Republic of Iraq

Ministry of Higher Education & Scientific Research

Supervision and Scientific Evaluation Directorate

Quality Assurance and Academic Accreditation

InternationalAccreditation Dept.

Academic Program Specification FormFor The Academic Year 2017-2018

Universitiy: Baghdad

College : Engineering

Number Of Departments In The College : 12 Twelve

Date Of Form Completion : 1/9 / 2017

Dean ’s Name

Date : 1 / 9 / 2017

Signature

Dean ’s Assistant For Scientific Affairs

Date : 1 / 9 / 2017

Signature

The College Quality Assurance And University Performance Manager

Date : 1 / 9 / 2017

Signature

Quality Assurance And University Performance Manager

Date : 1 / 9 / 2017

Signature

**TEMPLATE FOR COURSE SPECIFICATION**

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| HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW |

**COURSE SPECIFICATION**

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| This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve anddemonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification. |

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| College of Engineering | ***1. Teaching Institution*** |
| University of Baghdad / Department of Surveying | ***2. University Department/Centre*** |
| Geographical Information system | ***3. Course title/code& Description*** |
| BSc in Surveying Engineering (stage 4) | ***4. Programme(s) to which itContributes*** |
| Annual | ***5. Modes of Attendance offered*** |
| 2017-2018 | ***6. Semester/Year*** |
| 120 | ***7. Number of hours tuition (total)*** |
|  | ***8. Date of production/revision of this specification*** |
| ***9. Aims of the Course*** | |
| This course aims to introduce the fundamental concepts of geographical information system in addition to the applications of GIS in Surveying Engineering. | |

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| ***10·Learning Outcomes*** |
| At the end of the course, the students should have a complete knowledge about processing and handling geospatial data sets, in addition to manipulate databases. |
| ***11.Teaching and Learning Methods*** |
| Lectures and practical tutorials. |
| ***12. Assessment Methods***  Exams |
| ***13. Grading Policy***  Grades from monthly exams+ grade from final exam. |

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| ***14. Course Structure*** | | | | | |
|  |  |  |  |  | Week |
|  |  | Introduction to GIS |  |  | 1 |
|  |  | Data and Information |  |  | 2 |
|  |  | Spatial Data and attribute Data |  |  | 3 |
|  |  | Vectors and Rasters |  |  | 4 |
|  |  | Spatial Referencing |  |  | 5 |
|  |  | coordinates systems |  |  | 6 |
|  |  | Measurements on vectors |  |  | 7 |
|  |  | Measurements on rasters |  |  | 8 |
|  |  | Spatial selection Queries |  |  | 9 |
|  |  | Classifications |  |  | 10 |
|  |  | Data base management systems |  |  | 11 |
|  |  | Exam |  |  | 12 |
|  |  | Spatial analysis: Overlay functions [clip,] |  |  | 13 |
|  |  | intersect, union, erase, identity |  |  | 14 |
|  |  | Proximity:[buffer, thiessen polygon] |  |  | 15 |
|  |  | Statistics:[frequency] |  |  | 16 |
|  |  | summary statistics |  |  | 17 |
|  |  | Data presentation:3D analysis |  |  | 18 |
|  |  | 3D Objects |  |  | 19 |
|  |  | Surfaces:[raster, TIN] |  |  | 20 |
|  |  | Conversion between raster and TINs |  |  | 21 |
|  |  | Surface analysis:[slope, aspect, , hill shade,] |  |  | 22 |
|  |  | contour, cut/fill |  |  | 23 |
|  |  | view shade |  |  | 24 |
|  |  | area and volume |  |  | 25 |
|  |  | Open source software |  |  | 26 |
|  |  | Web mapping |  |  | 27 |
|  |  | Examples of web mapping |  |  | 28 |
|  |  | Web mapping processing |  |  | 29 |
|  |  | Exam |  |  | 30 |

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| ***15. Infrastructure*** | | |
| Introduction to GIS [GIS: A visual approach](http://books.google.com/books?id=sRNcW3jFYLYC&printsec=frontcover&dq=gis&hl=en&sa=X&ei=IA1uU6HEH-Sx0QWakYDABw&ved=0CCwQ6AEwAA) | Required reading:  · CORE TEXTS  · COURSE MATERIALS  · OTHER | |
| ArcGIS software | Special requirements (include forexample workshops, periodicals,IT software, websites) | |
|  | Community-based facilities  (include for example, guest  Lectures , internship,field studies) | |
| ***16. Admissions*** | | |
|  | | Pre-requisites |
| 20 | | Minimum number of students |
| 40 | | Maximum number of students |
| Dr. Maythm Al-Bakri | | ***17. Course Instructors*** |

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