Machine Learning (Fall 2025)

Instructor & Course Information:

Instructor:	**Sreya Banerjee, PhD**
Title:	**Assistant Professor**
Email:	banerjes@newpaltz.edu
Course ID:	**CPS493-04 & CPS536-01**
Course Credit:	**3**
Prerequisites:	Permission of Instructor
Location:	**SH 259**
Lecture Hours:	**Tuesdays and Fridays at 9:30 AM - 10:45 AM EST**
Office Hours:	**Wednesdays and Thursdays 11:00 AM - 1:00 PM EST or by appointment (Please contact me/ the department admin assistant to make appointments)**
Office Location:	**SH 250**
Last day to withdraw:	**November 14**

Course Description:

Machine learning is the science of building computer systems capable of learning from data and experience. It is a subfield of Artificial Intelligence, and intersects with statistics, cognitive science, information theory and other disciplines. The course will explain how to build systems that learn and adapt using synthetic and real-world data applications. Main topics to study include: regression analysis, decision trees, support vector machines, principal components, unsupervised learning and neural networks. We will use the Python programming language to build the machine learning systems.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to identify scenarios where machine learning techniques can be applied, and then implement and evaluate the most common machine learning techniques.

Reading Materials

The course has no required textbook. I will provide notes as necessary and post links to additional reading materials on Brightspace.

E-mail and Brightspace

E-mail and Brightspace are primary means of communication between the instructor and the students. Receiving and reading course email, as well as periodically checking Brightspace is your responsibility.
E-mails will be answered within 24 hours Monday through Friday and within 48 hours Saturday and Sunday. The best time to reach me is Monday through Friday during regular hours (9 AM - 5 PM EST).

Grading Information

Your grade will be based on 3 in-class tests, a final project, and a presentation and attendance. The dates of the exams and the percentage each exam contributes to the total is given below (these are subject to change based on class progress):

1. **Exams(60%)**:
    a. Test 1 - tentatively in September (25%)
    b. Test 2 - tentatively in October (25%)
    c. Final exam - December 12 (10:15 AM – 12:15 PM, 50%)
2. **Project (30%)**:
    a. Project Report (30%)
    b. Presentation (30%)
    c. Code base (30%)
    d. Runtime verification (10%)
3. **Attendance (10%)**

Please Note:

1. *Except for documented medical emergencies, there will be no makeup tests.*
2. *Since this course includes both undergraduate and graduate components, the evaluation criteria will differ in accordance with the* ***Middle States Commission on Higher Education*** *guidelines. Graduate students will need to complete additional assignments/tasks within the project to meet the higher-level course expectations.*

Grade scale (by percentage):

A	100 - 95	**A-**	89 - 94
B+	82 - 88	**B**	76 - 81
B-	70 - 75	**C+**	64 - 69
C	57 - 63	**C-**	51 - 56
D+	45-50	**D**	39 - 44
D-	32 - 38	**F**	Below 32

On plagiarism (or cheating)

All assignments in this course are to be completed individually unless a collaborative project is specifically assigned. You may use online resources for reference, but sharing code with other students is considered plagiarism. This includes copying and pasting code from any source, including the internet. Any instance of plagiarism or cheating will result in a failing grade for the assignment. If plagiarism is detected in a single question, the entire assignment will receive a zero. Be aware that suspected cases of academic dishonesty will be reported to the Department Chair and the Graduate Coordinator. Please review the official university policies on plagiarism at

https://www.newpaltz.edu/acadaff/academic-policies-including-academic-integrity/

Attendance

Attendance at all classes is expected. Notes will be posted on Brightspace after each class, but far more detail will be discussed in class than is included on the slides, so regular attendance and note-taking is strongly recommended. In the case of any absence, you are responsible for obtaining the missed information from another student. Please see additional campus-wide policies on attendance below.

https://www.newpaltz.edu/ugc/policies/policies_religious.html

Homework (optional)

Homework will be posted on the Brightspace. In general, these homework need not be submitted and they will not be graded. However, I will post solutions and we will discuss them in class. The tests will be based on these homework exercises. Occasionally, I may ask you to submit homework to see your progress and to give feedback.

