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 hours  Semester ( 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 dependence  C3- 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 Policy  Quizzes 20% : ( 1  st  semester 10% and 2  nd  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  13 .Grading Policy  Quizzes 20% : ( 1  st  semester 10% and 2  nd  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  13 .Grading Policy  Quizzes 20% : ( 1  st  semester 10% and 2  nd  semester 10%)  midyear exam 10%  final year exam:70  . |
| ***13. Grading Policy***  Quizzes 20% :  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, guest  Lectures , 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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