Al Imam Mohammad ibn Saud Islamic University
College of Computer and Information Sciences

Computer Science Department

Course Syllabus

CS461 - Computational Linguistics and Arabization

Catalog Description: This course aims at introducing students to the major components of computational linguistic (phonetics and phonology, morphology and syntax and semantics) and application (POS, ASR, TTS, OCR, etc.)

Credit Hours: **3 Credit hours:** **3** Lectures per week **0** Labs. per week **0** Recitation per week

Prerequisites: CS340

Course Learning Outcomes:
1. Introduction to the concept of Computational Linguistics, especially Arabic morphological, syntactical, and semantical analysis.
2. To master the some techniques of related to speech tagging, Arabic Automatic Translation, Arabic Speech recognition, and Arabic Text to Speech synthesis.

Major Topics:
- Introduction to computer linguistic and natural language processing
Tagging, Chunking, Parsing
- Arabic Morphological Analysis Techniques
- Arabic syntactical and semantical Analysis
- Introduction to Arabic Optical Character Recognition
- Introduction to Arabic Automatic Speech Recognition
- Introduction to Arabic Text To Speech Synthesis
- Introduction to Automatic translation

Text Books:
- Required: Daniel Jurafsky and James H. Martin. SPEECH and LANGUAGE PROCESSING: An introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition. Second Edition. 2008.
- Optional: Computational Linguistics: An Introduction, Grishman, Cambridge University Press, 1986.
- Optional: Natural Language Processing and Knowledge Representation: Language for Knowledge and Knowledge for Language, Iwanska and Shapiro, MIT Press, 2000.
- Optional: Strategies for Natural Language Processing, Lehnert and Ringle, Erbaum Associates, 1982.
- Optional: Foundations of Statistical Natural Language Processing, Manning and Schutze, MIT Press, 1999

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Grading:

- The grading scale for this course is:
  - . 95 - 100 A+ Passing
  - . 90 - 94 A Passing
  - . 85 - 89 B+ Passing
  - . 80 - 84 B Passing
  - . 75 - 79 C+ Passing
  - . 70 - 74 C Passing
  - . 65 - 69 D+ Passing
  - . 60 - 64 D Passing
  - . 0 - 59 F Failing

- Final grades will be determined based on the following components:
  - . 60% Semester Work
  - . 40% Final Exam

- Students may not do any additional work for extra credit nor resubmit any graded activity to raise a final grade.

- Late submissions will not be accepted for any graded activity for any reason.

- Studentshave one week to request the re-grading of any semester work.

Attendance Policy:

Students should attend 80% of the overall course hours taught in the semester as per the University regulations.

If a student fails to achieve this portion, he/she shall not be allowed to appear in the final exam and shall be awarded "DN" grade and repeat the course.

Cheating and Plagiarism Policy:

The instructor will use several manual and automated means to detect cheating and/or plagiarism in any work submitted by students for this course.

When a student is suspected of cheating or plagiarism, the instructor raises the issue to the disciplinary committee.

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Communications:

Registered students will be given access to a section of the Blackboard Learning System for this course. Bb will used as the primary mechanism to disseminate course information, including announcements, lecture slides, assignments, and grades.

Communication with the instructor on issues relating to the individual student should be conducted using CIS email, via telephone, or in person.