

Advance Topics in Computer Science:
Natural Language Processing
Course Expectations and Syllabus
2022 – 2023

Mr. Girsch

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Natural Language Processing

An area of computer science and artificial intelligence concerned with the interactions between computers and human (natural) languages, in particular how to program computers to process and analyze large amounts of [natural language](#) data. Challenges in natural language processing frequently involve speech recognition, natural language understanding, and natural language generation.

Students will have the opportunity to meet the requirements for the districts Capstone experience.

The course will add List Comprehension, Regular Expressions, and Python's built-in `eval()` function to students "toolbox". Topics covered to include Building a [Bayesian classifier](#), [Tokenizing Text Files](#), [Parsing](#), and [Part-of-Speech Tagging](#)

Standards Based Grading

Each course will have different course standards and graduation standards built into the curriculum. You must "meet the standard" (average 70+) on all course standards to pass the course. You must "meet the standard" (70+) on all graduation standards to graduate. Each standard will be outlined on the course syllabus. Each course standard will have several assessments to ensure you are learning the information; below is how your grade under each standard will be calculated.

HOWLs Habits of work and learning(10%)

- Engagement: Participation in class is very important, coming to class on time, taking good notes, completing in class work and actively working in groups; as well as doing what you need to do outside of class to extend your learning.
- Preparation: Work outside of class is an important part of learning and retaining the information from class; coming to class with the correct supplies and completed homework is essential. Also, being successful in math as well as everyday life takes organization. Notebooks are very important in your learning and should be brought to class everyday.

Projects (90%)

- Assignments will be given throughout the course. Loose due dates will be given. Once a due date has been set it is the responsibility of students to complete the assignment outside of normal classroom hours. The only hard due dates are the end of the marking periods.

Midterms & Finals

- (10% of semester grade) material will be decided upon prior to test date.

Technology

- There are no specific required materials for this course. However, students should utilize any resources necessary to help themselves be successful. It is recommended that students download the Integrated Development Environment (IDE) [Pycharm: Community Edition](#) on their home personal computer for any work to be completed outside class.
- The textbook and syllabus is on my website:
<https://sites.google.com/a/portlandschools.org/mr-girsch/advanced-topics-natural-language-processing>
- You or your parents can reach me by email: girscr@portlandschools.org

Honors Credit

You will have the opportunity to earn Honors credit for this course. To earn Honors credit you must fulfill the following criteria:

1. All assignments must be submitted within 1 week of the due date
2. All code must follow [PEP-8](#) Python coding style guidelines.
3. All assigned problems must be completed as well as any challenge problems.

Help

- Schedule an appointment during Bulldog Block or mornings 7:30 am – 7:50 am
- You are welcome to use the classroom computers when you have time, regardless of when I have class. However, my availability to help will be limited during my class time.

NO ELECTRONIC DEVICES unless we need them in class. If I ask you once it's a warning; twice I will take the item and you may retrieve it at the end of the class, three times you will receive a detention (School Policy).