Project

This course includes one main project that will allow you to apply the machine learning techniques you learn. The project's primary task will be to perform a regression or classification task on a dataset of your choice. You will be expected to test and evaluate various techniques from the course on your chosen dataset.

The project is broken down into several components with individual deadlines, which will be announced during lectures. You will also be required to meet with the instructor occasionally to discuss your progress and receive feedback. As mentioned earlier, **graduate students will have additional project requirements to fulfill the higher-level course expectations.**

Project Deliverables and Grading

The final project will be graded based on the following components:

- **Project Report (30%)**: A detailed report on your methodology, findings, and analysis. The specific format will be provided in class.
- **Presentation (30%)**: A presentation of your project and its results.
- **Codebase (30%)**: Your code, which must be well-documented and organized.
- **Code Verification (10%)**: A check to ensure your code runs as expected.

Exams

There will be 3 exams in total:

1. Test 1, tentatively scheduled in September during lecture hours.
2. Test 2, tentatively scheduled in October during lecture hours.
3. Final exam, tentatively scheduled on **December 12, 2025 10:15 AM - 12:15 PM**

All exams are **open notebook**. You are allowed to bring **3 pages of notes** for each exam. Exams will be in similar format to the assignments.

Please Note: Except for documented medical emergencies for which you will be required to submit a doctor's note, there will be no makeup tests.

Due Dates and Late Policy

Unless due to an emergency, assignments/project submissions are due as indicated on Brightspace. There will be no exception to this rule.

Campus-Wide Policy Statements

Academic integrity policy statement: Students are expected to maintain the highest standards of honesty in their college work. Cheating, forgery, and plagiarism are serious offenses, and students found guilty of any form of academic dishonesty are subject to disciplinary action. New Paltz's policy on academic integrity is found at: www.newpaltz.edu/ugc/policies/policies_integrity.html.

Reasonable accommodation of individuals with disabilities statement: Students needing classroom and/or testing accommodations related to a disability should contact the Disability Resource Center (Student Union, Room 210, 845-257-3020) as close as possible to the beginning of the semester. The DRC will then provide students' instructors with an Accommodation Memo verifying the need for accommodations. Specific questions about services and accommodations may be directed to Deanna Knapp, Assistant Director (knappd@newpaltz.edu) or Jean Vizvary, Director (vizvaryj@newpaltz.edu).

Veteran & Military Services statement: New Paltz's Office of Veteran & Military Services (OVMS) is committed to serving the needs of veterans, service members and their dependents during their transition from military life to student life. Student veterans, service members or their dependents who need assistance while attending SUNY New Paltz may refer to www.newpaltz.edu/veterans; call 845- 257-3120, -3124 or -3074; e-mail np-vms@newpaltz.edu; or stop by the Student Union, Room 100 South.

Computer and network policies statement: Users of New Paltz's computer resources and network facilities are required to comply with the institutional policies outlined in the Acceptable Uses and Privacy Policy, available at www.newpaltz.edu/itpolicy/.

Identity verification policy statement for online courses: New Paltz's Online Identity Verification Policy is designed to verify that students enrolled in our online courses and/or programs are the ones who take the courses, complete the programs, and receive the academic credit. See www.newpaltz.edu/ugc/policies/policies_onlineverification.html for the complete policy.

Student Evaluation of Instruction

You are responsible for completing the Student Evaluation of Instruction (SEI) for this course and for all your courses with an enrollment of five (5) or more students. I value your feedback and use it to improve my teaching and planning.

Names & Pronouns

SUNY New Paltz recognizes the importance of a diverse student body, and we are committed to fostering equitable classroom environments. You are invited to share how you want to be referred to, both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). I will do my best to address and refer to all students accordingly and will support you in doing so as well. In this classroom, we will respect and refer to people using the names and personal pronouns that they share.