

# **İstanbul Bilgi University**

## **Department of Computer Engineering**

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**Spring 2018-2019**

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### **CMPE 346 : Natural Language Processing**

#### **Syllabus**

##### **1. Learning objectives**

Natural Language Processing (NLP) which is sub-brunch of Artificial intelligence, aims to develop techniques for processing language and speech. The course aims to learn basic algorithms in this field and the main language levels: morphology, syntax, semantics, and pragmatics, as well as the resources of natural language data - corpora. In this course, applications (rapid information extraction, machine translation, word sense disambiguation etc.) are analyzed.

##### **2. Learning outcomes**

Upon successful completion of the course, students will be able to;

- An ability to concentrate on applications of computers and practical programming and program development, to use the techniques and tools for design and analysis of modern information systems
- An ability to apply knowledge of mathematics, logic and computational theory on a variety of fields
- Describe and implement methods for morphological analysis, tagging of natural language, stemmers, taggers and parser etc.
- Use software tools to do some basic corpus analysis, finding collocations, n-gram, bi-gram etc.
- Classify the content of text in natural language and analyze them using corpus tool
- Be able to use engineering skills with support of practical session
- To be informed about the recent and popular topics, applications
- Understand the Turkish and English text, analyze and discuss onto them

##### **3. Course policies**

- Late assignments are not accepted.
- Any form of plagiarism or attempted plagiarism will result in immediate failure from the course.
- 70% attendance

##### **4. Evaluation**

- Midterm examination: 25%
- Final examination: 35%
- Project is 30%.
- Seminar is 10% (Presentation is obligatory to take grade)
- If your attendance is less than 70%, then FAIL (If you have an excuse not to attend your lab, then you should inform your staff)
- Your term project will not be evaluated if you do not personally present it.

##### **5. Textbooks**

- Natural Language Processing with Python — Analyzing Text with the Natural Language Toolkit, Steven Bird, Ewan Klein, and Edward Loper.
- Speech and Language Processing, Dan Jurafsky and James H. Martin.