SIMULATION MODELS

1	Course Title:	SIMULATION MODELS	
2	Course Code:	EKO5114	
3	Type of Course:	Optional	
4	Level of Course:	Second Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	4.00	
8	Theoretical (hour/week):	2.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:	No	
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. KEMAL SEZEN	
15	Course Lecturers:	Prof.Dr.H.Kemal SEZEN	
16	Contact information of the Course Coordinator:	kemal@uludag.edu.tr 0224 294 1113 Uludağ Üniversitesi İ.İ.B.F. Ekonometri Bölümü Görükle / BURSA	
17	Website:	http://homepage.uludag.edu.tr/~kemal/	
18	Objective of the Course:	The objective of the course is to develop the ability of the student to create model and to analyze with simulation techniques in order to analyse different type of management systems .	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To be able to understand the Discrete event simulation models
		2	To be able to understand the cycle of activity diagrams
		3	To be able to understand the how discrete event software works
		4	To be able to understand the Three-phase Approach
		5	To be able to understand the Process oriented Approach
		6	To be able to understand the Event-based Approach
		7	To be able to understand the Software development for Three-phase simulation
		8	To be able to analyze discrete event simulation outputs
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Introduction to Discrete Event Simulation Model	
2	Concepts	
3	Operating cycle diagrams	

4	How discrete event simulation works	
5	Three-phase Approach	
6	Process oriented Approach	
7	Event-based Approach	
8	Software development for Three-phase simulation	
9	Using VBSIM software	
10	Visual interactive modelling and simulation	
11	Discrete event simulation software	
12	Sampling models in simulation and random number generators	
13	Sampling from distributions	
14	Planning and analysis of discrete event simulation output	
22	Textbooks, References and/or Other Materials:	Yöneylem Araştırmasında Benzetim, Çev.H.Kemal Sezen,M.Murat Günel, Ekin Kitabevi, Bursa, 2009 Michael Pidd, Computer Simulation in Management Science, 5. Edition, John Wiley&Sons,2004. Law A.M. W.D. Kelton , Simulation Modeling & Analysis, McGrawHill, Third Edition,2000. Banks J., J.S.Carson II, B.L.Nelson , Discrete-Event

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	2.00	28.00
Practicals/Labs	0	0.00	0.00
Assignment	10	5.00	50.00
Homeworks	1	12.00	12.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	30.00	30.00
Total Work Load			120.00
Total work load/ 30 hr			4.00
ECTS Credit of the Course			4.00

Total	100.00
Measurement and Evaluation Techniques Used in the Course	

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	2	4	4	4	4	4	3	4	4	4	3	0	0	0	0
ÖK2	4	4	5	3	4	3	3	4	4	4	4	4	0	0	0	0

ÖK3	4	3	4	4	4	4	4	4	4	4	4	4	0	0	0	0
ÖK4	4	4	4	4	3	4	4	4	4	3	4	4	0	0	0	0
ÖK5	5	4	4	4	4	3	4	4	3	3	4	4	0	0	0	0
ÖK6	4	5	4	3	4	3	4	3	4	4	3	3	0	0	0	0
ÖK7	5	4	3	3	5	4	4	4	4	4	3	4	0	0	0	0
ÖK8	4	3	4	4	4	4	4	4	4	4	4	4	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications

Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**