STATISTICAL DECISION THEORY

1	Course Title:	STATISTICAL DECISION THEORY
2	Course Code:	EKO2202
3	Type of Course:	Compulsory
4	Level of Course:	First Cycle
5	Year of Study:	2
6	Semester:	4
7	ECTS Credits Allocated:	7.00
8	Theoretical (hour/week):	3.00
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. Nuran Bayram
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	E-posta : nuranb@uludag.edu.tr Telefon: 0 224 2941126 Adres: Uludağ Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Ekonometri Bölümü,16059, Görükle/Bursa.
17	Website:	
18	Objective of the Course:	The aim of the course is to gain knowledge about different models and decision analysis techniques for decision-making under certainty and uncertainty using concepts such as statistical decision theory, utility theory, decision trees, Bayes theorem.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	To be able to know the basic concepts of statistical decision theory.
	2	To be able to define the problem of decision-making.
	3	To be able to solve cost structure decision problems
	4	To be able to know the rules and concepts of game theory.
	5	To be able to apply analysis of decision making under uncertainty and risk.
	6	To be able to apply the decision tree analysis.
	7	To be able to use knowledge of sampling when statistical making-decisions.
	8	To be able to use Bayes theorem when statistical making-decisions.
	9	To be able to apply the markov analysis.
	10	To be able to know multi-criteria decision making methods.

21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	The definition and characteristics of decision making	

2	Elements and stages of decision-making	
3	Present the decision-making problem	
4	Types of Decision-making	
5	Cost-structured decision problems	
6	Decision making under uncertainty	
7	Decision making under risk	
8	Decision-tree analysis	
9	Bayes theorem and decision-making with knowledge of sampling	
10	Discrete distributions in decision-making with Bayesian approach	
11	Continious distributions in decision-making with Bayesian approach	
12	Game theory	
13	Markov analysis	
14	Multi-criteria decision-making methods	

22	Textbooks, References and/or Other Materials:	1.Necmi Gürsakal, Bayesgil İstatistik, Uludağ Üniversitesi Yayınları, 1992. 2.Zerrin Aladağ, Karar Teorisi, Umuttepe Yayınları, 2011. 3.James Berger, Statistical Decision Theory and Bayesian Analysis, Springer-Verlag, 1980.

Activites			Number	Duration (hour)	Total Work Load (hour)
TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**			
Theoretical			14	3.00	42.00
Practicals/Labs			0	0.00	0.00
Self Study and preperation	0	0.00	14	4.00	56.00
Homeworks			0	0.00	0.00
Project Exam	1	60.00	0	0.00	0.00
Field Studies			0	0.00	0.00
Midterm exams	1	40.00	1	20.00	20.00
Others			2	20.00	40.00
Final Exams	1	60.00	1	25.00	25.00
Total Work Load					183.00
Total work load/ 30 hr					6.10
ECTS Credit of the Course					7.00

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	4	4	5	3	4	4	4	2	4	3	4	4	4	0	0
ÖK2	3	4	4	4	5	3	2	4	2	3	4	3	4	4	0	0
ÖK3	2	3	4	4	3	4	5	3	4	3	3	4	4	4	0	0
ÖK4	3	4	5	5	4	4	3	5	4	4	3	3	3	4	0	0

ÖK5	5	5	5	4	4	3	4	4	3	3	4	3	5	4	0	0
ÖK6	4	3	3	4	4	5	4	4	3	4	3	3	3	4	0	0
ÖK7	3	4	3	4	4	3	4	4	3	4	3	4	4	4	0	0
ÖK8	3	3	4	3	4	4	3	3	4	3	4	3	4	4	0	0
ÖK9	3	4	5	4	4	4	4	5	5	4	4	3	3	4	0	0
ÖK10	4	4	4	4	4	4	3	3	3	4	3	3	3	4	0	0

LO: Learning Objectives PQ: Program Qualifications

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