Course Specifications

Program(s) on which this course is given:	B.Sc. in Aerospace Engineering
Department offering the program:	Major
Department offering the course:	Aerospace Department
Academic Level:	Engineering Mathematics and Physics
Date	2014-2015 / 3rd year
Semester (based on final exam timing)	■ Fall ☐ Spring

A- Basic Information

1. Title:	Partial Differenrial Equations			**Code:**	MTH316A			
2. Units/Credit hours per week:	Lectures	3	Tutorial	1	Practical	**0**	Total	4

B- Professional Information

1. Course description:	The course aims at teaching the student the basic concepts of partial differential equations.
2. Intended Learning Outcomes of Course (ILOs):	**a) Knowledge and Understanding**
	Systems of Non-Linear Ordinary Differential Equations.
	Classification of Partial Differential Equations.
	Analytic Solution of Homogeneans and Inhomogeneous Partial Differential Equations.
	Numerical Solution of Partial Differential Equations.
	b) Intellectual Skills
	The ability to analyze the systems of partial differential equations.
	c) Professional and Practical Skills
	The ability to solve practical application problems governed by partial differential equations.
	d) General and Transferable Skills
	Computing, writing computer programs, analyzing results.

3. Contents

Topic	Total hours	Lectures hours	Tutorial/ Practical hours
Systems of Non-Linear Ordinary Differential Equations	12	10	2
Classification of Partial Differential Equations	12	10	2
Analytic Solution of Homogeneans and Inhomogeneous Partial	12	10	2

Differential Equations			
Numerical Solution of Partial Differential Equations	12	10	2
Review	4	2	2
Total	56	42	14
4. Teaching and Learning Methods	Lectures (√)	Practical Training/ Laboratory ( )	Seminar/Workshop ( )
	Class Activity ( )	Case Study ( )	Projects ( )
	E-learning ( )	Assignments /Homework ( )	Other:

5. Student Assessment Methods	
• **.Assessment Schedule**	**Week**
-Assessment 1; Class test	Every 2 weeks
-Assessment 2; Project Assignment	-
-Assessment 3; Presentations	-
-Assessment 3; Midterm Exam	9
-Assessment 4; Final Exam	12
• **Weighting of Assessments**	
-Mid-Term Examination	10%
-Final-term Examination	70%
-Project	-
-Class Test	20%
-Presentation	-
-Total	100%

6. List of References

Course Notes: Given by lecturer

7. Facilities Required for Teaching and Learning

Lecture rooms, projector and overhead projectors, computer and internet connection.

Course Coordinator:	**Dr. Maha Amin**
Head of Department:	**Prof. Ayman Kassem**