

# Syllabus

AP/ITEC 1620 3.0

Object-Based Programming

Section A, Fall 2016

|               |  |
|---------------|--|
| Instructor:   | Prof. S. Chen  |
| Office Hours: | Tuesdays 2-4pm, TEL 3046   |
| TA:           | TBA  |
| Classroom:    | ACW 106  |
| Time:         | Tuesdays 7:00 – 10:00 pm   |
| Lab:          | ITEC labs  |
| Midterm:      | TBA – Tuesday, October 25  |
| Final:        | TBA  |
| Textbook:     | Java Software Solutions: Foundations of Program Design, Lewis & Loftus – 8 <sup>th</sup> Ed. |
| Homepage:     | <a href="http://www.yorku.ca/sychen">http://www.yorku.ca/sychen</a>                          |

## **Course Description**

This is an introductory course in computer programming and problem solving. This is not a course on JAVA programming. You will be expected to learn JAVA to demonstrate that you understand the primary concepts. Writing computer programs to solve real-world problems involves many unique tools – using precise logic, developing complete specifications, communicating intent, and paying excruciating attention to details. If you learn these tools well, learning JAVA programming will be relatively easy.

## **Computer Labs**

The required computing platforms and programming environments are available in the ITEC labs in TEL.

## **Textbook**

The textbook for this course is Java Software Solutions: Foundations of Program Design, 7<sup>th</sup> