

Fall 2023

CPSC 481 - Final Exam Study Guide

Section 1

12/14 (Thursday), 11-12:50pm, RGC 019

Section 3

12/14 (Thursday), 1-2:50pm, CS102A

Section 6

12/12 (Tuesday), 9-10:50am, CS102A

Make sure you check the exam **date/time** and **room**. **You must be physically present in class to take the exam.** The exam will cover the material from **weeks 8 to 15**.

I will hold a **review session on November 30th (Thursday)**. The best way to prepare for the exam is going through the homework, quizzes, and in-class exercises. You will not be expected to write any Pseudocode. I will allow you to bring up to **two pages of notes (double sided is okay)**.

Any topic from below can be on the exam:

1. Reasoning with Uncertainty
 1. Probability Distribution
 2. Joint Distribution
 3. Marginal Distribution
 4. Conditional Probability
 5. Bayes' Rule
 6. Naïve Bayes Classifier
2. Bayesian Network
 1. Joint Probability Distribution
 2. Marginalization
 3. Creating Bayesian Network
3. Introduction to Machine Learning
 1. Types of ML
 1. Supervised
 2. Semi-supervised
 3. Unsupervised
 4. Reinforcement Learning
 2. Challenges of ML
4. Steps of ML application development
5. Clustering
 1. Goal of Clustering
 2. Hard vs Soft clustering
 3. K-means Clustering

1. Process of K-means Clustering
6. Recommender System
 1. Primary model of Recommender
 2. Types of recommender system
 1. Simple recommender
 2. Content-based recommender
 3. Collaborative recommender
7. Artificial Neural Networks
 1. Artificial neuron
 2. Activation function
 3. Layers
 4. Convolutional Neural Network (CNN)
 1. Motivation for CNN
 2. CNN Layers