



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Simulation							
Course Code		FEK500		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	5	Workload	125 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The objective of this course is to introduce students fundamental concepts in discrete event system simulation, related statistics, and basic modelling concepts in a typical simulation software.							
Course Content		To be able to recognize the basic components of simulation, modeling and use it in ARENA simulation software							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Discussion					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

Recommended or Required Reading

1	Pegden, C. Dennis, Shannon, Robert E., Sadowski, Randall P., 1995, Introduction to Simulation Using SIMAN, Mc. Graw-Hill, Inc.
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Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to simulation
2	Theoretical	Monte Carlo simulation (1)
3	Theoretical	Monte Carlo simulation (2)
4	Theoretical	Selecting input probability distributions
5	Theoretical	Random number generation
6	Theoretical	Random variate generation
7	Theoretical	Output analysis (1)
8	Intermediate Exam	Mid-term
9	Theoretical	Output analysis (2)
10	Theoretical	Simulation modelling with ARENA (1)
11	Theoretical	Simulation modelling with ARENA (2)
12	Theoretical	Simulation modelling with ARENA (3)
13	Theoretical	Simulation modelling with ARENA (4)
14	Theoretical	Variance reduction techniques
15	Practice	Application
16	Final Exam	Final

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	2	3	70
Individual Work	7	2	2	28
Midterm Examination	1	10	1	11
Final Examination	1	15	1	16
Total Workload (Hours)				125
[Total Workload (Hours) / 25*] = ECTS				5
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	To be able to define components of a system
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2	To be able to define basic statistics in order to carry out a typical simulation study
3	To be able to develop a simulation model of a system
4	To be able to analyze the input/output data
5	To be able to use ARENA simulation software

Programme Outcomes (Econometrics Master)

1	Understanding the concept of econometric
2	Ability to estimate econometric models
3	Test to the estimated reliability of the econometric model
4	Learning time series analysis
5	Recognition of financial assets and analysis that estimates the decisions of economic units
6	Be able to use econometric methods developed specifically for analysis of financial data
7	To be able to use computer programs needed in the field financial economics as well as information and communication technologies in advanced levels
8	Provision of the information that will be base for the econometric applications on money theories, theories of international trade and finance
9	Considering a scientific research, to be able to make a profound literature research, analysis, estimations and reporting findings in a scientific work

Contribution of Learning Outcomes to Programme Outcomes 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	3	4	5	4	2
P2	4	4	4	3	5
P3	3	3	4	4	2
P4	4	3	4	5	4
P5	4	3	3	3	2
P6	3	3	3	4	3
P7	3	3	4	5	4
P8	4	3	4	3	3
P9	3	3	3	3	3

