**Course Plan**

**Master Science Courses**

1. **Course Data**

|  |  |
| --- | --- |
| **Course Title** | Advanced Engineering Mathematics Code: ENG 501 |
| **Academic Year / Semester** | 2014 / 2015 First Semester |
| **No. of Hours per week** | Lecture: 3 Tutorial: -- Total: 3 |
| **Course Coordinator** | Prof. Dr. Mohamed Ismail |
| **Course Instructor** | Prof. Dr. Mohamed Ismail |

1. **Course Contents and Lectures**

|  |  |
| --- | --- |
| **Lecture / Week** | **Topic** |
| 1 | Introduction |
| 2 | Ordinary differential equations |
| 3 | Ordinary differential equations |
| 4 | Partial differential equations |
| 5 | Partial differential equations |
| 6 | System of linear ordinary differential equations |
| 7 | Series solution |
| 8 | Mid-Term Exam |
| 9 | Laplace transformations |
| 10 | Special functions |
| 11 | Numerical methods for solving ordinary differential equations |
| 12 | Numerical methods for solving ordinary differential equations |
| 13 | Fourier series |
| 14 | Fourier integrals |

1. **Assessment Details**

|  |  |  |  |
| --- | --- | --- | --- |
| Methods of Assessment | Grading Mode | Weighting % | Outline Details |
| Assignments / Reports |  | % | Weeks: |
| Attendance |  | % | All weeks |
| Mid-Term Exam |  | % | Week 8: 1 hour |
| Final Exam |  | % | Week 15: 3 hours |

1. **References**

**Course Notes:**

* Lecture material and training sheets.

**Recommended Books:**