**ANKARA UNIVERSITY**

**Computer Engineering Department**

**COM3551: Artificial Intelligence (Fall 2021-22)**

**Course Syllabus**

**Instructor:** Dr. İrem Ülkü

**Contact:** irem.ulku@ankara.edu.tr

**Reference Textbook:** Artificial Intelligence: A Guide to Intelligent Systems, Michael Negnevitsky, Pearson; 3rd edition, ISBN: 978-1408225745



**Supplementary Textbook:** Artificial Intelligence: A Modern Approach, Stuart J. Russell and Peter Norvig, Pearson; 3rd edition, ISBN: 978-0136042594

**Lecture Notes:** Will be available on the Moodle weekly.

**Office Hours (OH):** Will be arranged later.

**Course Aim:** This course aims to teach students how to build intelligent systems drawing on techniques from knowledge-based systems, neural networks, fuzzy systems, evolutionary computation and now also intelligent agents. The principles behind these techniques are explained without resorting to complex mathematics, showing how the various techniques are implemented, when they are useful and when they are not.

**Course Content:** This course includes knowledge-based intelligent systems, rule-based expert systems, uncertainty management in rule-based expert systems, fuzzy expert systems, frame-based expert systems, artificial neural networks, evolutionary computation, hybrid intelligent systems and knowledge engineering.

**Weekly Schedule:** This is a 3-credit course with 3 lecture hours each week.

**Course Outline:**

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| --- | --- |
| WEEK | CONTENTS |
| 1 | Introduction to knowledge-base intelligent systems |
| 2 | Rule-based expert systems |
| 3 | Uncertainty management in rule-based expert systems |
| 4 | Fuzzy expert systems |
| 5 | Fuzzy expert systems |
| 6 | Frame-based expert systems |
| 7 | Artificial neural networks |
| 8 | **Midterm** |
| 9 | Artificial neural networks |
| 10 | Evolutionary Computation |
| 11 | Evolutionary Computation |
| 12 | Hybrid intelligent systems |
| 13 | Hybrid intelligent systems |
| 14 | Knowledge engineering |

**Grading:**

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| --- | --- |
| **Item** | **Weight** |
| Midterm | %30 |
| Final | %80 |

**Class Policies:**

* The University Policy on attendance (at least %70 for lectures and at least %80 for laboratories) will be applied.
* Students who do not satisfy the attendance policy will get F4 grade.