

Course discipline/number/title: COMP 2501: Information Technology Capstone**A. CATALOG DESCRIPTION**

1. **Credits:** 2
2. **Hours/Week:** 2
3. **Prerequisites (Course discipline/number):** COMP 2247, DSCI 2253
4. **Other requirements:** None
5. **MnTC Goals (if any):** NA

B. COURSE DESCRIPTION: This course is the culmination of the Information Technology degree. Students will demonstrate their capabilities in the form of a capstone project. The capstone project enables students to showcase the concepts learned throughout the degree program and apply what they have learned. The course combines guided professional development with independent technical work, allowing students to showcase their ability to analyze, implement, and communicate data analysis. It is expected that this class will be taken concurrently with or after completing DSCI 2257.

C. DATE LAST REVISED (Month, year): March, 2024

D. OUTLINE OF MAJOR CONTENT AREAS:

1. Analysis of large data sets
2. Principles of machine learning
3. Classification Algorithms
4. Prediction Algorithms
5. Data Modeling
6. Model evaluation
7. Analysis of model fit and outcomes
8. Communication of results
9. Professional development for data analysis careers
 - a) Resume writing for data analytics roles
 - b) Technical interview preparation
 - c) Preparing for certifications

E. LEARNING OUTCOMES (GENERAL): The student will be able to:

1. Apply machine learning techniques.
2. Apply searching and sorting.
3. Apply methods of data preparation.
4. Clean and tag data for machine learning models.
5. Develop a solution for supervised/unsupervised models.
6. Apply and describe problem-solving approaches.
7. Present findings of the analysis and model fit.
8. Demonstrate interview skills specific to data analysis positions

F. LEARNING OUTCOMES (MNTC): NA

G. METHODS FOR EVALUATION OF STUDENT LEARNING: Methods may include but are not limited to:

1. Capstone Project

H. RCTC CORE OUTCOME(S). This course contributes to meeting the following RCTC Core Outcome(s):
Critical Thinking. Students will think systematically and explore information thoroughly before accepting or formulating a position or conclusion.

I. SPECIAL INFORMATION (if any): None