Cairo University
Faculty of Engineering

Department of Aerospace Engineering

Course Specifications

Program(s) on which this course is given:	Aerospace Engineering
Department offering the program:	**Department of Aerospace Engineering**
Department offering the course:	**Department of Aerospace Engineering**
Academic Level:	MSc
Date	March 30 2015
Semester (based on final exam timing)	☐✓ Fall ☐ Spring

A- Basic Information

1. Title:	Intelligent Control (2)			**Code:**	AER 758			
2. Units/Credit hours per week:	Lectures	2	Tutorial	1	Practical	---	Total	3

B- Professional Information

1. Course description:	This course introduces the concepts of advanced Heat transfer studying different case pen example plane, cylinder and sphere of unsteady state. Lumped system Transient heat transfer for different case with heat generation.
2. Intended Learning Outcomes of Course (ILOs):	**a) Knowledge and Understanding**
	Student will understand the basics of heat transfer.
	Student will understand the basics of Transient heat transfer for different case.
	Student will understand the basics of Unsteady heat transfer for plane cylinder and sphere.
	b) Intellectual Skills
	Student will be able to analyze heat transfer for lamped for theory for plane cylinder
	Student will be able to analyze Transient heat transfer for 2D
	Student will be able to analyze Unsteady heat transfer 1D - 2D
	c) Professional and Practical Skills
	Student will be able to use Matlab programmer.
	d) General and Transferable Skills
	Student will be able to design a heat exchanger using intelligent techniques.

3. Contents

Topic	**Total hours**	**Lectures hours**	**Tutorial/ Practical hours**
Introduction of heat transfer	6	4	2
Lumped system	6	4	2
Transient heat transfer	6	6	
For different models	6	3	3
Unsteady heat transfer	6	4	2
By element element models	8	6	2

4. Teaching and Learning Methods	Lectures (✓)	Practical Training/ Laboratory (✓)	Seminar/Workshop (✓)
	Class Activity (✓)	Case Study (✓)	Projects (✓)

	E-learning (0)	Assignments /Homework (✓)	Other:
5. Student Assessment Methods			
• **.Assessment Schedule**	**Week**		
- Assessment 1; Class test	3,5,7,9		
-Assessment 1; Project Assignments	7		
-Assessment 2; Presentations	8		
-Assessment 3; Midterm Exam	9		
-Assessment 4; Final Exam	16		
• **Weighting of Assessments**			
-Mid-Term Examination	20%		
-Final-term Examination	40%		
-Project	20%		
-Class Test	15%		
-Presentation	5%		
-Total	100%		
6. List of References			
Heat - transfer – practical.			
Heat – transfer – Holman			
7. Facilities Required for Teaching and Learning			
Computer lab			
Course Coordinator:	**Dr. Badiea Hafez Ali**		
Head of Department:	**Dr. Ayman H. Kassem**		