

CMPS 5443: Natural Language Processing SYLLABUS

Catalog Description: This graduate-level course in Natural Language Processing (NLP) explores techniques and applications of interpreting human language, including text processing, language models, machine translation, information retrieval, sentiment analysis, chatbots, and emerging trends in NLP.

Instructor:	Mika Morgan, M.S., M.Ed.
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Office Hours:	MTWRF 10-11 am & F 1-3 pm, or by appointment

Credits: 3 (3 hour lecture)

Required Textbook and Materials: Speech and Language Processing, 3rd Edition, Daniel Jurafsky and James H. Martin

Major Topics:

1. Text Processing and Pattern Searches
2. N-Gram Language Models
3. Sentiment Analysis
4. Word Embeddings
5. Chatbots
6. Neural Networks/Large Language Models
7. NLP Libraries, such as VADER, spaCy, NLTK, GloVe, etc.
8. NLP Applications, such as Question Answering, Named Entity Recognition, etc.

Exams and Assignments: There will be one midterm and one comprehensive final exam. Exams cover material from the text as well as programming activities. The lectures may not cover all material in the textbook and required readings. Programming projects will be expected to be complete and robust, including good documentation, user interfaces, and the ability to handle improper input.

Course Evaluation:

Homework 10 HWs, 1 pt. each	10 pts
Quizzes 10 quizzes, 1 pt. each	10 pts
Programming Assignments 3 programs, 10 pts. each	30 pts
Research Article Presentation	10 pts
Midterm Exam	20 pts
Final Exam	20 pts

In order to help students keep track of their progress toward course objectives, the course instructor will provide grade updates using D2L. Only final grades will be reported on the students' transcripts. Students earning below a C at midterm should discuss progress with the instructor.

Grade scale breakdown:

- A: 89.5 - 100
- B: 79.5 - 89.4
- C: 69.5 - 79.4
- D: 59.5 - 69.4
- F: < 59.4

Behavior in the Classroom: Students are to assist in maintaining a classroom environment that is conducive to learning. Electronic devices should be silenced, and there should not be off-topic conversation while the instructor is lecturing. Disruptive students may be asked to leave the room.

Electronic Devices: The use of electronic devices is encouraged during the hands-on programming examples in class, but not during other times. Electronic device use should not disrupt other students from learning.

Technical difficulty will not be considered a valid reason for an extension on submitting online materials. Computers are available on campus in various areas, as well as the Academic Success Center. Contact your instructor immediately upon having computer trouble. There is also a student help desk available to you.

Make Up Assignments:

- For planned absences: exams may be taken early *by prior arrangement*.
- For unplanned absences: a missed exam can be replaced by the final exam grade.
- Missed quizzes may not be made up.

Policy on Testing Process: No electronics of any kind, including ear buds and smart watches, are allowed on the student, unless the instructor has approved a calculator. Nothing is allowed on the desk but pen/pencil/eraser and test papers. *A student who leaves the room during an exam must turn in the test and will not be allowed to return.*

Academic Misconduct Policy & Procedures: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting and paraphrasing, or the submission for credit of work not the individual's to whom credit is given). The Department of Computer Science has adopted the following policy related to cheating (academic misconduct). The policy will be applied to all instances of cheating on assignments and exams as determined by the instructor of the course.

- 1st instance of cheating in a course: The student will be assigned a non-replaceable grade of zero for the assignment, project or exam. *In addition, the student will receive a one letter grade reduction in course, if the grade doesn't result in a grade reduction.*
- 2nd instance of cheating in a course: The student will receive a grade of F in course & immediately be removed from course.
- All instances of cheating will be reported to the Department Chair and, in the case of graduate students, to the Department Graduate Coordinator.

Note: Letting a student look at your work is collusion and is academic misconduct!

See the [MSU Student Handbook](#) for more information on the academic misconduct policy.

Students with Disabilities: Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make necessary arrangements. Students must present appropriate verification from the University's Disability Support Services (DSS) Office during the instructor's office hours. Please note that instructors are not allowed to provide classroom accommodation(s) to a student until appropriate verification from DSS has been provided. For additional information, contact the Disability Support Office in Clark Student Center 168. Phone: (940) 397-4140.