Course Specifications

Program(s) on which this course is given:	Aerospace Engineering
Department offering the program:	**Aerospace Engineering**
Department offering the course:	**Aerospace Engineering**
Academic Level:	M.Sc.
Date	
Semester (based on final exam timing)	☐ Fall ☐ Spring

A- Basic Information

1. Title:	Operation Research (1)			**Code:**		**AER646**		
2. Units/Credit hours per week:	Lectures	2	Tutorial	1	Practical		Total	3

B- Professional Information

1. Course description:	
2. Intended Learning Outcomes of Course (ILOs):	**a) Knowledge and Understanding**
	To understand common problems in management of engineering systems
	b) Intellectual Skills
	To solve various management problems
	c) Professional and Practical Skills
	Be able to plan and make the right decisions in various managerial situations
	d) General and Transferable Skills
	Solve management problems and write reports

3. Contents

Topic	Total hours	Lectures hours	Tutorial/ Practical hours
Job assignment	4		
Project arrow network	2		
Minimization of project time	2		
Activity schedule	2		
Reduction of project	2		
Inventory control information systems	2		
Timing of replenishment ordering	4		
Simulation modeling	6		
Operation of simulation model and determining the best solution	4		

Job sequencing through two stations	2		
Job sequencing through three stations	2		
4. Teaching and Learning Methods	Lectures (32)	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	
-Assessment 2; Project Assignment	
-Assessment 3; Presentations	
-Assessment 3; Midterm Exam	
-Assessment 4; Final Exam	
• **Weighting of Assessments**	
-Mid-Term Examination	-
-Final-term Examination	
-Project	
-Class Test	10%
-Presentation	20%
-Total	

6. List of References
Brouson, “Operations research “ , Schaum’s series
Waguer, “Principles of operations research”
Ackoff and sasieni “Fundamentals of operation research”
Mayer, “Production and operations management”
Forrester, “Principals of systems”
Negm, “Course notes”
7. Facilities Required for Teaching and Learning
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Course Coordinator:	**Prof. Hani Negm**
Head of Department:	**Prof. Ayman H. Kassem**