Cairo University
Faculty of Engineering

Aerospace Engineering Department

Course Specifications

Program(s) on which this course is given:	Aerospace Engineering Department
Department offering the program:	Aerospace Engineering Department
Department offering the course:	Aerospace Engineering Department
Academic Level:	PhD
Date	April 2015
Semester (based on final exam timing)	■ Fall ☐ Spring

A- Basic Information

1. Title:	**Recognition, estimation and precise control**			**Code:**		**AER750**		
2. Units/Credit hours per week:	Lectures	2 hrs	Tutorial		Practical		Total	2 hrs

B- Professional Information

1. Course description:	The course aims to teaching students the followings: Advanced command guidance, Advanced homing guidance, advanced guidance laws, Noise effects and simulation of guidance loops.
2. Intended Learning Outcomes of Course (ILOs):	**a) Knowledge and Understanding**
	1. Students will be able to understand the advanced concepts of Guidance. 2. Students will be able to understand the advanced Guidance kinematics.
	b) Intellectual Skills
	1. Students will be able to understand the advanced Command guidance and the advanced Homing guidance.
	c) Professional and Practical Skills
	1. Students will be able to understand the Noise effects and simulation of guidance loop.
	d) General and Transferable Skills

3. Contents

Topic	**Total hours**	**Lectures hours**	**Tutorial/ Practical hours**
Evaluation of precise control parameters	4	4	
self consistent control systems	6	6	
stability, robustness, convergence, random precise control	4	4	
coefficients tabulation	4	4	
alternatives of precise control	6	6	
	Lectures (√)	Practical Training/Laboratory (√)	Seminar/Workshop ( )

	Class Activity ( )	Case Study ()	Projects ()
	E-learning ( )	Assignments/Homework (√)	Other:

5. Student Assessment Methods

• **Assessment Schedule**	**Week**
Assignment 1	Week 2
Assignment 2	Week 5
Assignment 3	Week 7
Assignment 4	Week 11

• **Weighting of Assessments**	
Assignments	25%
Attendance	5%
Final-term Examination	70%

6. List of References

6.1- Course Notes

6.2- Essential Books (Text Books)

1. Guided Weapon Control Systems.
2. Missile Guidance And Control Systems

6.3- Recommended Books

1. Feedback Control Systems [John Van De Vegte].

7. Facilities Required for Teaching and Learning

. Data Show , Screen.

Course Coordinator:	**Prof. Sayed Desoky**
Head of Department:	**Prof. Ayman H. Kassem**