Course Title: Machine Learning with Python
Course Code: CS 08
Instructor: Michael Galarnyk

Course Summary:
Key Topics:
* Python Review
* Data Manipulation with Pandas
* How to Visualize Data with Matplotlib
* What is Machine Learning?
* How to use Machine Learning Algorithms with Python
* The strengths and weaknesses of different machine learning algorithms
* What is deep learning?
* Common uses of deep learning

Grade Options and Requirements:
- No Grade Requested (NGR)
  - This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.
- Credit/No Credit (CR/NC)
  - Students must attempt every quiz in the course.
  - Participate in at least 70% of weekly discussions and/or Zoom sessions.
- Letter Grade (A, B, C, D, No Pass)
  - Students must attempt every quiz in the course (open book/open notes/unlimited attempts).
  - Students must turn in the final exam (open book/open notes/unlimited attempts).

*Please Note: If you require proof that you completed a Continuing Studies course for any reason (for example, employer reimbursement), you must choose either the Letter Grade or Credit/No Credit option. Courses taken for NGR will not appear on official transcripts or grade reports.*
Tentative Zoom Schedule*:

*Please note that the Zoom schedule is subject to change.

Zoom meetings are set for Monday nights at 6 pm Pacific Standard Time. While the instructor will set the topics for the zoom meeting, students are more than welcome to email with questions before the lecture.

Tentative Weekly Outline:

Week 1: Data Manipulation with Pandas and Python Basics Review
Pandas quiz

Week 2: Data Visualization with Matplotlib
Matplotlib and Seaborn Quiz

Week 3: Introduction to Machine Learning with Scikit-Learn
Scikit-Learn Quiz

Week 4: Decision Trees
Bias and Variance Quiz
Decision Trees Quiz

Week 5: Logistic Regression
Logistic Regression Quiz

Week 6: Clustering
Clustering Quiz

Week 7: Dimensionality Reduction
Dimensionality Reduction Quiz

Week 8: Random Forests and Gradient Boosting Machines
Random Forest and Gradient Boosting Machines Quiz
Week 9: Introduction to Deep Learning

Deep Learning Theory Quiz

Week 10: Topics of Interest

Recommender Systems and Support Vector Machines Quiz
Final Quiz/Test Due