

Mathematical Structures

Syllabus Information

CS 1860 - Mathematical Structures

Associated Term: 2020/21 Academic Session

Learning Objectives:

Course Summary: The aim of this module is to provide (1) insights and skills in rigor and formal reasoning in a way that allows reasoning about behaviour, correctness and performance in a programming environment; and (2) basic knowledge of the formal structures for program data representation. **Pre-requisites:** None **Learning Outcomes:** By the end of the course students should be able to: 1. Reason about sets, relations, functions and cardinality 2. Reason about recursive definitions and prove results by induction 3. Represent problems and reason about them using graphs 4. Have an understanding of basic probability and statistics suitable for use in studying artificial intelligence and information security

Required Materials: [Click here for the reading list system](#)

Technical Requirements: The total number of notional learning hours associated with the course are 150. **These will normally be broken down as follows:** Lectures - 1 hour three times per week - 11 weeks - 33 hours Tutorials - 1 hour per week - 6 weeks - 6 hours Guided independent study - 111 hours **Formative Assessment:** Completion of quizzes embedded in asynchronous materials (5 Hours) - Feedback through course completion block on moodle **Summative Assessment:** Quizzes (5 Hours) - 10% Written Assignment (90 Minutes) - 10% Written exam (90 Minutes) - 80%