



**AYDIN ADNAN MENDERES UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
MANAGEMENT INFORMATION SYSTEMS
MANAGEMENT INFORMATION SYSTEMS
MANAGEMENT INFORMATION SYSTEMS MASTER
COURSE INFORMATION FORM**

| | | | | | | | | | |
|--|---|--------------|-------------|--------------------------------|---|----------|---|------------|---|
| Course Title | Stochastic Processes | | | | | | | | |
| Course Code | MIS524 | Course Level | | Second Cycle (Master's Degree) | | | | | |
| ECTS Credit | 7 | Workload | 181 (Hours) | Theory | 3 | Practice | 0 | Laboratory | 0 |
| Objectives of the Course | Teaching Stochastic models and solution methods | | | | | | | | |
| Course Content | Markov chain, Stochastic models, Queuing Models and solution techniques of the models | | | | | | | | |
| Work Placement | N/A | | | | | | | | |
| Planned Learning Activities and Teaching Methods | Explanation (Presentation), Demonstration, Discussion, Case Study, Project Based Study, Individual Study, Problem Solving | | | | | | | | |
| Name of Lecturer(s) | | | | | | | | | |

| Assessment Methods and Criteria | | |
|---------------------------------|----------|----------------|
| Method | Quantity | Percentage (%) |
| Midterm Examination | 1 | 40 |
| Final Examination | 1 | 60 |

| Recommended or Required Reading | |
|---------------------------------|--|
| 1 | Ahmet Hamdi Kayran, Mehmet Nadir Yücel |

| Week | Weekly Detailed Course Contents | |
|------|---------------------------------|-----------------------------------|
| 1 | Theoretical | Introduction to Stochastic models |
| 2 | Theoretical | Markov Chain |
| 3 | Theoretical | Markov Chain |
| 4 | Theoretical | Markov Chain |
| 5 | Theoretical | Stochastic Inventory Models |
| 6 | Theoretical | Stochastic Inventory Models |
| 7 | Theoretical | Stochastic Inventory Models |
| 8 | Intermediate Exam | Midterm |
| 9 | Theoretical | Queuing Models |
| 10 | Theoretical | Queuing Models |
| 11 | Theoretical | Queuing Models |
| 12 | Theoretical | Kuyruk Modelleri |
| 13 | Theoretical | Stochastic Dynamic Programming |
| 14 | Theoretical | Stochastic Dynamic Programming |
| 15 | Final Exam | Final |

| Workload Calculation | | | | |
|----------------------|----------|-------------|---------------------------------------|----------------|
| Activity | Quantity | Preparation | Duration | Total Workload |
| Lecture - Theory | 16 | 3 | 3 | 96 |
| Individual Work | 16 | 0 | 3 | 48 |
| Quiz | 1 | 5 | 10 | 15 |
| Midterm Examination | 1 | 5 | 10 | 15 |
| Final Examination | 1 | 2 | 5 | 7 |
| | | | Total Workload (Hours) | 181 |
| | | | [Total Workload (Hours) / 25*] = ECTS | 7 |

*25 hour workload is accepted as 1 ECTS

| Learning Outcomes | |
|-------------------|---|
| 1 | Solution techniques of stochastic models |
| 2 | Experience on modeling dynamic process with using stochastic models |



| | |
|---|---|
| 3 | Basic structure in the stochastic models |
| 4 | Learns tail models |
| 5 | Understands the basic concepts of probability and random variables. |

Programme Outcomes (Management Information Systems Master)

| | |
|----|---|
| 1 | Be aware of the different types of information technologies and systems using in business, have enough knowledge to design a suitable system |
| 2 | Analyse the needs for an information systems and have control over the processes at the analysis, design and implementation stages of the database that belongs to the system |
| 3 | Convey information about current trends and their own studies both verbally and visually ways. |
| 4 | Be able to follow current developments in modern business techniques and technologies, especially information technologies |
| 5 | Understand the interaction between his department and other relational departments, if necessary make a team, take responsibility and do the works with team. |
| 6 | Know the information technologies and systems using in different types of business, if necessary take the system responsibility. |
| 7 | Be aware of the social transformation especially in their own field and social, legal and moral responsibilities belongs to other work field. |
| 8 | Develop their knowledge to the level of expertise which they learn them in license level. |
| 9 | Carry out a work which requires an expertness in their field. |
| 10 | Construct and perform an academic 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 | 4 | 4 | 5 | 4 | 4 |
| P2 | | 5 | | | |
| P3 | 4 | 5 | | 4 | 5 |
| P4 | 4 | 5 | 5 | 4 | 5 |
| P5 | 4 | 5 | 5 | 5 | 5 |
| P6 | 4 | | 5 | 5 | 5 |
| P7 | 5 | 5 | 5 | 5 | 4 |
| P8 | 5 | 5 | 5 | 5 | |
| P9 | 5 | 5 | 5 | 5 | 4 |
| P10 | 5 | 5 | 5 | 5 | 4 |

