CS 423 / 723 (Introduction to) **Natural Language Processing**

Spring 2019

This course is offered in a blended online format. The class will generally meet every Thursday for discussion and exams, but the primary lectures will be provided online (recorded slides with notes). Attendance is recommended but will not be mandatory except for the first two weeks, the Midterm (March 14), and the last two weeks (May 2, May9). There will be no in-class discussion on March 28.

Undergraduates will have a final exam (May 16th) in the regular classroom, EMS E145.

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**Overview**
This course will introduce the concepts and terminology for computer processing of human languages, software methods for language processing, and important applications of natural language technology. Students will use or extend existing NL software, including the Natural Language Toolkit (in Python).

**Required texts:**
Speech and Language Processing, 2nd Edition by Jurafsky and Martin, 2009

**Grading**

**Undergraduate students:** Grades will be based on 4 homework assignments (35%), a midterm (25%), and 5 D2L quizzes (15%) and a final exam (25%).

**Graduate Students:** Grades will be based on 4 homework assignments (40%), a midterm (20%), 5 D2L quizzes (10%), and a software project and presentation (30%).

A complete week by week schedule of topics and readings is in the class schedule. Below is the sequence of topics to be covered:

1. Introduction and overview.
2. Words
3. Syntax: Grammars and search-based analysis
4. Semantics, semantic analysis
5. Discourse and pragmatics
6. Applications (Dialog, Information Extraction)
7. Advanced methods and upcoming trends
Official University Policies
This course will follow all official university policies. For your convenience a summary of these policies is provided below.

Students with Disabilities: Students who have special needs requiring special accommodations please contact the instructor. The Student Accessibility Center (Mitchell 112, 414-229-5822) is also an excellent resource and staff is available to discuss concerns.

- Religious Observances: Students will be allowed to complete examinations or other requirements that are missed because of a religious observance if prearranged with the instructor.

- Academic Misconduct: The University has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others’ academic endeavors. Submission of work previously submitted to another course will not be permitted. University policy prohibits and punishes misconduct, including any act by which a student seeks to claim credit for the work or efforts of another without authorization or citation (plagiarism), forges or falsifies documents, falsely represents his or her academic performance (cheating), or assists other students in any of these acts. Students who violate academic standards as set forth in UWS Chapter 14 and UWM Faculty Document 1686 will be confronted and must accept the consequences for their actions. Students who engage in academic misconduct are subject to a range of sanctions including but not limited to: a failing grade on an assignment or test, a failing grade in the course, and expulsion from the university.

- Sexual Harassment: Sexual harassment is reprehensible and will not be tolerated by the University. It subverts the mission of the University and threatens the careers, educational experience, and well being of the students, faculty, and staff. The University will not tolerate behavior between or among members of the University community, which creates an unacceptable environment.

- Incompletes: A notation of incomplete may be given in lieu of a final grade to a student who has carried a subject successfully until the end of a semester but who, because of illness or other unusual and substantiated cause beyond the students’ control, has been unable to take or complete the final examination and/or to complete some limited amount of term work. An incomplete is not given unless you prove to the instructor that you were prevented from completing course requirements for just cause.