Republic of Iraq

Ministry of Higher Education & Scientific Research

Supervision and Scientific Evaluation Directorate

Quality Assurance and Academic Accreditation

International Accreditation Dept.

Academic Program Specification Form For The Academic Year 2015-2016

Universitiy: Baghdad

College : Engineering

Number Of Departments In The College : 12 Twelve

Date Of Form Completion : April – 3 / 2016

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Dean ’s Name

Date : / 4 / 2016

Signature

Dean ’s Assistant For Scientific Affairs

Date : / / 2016

Signature

The College Quality Assurance And University Performance Manager

Date : / / 2016

Signature

Quality Assurance And University Performance Manager

Date : / / 2016

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 and demonstrate 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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| University Of Baghdad | ***1. Teaching Institution*** |
| College of Engineering/Electrical Engineering Department | ***2. University Department/Centre*** |
| EE204 – Numerical Analysis and Statistics  | ***3. Course title/code & Description*** |
| Electrical Engineering | ***4. Programme(s) to which it Contributes*** |
| Internal | ***5. Modes of Attendance offered*** |
| Second year class | ***6. Semester/Year*** |
| Semester ( 1 ) 30 hoursSemester ( 2 ) 30 hours | ***7. Number of hours tuition (total)*** |
| 2016 | ***8. Date of production/revision of this specification***  |
| ***9. Aims of the Course*** |
| The aim of this course is to introduce the methods of Numerical analysis and Probabilities. |

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| ***10·*** ***Learning Outcomes***  |
| 1. Review of matrices.
2. Knowledge and understanding with skills:

B1- Solution of equations of one variable.B2- Numerical interpolation.B3- Least squares data fitting.B4- Numerical integration and differentiation.B5- Solution of sets of linear equations.B6- Finite difference and their applications.B7- Numerical solution of differential equations.B8- Multistep methods to solve differential equations.1. Knowledge and understanding with skills

C1- Basic probability concepts.C2- Conditional probability and dependenceC3- Random variables and probability distributions.C4- Expectations and moments.C5- Functions of random variables.C6- Some important discrete distributions.C7- Some important continuous distributions. |
|  ***11.*** ***Teaching and Learning Methods*** |
| Lecturing and Class discussions. |
|  ***12. Assessment Methods***Exams, quizzes.13 .Grading PolicyQuizzes 20% : ( 1st semester 10% and 2nd semester 10%)midyear exam 10%final year exam:7013 .Grading PolicyQuizzes 20% : ( 1st semester 10% and 2nd semester 10%)midyear exam 10%final year exam:7013 .Grading PolicyQuizzes 20% : ( 1st semester 10% and 2nd semester 10%)midyear exam 10%final year exam:7013 .Grading PolicyQuizzes 20% : ( 1st semester 10% and 2nd semester 10%)midyear exam 10%final year exam:7013 .Grading PolicyQuizzes 20% : ( 1st semester 10% and 2nd semester 10%)midyear exam 10%final year exam:70 . |
| ***13. Grading Policy***Quizzes 20% :$(1^{st} semester 10\% and 2^{nd} semester 10\%)$Midyear exam 10% Final year exam:70% |

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| ***14. Course Structure*** |
|  | Assessment Method | Teaching Method | Unit/Module or topic Title | Hours | Week |
|  | Exam | Lecturing Discussions and Exercises | Review of matrices | 2 | 1 |
|  | Exam | Lecturing Discussions and Exercises | Solution of equations of one variable. | 2 | 2 |
|  | Exam | Lecturing Discussions and Exercises | Solution of equations of one variable. | 2 | 3 |
|  | Exam | Lecturing Discussions and Exercises | Solution of equations of one variable. | 2 | 4 |
|  | Exam | Lecturing Discussions and Exercises | Numerical interpolation | 2 | 5 |
|  | Exam | Lecturing Discussions and Exercises | Least squares data fitting | 2 | 6 |
|  | Exam | Lecturing Discussions and Exercises | Numerical integration and differentiation | 2 | 7 |
|  | Exam | Lecturing Discussions and Exercises | Numerical integration and differentiation | 2 | 8 |
|  | Exam | Lecturing Discussions and Exercises | Numerical integration and differentiation | 2 | 9 |
|  | Exam | Lecturing Discussions and Exercises | Solution of sets of linear equations | 2 | 10 |
|  | Exam | Lecturing Discussions and Exercises | Solution of sets of linear equations | 2 | 11 |
|  | Exam | Lecturing Discussions and Exercises | Finite difference and their applications | 2 | 12 |
|  | Exam | Lecturing Discussions and Exercises | Numerical solution of differential equations | 2 | 13 |
|  | Exam | Lecturing Discussions and Exercises | Numerical solution of differential equations | 2 | 14 |
|  | Exam | Lecturing Discussions and Exercises | Multistep methods to solve differential equations | 2 | 15 |
|  | Exam | Lecturing Discussions and Exercises | Basic probability concepts | 2 | 16 |
|  | Exam | Lecturing Discussions and Exercises | Basic probability concepts | 2 | 17 |
|  | Exam | Lecturing Discussions and Exercises | Conditional probability and dependence | 2 | 18 |
|  | Exam | Lecturing Discussions and Exercises | Conditional probability and dependence | 2 | 19 |
|  | Exam | Lecturing Discussions and Exercises | Random variables and probability distributions | 2 | 20 |
|  | Exam | Lecturing Discussions and Exercises | Random variables and probability distributions | 2 | 21 |
|  | Exam | Lecturing Discussions and Exercises | Expectations and moments | 2 | 22 |
|  | Exam | Lecturing Discussions and Exercises | Expectations and moments | 2 | 23 |
|  | Exam | Lecturing Discussions and Exercises | Functions of random variables | 2 | 24 |
|  | Exam | Lecturing Discussions and Exercises | Functions of random variables | 2 | 25 |
|  | Exam | Lecturing Discussions and Exercises | Some important discrete distributions | 2 | 26 |
|  | Exam | Lecturing Discussions and Exercises | Some important discrete distributions | 2 | 27 |
|  | Exam | Lecturing Discussions and Exercises | Some important discrete distributions | 2 | 28 |
|  | Exam | Lecturing Discussions and Exercises | Some important continuous distributions | 2 | 29 |
|  | Exam | Lecturing Discussions and Exercises | Some important continuous distributions | 2 | 30 |

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| ***15. Infrastructure*** |
| 1. Curtis F. Gerald / Patrick O. Wheatley “ Applied Numerical Analysis “3rd Edition 1984
2. Richard L. Burden J. Douglas Faires “Study Guide for Numerical Analysis” 6th Edition 1996.
 | Required reading:· CORE TEXTS· COURSE MATERIALS· OTHER |
| Internet web sites, Numerical Analysis | Special requirements (include for example workshops, periodicals, IT software, websites) |
| None | Community-based facilities(include for example, guestLectures , internship , field studies) |
| ***16. Admissions*** |
| ----- | Pre-requisites |
| 30 | Minimum number of students |
| 35 | Maximum number of students |
| MSc. Nadia Qassim | ***17. Course Instructors*** |

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