

## **CISC280 - Book material Covered in Midterm Exam 1**

**Exam Date: Thursday, November 13, 2008**

The exam will cover Chapter 2 up through section 2.4 (section 2.5 will not be on this exam). The following list is intended to help clarify what we covered and thus, what will be on the exam.

### **2 Building Abstractions with Data**

#### 2.1 Introduction to Data Abstraction

2.1.1 Example: Arithmetic Operations for Rational Numbers

2.1.2 Abstraction Barriers

2.1.3 What Is Meant by Data?

2.1.4 Extended Exercise: Interval Arithmetic NOT COVERED

#### 2.2 Hierarchical Data and the Closure Property

2.2.1 Representing Sequences

2.2.2 Hierarchical Structures

2.2.3 Sequences as Conventional Interfaces

2.2.4 Example: A Picture Language NOT COVERED

#### 2.3 Symbolic Data

2.3.1 Quotation

2.3.2 Example: Symbolic Differentiation

2.3.3 Example: Representing Sets

2.3.4 Example: Huffman Encoding Trees NOT COVERED

#### 2.4 Multiple Representations for Abstract Data

2.4.1 Representations for Complex Numbers

2.4.2 Tagged data

2.4.3 Data-Directed Programming and Additivity