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Course Information January, 2015

Day & Time and Location	M/W 1:10-2:25 at HAV 309
Instructor	Professor Tony Jebara
Office Hours	Mon 2:30-3:30 in CEPSR 605

Prerequisites: *COMS W4771* or permission. Background in linear algebra and statistics.

Description: Advanced topics in machine learning including: Linear Modeling, Nonlinear Dimension Reduction, Maximum Entropy, Exponential Family Models, Conditional Random Fields, Graphical Models, Structured Support Vector Machines, Feature Selection, Kernel Selection, Meta-Learning, Multi-Task Learning, Semi-Supervised Learning, Graph-Based Semi-Supervised Learning, Approximate Inference, Clustering, and Boosting.

Click on "Handouts" for more details about what the course will cover. If you have not taken 4771 and want to take Advanced Machine Learning, we may make an exception for you if you have a strong background and are eager to catch up. To brush up on background material for Advanced Machine Learning, look at the slides and handouts for introductory Machine Learning [COMS4771](#).

Bulletin Board: [Class bulletin board \(Click on Discussion\)](#)

The course will sometimes refer to the online text book Introduction to Graphical Models by M.I. Jordan. The book is available via [courseworks.columbia.edu](#) for registered students only.

Academic Honesty Policy: Please read the policy [here](#). By staying registered in the class you indicate your acceptance of all its terms. We do not accept late homework or absence without official reasons (medical, etc.) approved by a student dean. If you miss class, please coordinate with colleagues to find out what you missed (do not email the professor to help you catch up). Once a particular grade is posted for you on Courseworks, you have two weeks to contest it. Afterwards, these grades cannot be changed (do not wait until the end of the semester to contest any grading issues that are more than two weeks old). This course assumes you have the ability to upload your work via courseworks and can figure out how to attach files. If you are incapable of using courseworks, unable to program, or unable to follow mathematical notation, please drop the class. If you find any of these terms unacceptable, please drop the class.

This 3 credit course (4772 or 6772 are equivalent) satisfies:
a PhD Elective in the Advanced AI track.
a Required or Elective Course for the MS Machine Learning track.
an Elective Course for the MS Vision/Graphics track.

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