Syllabus and Course Schedule

PSETS will be released about two weeks before they are due.

Event	Date	Description	Materials and Assignments
		Introduction	
Lecture 1	Thursday Jan 11	**Section Topics:** 1. The AI world 2. Logistics of the course 3. Presentation of the Syllabus	
Homework Due	Tuesday Jan 16	**On Coursera** Week 1 and Week 2 of Supervised Machine Learning: Regression and Classification (including optional labs and quizzes)	
Lecture 2	Thursday Jan 18	**Section Topics:** 1. Linear Regression 2. Derivations 3. Practice problems	**Handouts** • Problems • Solutions
Homework Due	Tuesday Jan 23	**On Coursera** Week 3 of Supervised Machine Learning: Regression and Classification (including optional labs and quizzes)	
Lecture 3	Thursday Jan 25	**Section Topics:** 1. Logistic Regression 2. Text processing 3. Derivations 4. Practice problems	**Handouts** • Problems • Solutions
Homework Due	Tuesday Jan 30	**On Coursera** Week 1 of Advanced Learning Algorithms: Neural Networks (including optional labs and quizzes)	**On Gradescope** • **PSET 1:** • **Solutions:**
Lecture 4	Thursday Feb 1	**Section Topics:** 1. Neural Networks 2. Vectorized Gradients 3. Softmax 4. Practice problems	**Handouts** • Problems • Solutions
Homework Due	Tuesday Feb 6	**On Coursera** Week 2 of Advanced Learning Algorithms: Neural network training (including optional labs and quizzes)	**On Gradescope** Project Proposal
Lecture 5	Thursday	**Section Topics:**	**Handouts**

	Feb 8	1. Multi-class classification 2. Vectorized Back-propagation 3. Practice problems	• Problems • Solutions
Homework Due	Tuesday Feb 13	**On Coursera** Week 3 of Advanced Learning Algorithms: Advice for applying machine learning (including optional labs and quizzes)	**On Gradescope** • **PSET 2:**
Lecture 6	Thursday Feb 15	**Section Topics:** 1. Bias & Variance Trade-off in Practice 2. Practice problems 3. Debugging Strategies for Final Project 4. Advice on ML Systems 5. Hogwarts Case study.	**Handouts** • Problems • Solutions • Hogwarts • Hogwarts Solutions • ML Advice
Homework Due	Tuesday Feb 20	**On Coursera** Week 4 of Advanced Learning Algorithms: Decision trees (including optional labs and quizzes)	
Lecture 7	Thursday Feb 22	**Section Topics:** 1. Measuring Purity 2. Random Forest 3. XG Boost 4. Practice problems	**Handouts** • Problems • Solutions
Homework Due	Tuesday Feb 27	**On Coursera** Week 1 of Unsupervised Learning, Recommenders, Reinforcement Learning: Unsupervised Learning (including optional labs and quizzes)	
Lecture 8: **Midterm**	Thursday Feb 29	**Logistics** Midterm will be held during class time. Check out to Midterm FAQ (#5) on Ed for more details.	**Review Materials**
Homework Due	Tuesday Mar 5	**On Coursera** Week 2 of Unsupervised Learning, Recommenders, Reinforcement Learning: Recommender Systems (including optional labs and quizzes)	**On Gradescope** Project Milestone (Due March 8)
Lecture 9	Thursday Mar 7	**Section Topics:** 1. K-Means Clustering 2. Principal Component Analysis	**Handouts** • Problems • Solutions
Homework Due	Tuesday Mar 12	**On Coursera** Week 3 of Unsupervised Learning, Recommenders, Reinforcement Learning: Reinforcement Learning (including optional labs and quizzes)	

Lecture 10	Thursday Mar 14	**Section Topics:** 1. AI future directions and Career Advice with Andrew	
Final Report Due	Tuesday Mar 19	Project Report and Poster	**On Gradescope** Final Report and PSET 3 due. Poster is due the day before.
Poster Session	Mar 19	**Poster Session Logistics** The poster session will be held for two hours. 1:00pm-3:00pm, Packard Atrium. We will provide easles and boards for you to put up your posters.	