CAP 6778 Advanced Data Mining and Machine Learning

**Credits:** 3 credits

**Text book, title, author, and year:** (1) Data Mining: Practical Machine Learning Tools and Techniques, by I.H. Witten and E. Frank (2) Selected articles and papers are posted on the course website.

**Reference materials:** N/A

**Specific course information:**

**Catalog description:** The study of advanced topics in data mining and machine learning. Current research issues in data mining and its application in computer network security, computer science and software engineering.

**Prerequisites:** Prerequisites: CAP 5615 or CAP 6635 or CAP 6673 or equivalent courses. COP 6579 can be used as a technical elective in all CS, CE and EE graduate programs.

**Specific goals for the course:** Students will learn advanced data mining and machine learning techniques. Case studies with an emphasis on real world applications will be presented.

**Brief list of topics to be covered:**

1. Association Rules

2. Rule Based Modeling

3. Bayesian Learning

4. Ensemble Learning

5. Quality of Data

6. Web Mining

7. Feature Selection

8. Applications and Trends in Data Mining

9. Case Studies