

COMP 4745/6745 Introduction to Machine Learning

Course Description: an introductory course on machine learning. Topics include hypotheses spaces, concept learning, supervised methods, unsupervised methods, classification, clustering, Bayesian methods, active learning, and reinforcement learning. **Prerequisite:** COMP 2150 or permission of instructor.

Learning Outcomes:

- An ability to analyze problems and identify requirements appropriate to solving problems.
- An ability to apply knowledge of computing and mathematics to Computer Science.
- An ability to process, transform and clean different types of data.

Textbook: *Introduction to Machine Learning* by Tom Mitchell, McGraw Hill, 1997.

Topics:

- Overview of Machine Learning
- Hypotheses Spaces
- Concept Learning
- Supervised Methods
- Unsupervised Methods
- classification
- Clustering
- Bayesian Methods
- Active Learning
- Reinforcement Learning

Grading:	COMP 4745	COMP 6745
Assignment	30%	30%
Midterm	20%	20%
Project	30%	25%
Presentation		5%
Final exam	20%	20%

Plagiarism/Cheating Policy:

Plagiarism or cheating behavior in any form is unethical and detrimental to proper education and will not be tolerated. All work submitted by a student (projects, programming assignments, lab assignments, quizzes, tests, etc.) is expected to be a student's own work. The plagiarism is incurred when any part of anybody else's work is passed as your own (no proper credit is listed to the sources in your own work) so the reader is led to believe it is therefore your own effort. Students are allowed and encouraged to discuss with each other and look up resources in the literature (including the internet) on their assignments, but appropriate references must be included for the materials consulted, and appropriate citations made when the material is taken verbatim.

If plagiarism or cheating occurs, the student will receive a failing grade on the assignment and (at the instructor's discretion) a failing grade in the course. The course instructor may also decide to forward the incident to the University Judicial Affairs Office for further disciplinary action. For further information on U of M code of student conduct and academic discipline procedures, please refer to: <http://www.people.memphis.edu/~jaffairs>