347&sr=1-2) and Piotr Jankowski ,[**Regional and Urban GIS: A Decision Support Approach**](http://www.amazon.com/Regional-Urban-GIS-Decision-Approach/dp/160623336X/ref=sr_1_2?s=books&ie=UTF8&qid=1329592347&sr=1-2) , 2009
* [Wilpen L. Gorr](http://www.amazon.com/Wilpen-L.-Gorr/e/B001JP8B56/ref=sr_ntt_srch_lnk_1?qid=1329592173&sr=8-1) and [Kristen S. Kurland](http://www.amazon.com/Kristen-S.-Kurland/e/B005FG6BMA/ref=sr_ntt_srch_lnk_1?qid=1329592173&sr=8-1), [**GIS Tutorial 1: Basic Workbook**](http://www.amazon.com/GIS-Tutorial-1-Basic-Workbook/dp/158948259X/ref=sr_1_1?ie=UTF8&qid=1329592173&sr=8-1) ,2010

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** | | |
| 2.1.4 | 2.1.5 | 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 | G.I.S. models and programs | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | G.I.S. models and programs | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 | land morphology analysis | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 | land morphology analysis | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 | spatial patterns analytical techniques | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 | spatial patterns analytical techniques | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 | geographical pattern | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 | geographical pattern | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | Case studies | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | Case studies | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | Project follow up | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | Project follow up | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | Project follow up | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | Submission and discussions / Oral exam | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | Final exam | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**9.2 Matrix 02: Aims & ILOs**

|  |  |  |
| --- | --- | --- |
| **Aims**  **ILO's** | **1** | **2** |
| 2.1.4 |  |  |
| 2.1.5 |  |  |
| 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: Prof **Hassan El-Zamly**

Course instructor: Prof **Hassan El-Zamly**

Date 23 / 1 / 2015