

**T.R.**

**ESKISEHIR OSMANGAZI UNIVERSITY**

**GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES**

**COURSE INFORMATION FORM**



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| **DEPARTMENT** | **COMPUTER ENGINEERING (PhD)** | **SEMESTER** |  |

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| **COURSE** | | | |
| **CODE** |  | **TITLE** | Advanced algorithms |

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| **LEVEL** | **HOUR/WEEK** | | | | | | **Credit** | **ECTS** | **TYPE** | | | **LANGUAGE** |
| **Theory** | | **Practice** | **Laboratory** | | |
| **PhD** | 3 | |  |  | | | 3 | 7,5 | COMPULSORY  ( x ) | | ELECTIVE  (   ) | Turkish |
| **CREDIT DISTRIBUTION** | | | | | | | | | | | | |
| **Basic Science** | | **Basic Engineering** | | | | **Knowledge in the discipline**  **[if it contains considerable design content, mark with (√)]** | | | | | | |
|  | | x | | | |  | | | | | | |
| **ASSESSMENT CRITERIA** | | | | | | | | | | | | |
| **SEMESTER ACTIVITIES** | | | | | **Evaluation Type** | | | | | **Number** | | **Contribution**  **( % )** |
| Midterm | | | | |  | |  |
| Quiz | | | | |  | |  |
| Homework | | | | |  | |  |
| Project | | | | |  | |  |
| Report | | | | |  | | 50 |
| Seminar | | | | |  | |  |
| Other (………) | | | | |  | |  |
| **Final Examination** | | | | | | | 50 |
| **PREREQUISITE(S)** | | | | | Calculus  Algorithms and complexities | | | | | | | |
| **SHORT COURSE CONTENT** | | | | | interpolation, curve approximation,lineer programlama,prime algorithms and approximation algorithms | | | | | | | |
| **COURSE OBJECTIVES** | | | | | writing and designing algorithms in various fields | | | | | | | |
| **COURSE CONTRIBUTION TO THE PROFESSIONAL EDUCATION** | | | | | gaining ability to wtite program | | | | | | | |
| **LEARNING OUTCOMES OF THE COURSE** | | | | | leraning tecniques to write algorithms in some fields | | | | | | | |
| **TEXTBOOK** | | | | | Advanced Algorithms Lecture Notes Periklis A. Papakonstantinou | | | | | | | |
| **OTHER REFERENCES** | | | | | 1Curves and Surfaces for Computer Graphics, David Soloman2 Introduction to algorithms, Thomas H. Cormen | | | | | | | |

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| **COURSE SCHEDULE (Weekly)** | |
| **WEEK** | **TOPICS** |
| 1 | interpolation:lineer and spline interpolation |
| 2 | bezier approximation |
| 3 | bezier approximation |
| 4 | B-spline approximation |
| 5 | B-spline approximation |
| 6 | Midterm Examination 1 |
| 7 | probabilistic algorithms |
| 8 | lineer programlama |
| 9 | lineer programlama |
| 10 | prime algorithms |
| 11 | Midterm Examination 2 |
| 12 | Prime algorithms |
| 13 | Approximation algorithms |
| 14 | Approximation Algorithms |
| 15,16 | Final Examination |

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| **CONTRIBUTION OF THE COURSE LEARNING OUTCOMES TO THE** **COMPUTER ENGINEERING PhD PROGRAM LEARNING OUTCOMES** | | **CONTRIBUTION LEVEL** | | |
| **NO** | **LEARNING OUTCOMES (PhD)** | **3**  High | **2**  Mid | **1**  Low |
| **LO 1** | Ability to apply knowledge of mathematics, basic sciences and engineering in expertise level in Computer Engineering and other related areas. |  |  |  |
| **LO 2** | Having extensive knowledge about contemporary techniques and methods applied in engineering, and ability to learn and apply new methods. |  |  |  |
| **LO 3** | Developing new and original ideas and methods; ability to develop innovative/alternative solutions in systems, component or process design. |  |  |  |
| **LO 4** | Ability to work effectively in interdisciplinary and multidisciplinary teams, making leadership of these kind of teams. Ability to work independently an taking responsibility. |  |  |  |
| **LO 5** | Use a foreign language at an advanced level, and ability to communicate in oral and written forms. |  |  |  |
| **LO 6** | Awareness of social, environmental, health, safety, and legal issues of engineering applications and, ability to make critical analysis and evaluation of new ideas and developments. |  |  |  |
| **LO 7** | Advanced level of Professional and ethical responsibility. |  |  |  |
| **LO 8** |  |  |  |  |
| **LO 9** |  |  |  |  |
| **LO 10** |  |  |  |  |
| **LO 11** |  |  |  |  |
| **LO 12** |  |  |  |  |

**Prepared by:** idiris Dağ **Date:** 6.4.2017

**Signature**: