

0205607 SPECIAL TOPICS IN COMPUTER ENGINEERING

Normal Education:

Evening Education:

Fall 2018-2019

**Course Format:** face-to-face

**INSTRUCTOR INFORMATION**

**Instructor:**

**Title:**

**Office:**

**Phone:**

**Office Hours:**

**E-mail:**

**COURSE DESCRIPTION**

**Credit hours:** *3 credit (3+0)*

**ECTS**: *5*

**Required or elective:** *Social Elective for Computer Engineering Students*

**Catalog Description:** *This course covers the general characteristics of current technologies in the computer engineering and the introduction of the usage areas of these technologies in real life.*

**Prerequisites:** *None*

**Textbook(s) and/or required materials:**

*Top 10 Technology Trends for 2018: IEEE Computer Society Predicts the Future of Tech, IEEE Computer Society.*

*El Emary, I. M., & Brzozowska, A. (2017). Shaping the Future of ICT: Trends in Information Technology, Communications Engineering, and Management. CRC Press.*

*Wang, S. X. (Ed.). (2018). Current Trends in Computer Science and Mechanical Automation Vol. 1: Selected Papers from CSMA2016. Walter de Gruyter GmbH & Co KG.*

**Course Objectives**

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| --- | --- |
| ***The objectives of this course are to:*** | |
| *1* | *Explaining the current artificial intelligence applications and their usage areas* |
| *2* | *Introducing the computer vision and robotic applications* |
| *3* | *Introducing popular technologies related to computer engineering and demonstrating usage areas* |

**Course Topics**

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| --- | --- |
| *No* |  |
| *1* | *Computers: Past, Present, Future* |
| *2* | *Artificial Intelligence Applications*  *Machine Learning*  *Deep Learning* |
| *3* | *Artificial Intelligence Applications*  *Big Data*  *Natural Language Processing* |
| *4* | *Computer Vision and Pattern Recognition*  *Robotics*  *Ethical Problems Related to Robotic Work* |
| *5* | *Cloud Computing* |
| *6* | *Internet of Things* |
| *7* | *Augmented Virtual Reality*  *Game Development and Game Engines* |
| *8* | *Midterm Exam* |
| *9* | *Mobile Apps*  *Social Media Apps* |
| *10* | *Database and File Systems*  *No SQL Database (MongoDB), Hadoop* |
| *11* | *Blockchain* |
| *12* | *Web Technologies*  *Angular JS, Node JS, React JS, Ionic, Bootstrap, Django, Laravel, Spring* |
| *13* | *Software Development Tools*  *JIRA, GitHub, UML* |
| *14* | *Computer and Data Security* |

**Course Learning Outcomes**

*At the end of this course, students will be able to;*

* *Explain current artificial intelligence applications and algorithms*
* *Discuss development and future problems with robotic technology*
* *Explain current technologies related to computer engineering*
* *Define and use data security applications in their applications*

**Evaluation methods**

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| --- | --- |
| *1. Midterm Exam* | *40%* |
| *2. Final Exam* | *60%* |

***Professional component***

|  |  |
| --- | --- |
| *Engineering topics* | *100%* |
| *General education* | *0%* |
| *Mathematics and basic sciences* | *0%* |

**Person(s) who prepared this description and date of preparation**

*Şeyma Cihan, Enes Ayan, August 2018*

**Date of last revision**

*August 2018*