**Course Syllabus**

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| **Code and Name** | CSE445 Machine Learning |
| **Type** | Elective |
| **Credit Hours** | 3 |
| **Pre-requisites** | CSE440 Artificial Intelligence or Consent from Instructor |

**Course Description**

Introduction to Machine Learning; Classification of learning: Unsupervised and supervised learning, Connectionist learning, Reinforcement learning, Machine discovery; Supervised learning: Information theoretic decision tree learner, Best current hypothesis search, Candidate elimination (version space) algorithm, Learning in the first order Horn clause representation, Inductive logic programming, Application; Unsupervised learning: Hierarchical clustering, Category utility, Incremental and no incremental algorithms for hierarchical clustering, Applications; Connectionist learning: Introduction to Neural Network, Feedforward and recurrent network, Perceptron, Multilayer feedforward network, Backpropagation algorithm for training a feedforward network, Applications; Genetic Algorithms: Genetic operators, Fitness function, Genetic algorithm in supervised learning framework, Applications