



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

|  |   |   |                      |  |   |                                |   |            |   |
|--|---|---|----------------------|--|---|--------------------------------|---|------------|---|
| Course Title                                     |   | Decision Support Systems in Landscape Planning  |                      |  |   |                                |   |            |   |
| Course Code                                      |   | ZPM536  |                      | Course Level   |   | Second Cycle (Master's Degree) |   |            |   |
| ECTS Credit                                      | 8 | Workload  | 200 ( <i>Hours</i> ) | Theory   | 3 | Practice                       | 0 | Laboratory | 0 |
| Objectives of the Course                         |   | The aim of this course is to introduce the data collection and processing methods for spatial decision support systems in planning and management of natural and cultural landscapes and to introduce the importance of research and evaluation methods and decision support systems used in landscape planning |                      |  |   |                                |   |            |   |
| Course Content                                   |   | The production of data layers in the landscape planning process, the spatial decision support system, the multi-criteria evaluation method and the analytical hierarchy method are applied to give information about the land use decisions.  |                      |  |   |                                |   |            |   |
| Work Placement                                   |   | N/A   |                      |  |   |                                |   |            |   |
| Planned Learning Activities and Teaching Methods |   |   |                      | Explanation (Presentation), Discussion, Individual Study |   |                                |   |            |   |
| Name of Lecturer(s)                              |   |   |                      |  |   |                                |   |            |   |

### Assessment Methods and Criteria

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

### Recommended or Required Reading

|   |  |
|---|--|
| 1 | Malczewski, J. 1999. GIS and Multicriteria Decision Analysis   |
| 2 | Malczewski, J. 1998. "Spatial Multi-Criteria Decision Analysis" in Thill, J-C (Ed. Spatial Multi-Criteria Decision Making and Analysis: A Geographic Information Sciences Approach. Brookfield, Ashgate: pp 11-48. |
| 3 | Nurlu E., 2002. Peyzaj Planlama Ders Notları. Ege Üniversitesi Ziraat Fakültesi Peyzaj Mimarlığı Bölümü, Bornova-İzmir   |
| 4 | Peterson, K. 1998. Development of Spatial Decision Support Systems for Residential   |
| 5 | Saaty, T. L ,1980. The Analytic Hierarchy Process. NY, McGraw Hill   |
| 6 | Scholten, H. J., and Stillwell, J. C. H., editors, 1990. Geographical Information Systems for Urban and Regional Planning. Dordrecht: Kluwer Academic Publishers.  |

| Week | Weekly Detailed Course Contents |  |
|------|---------------------------------|--|
| 1    | Theoretical                     | Introduction to course: content, reason, importance, process method and needs.                         |
| 2    | Theoretical                     | Landscape Planning Approaches, Landscape components and data analysis                                  |
| 3    | Theoretical                     | Decision Support Concept (DSS) and Geographic Information Systems (GIS)                                |
| 4    | Theoretical                     | Multicriteria Decision Analysis (MCDA): Explanation of the method                                      |
| 5    | Theoretical                     | Analytic Hierarchy Process (AHP): Explanation of the method  |
| 6    | Theoretical                     | Analytic Hierarchy Process (AHP): Explanation of the method  |
| 7    | Theoretical                     | Multicriteria Decision Analysis (MCDA) and Analytic Hierarchy Process (AHP) advantage and disadvantage |
| 8    | Theoretical                     | Midterm exam   |
| 9    | Theoretical                     | Multicriteria Decision Analysis (MCDA): Case studies   |
| 10   | Theoretical                     | Multicriteria Decision Analysis (MCDA): Case studies   |
| 11   | Theoretical                     | Analytic Hierarchy Process (AHP): Case studies   |
| 12   | Theoretical                     | Analytic Hierarchy Process (AHP): Case studies   |
| 13   | Theoretical                     | Multicriteria Decision Analysis (MCDA) and Analytic Hierarchy Process (AHP); result and evaluation     |
| 14   | Theoretical                     | Multicriteria Decision Analysis (MCDA) and Analytic Hierarchy Process (AHP); result and evaluation     |
| 15   | Theoretical                     | Multicriteria Decision Analysis (MCDA) and Analytic Hierarchy Process (AHP); result and evaluation     |
| 16   | Final Exam                      | Final exam   |



**Workload Calculation**

| Activity                                     | Quantity | Preparation | Duration | Total Workload |
|--|----------|-------------|----------|----------------|
| Lecture - Theory                             | 14       | 8           | 3        | 154            |
| Midterm Examination                          | 1        | 20          | 1        | 21             |
| Final Examination                            | 1        | 24          | 1        | 25             |
| Total Workload (Hours)                       |          |             |          | 200            |
| [Total Workload (Hours) / 25*] = <b>ECTS</b> |          |             |          | 8              |
| *25 hour workload is accepted as 1 ECTS      |          |             |          |                |

**Learning Outcomes**

|   |   |
|---|---|
| 1 | To be able to know the concepts about decision support system in landscape planning   |
| 2 | To be able to learn important concepts for landscape planning in terms of conservation usage balance in natural and cultural resource values. |
| 3 | To be able to analyze multiple and complex data by multi evaluation methods.  |
| 4 | To be able to make optimal land use decision on landscape planning process  |
| 5 | To be able to know the development of the decision support system in the country and in the world.  |

**Programme Outcomes (Landscape Architecture Master)**

|   |   |
|---|---|
| 1 | e |
| 2 | e |
| 3 | e |
| 4 | e |
| 5 | e |

**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  | 4  | 4  | 4  |
| P2 | 5  | 5  | 5  | 5  | 5  |
| P3 | 5  | 5  | 5  | 5  | 5  |
| P4 | 5  | 5  | 5  | 5  | 5  |
| P5 | 2  | 2  | 2  | 2  | 2  |

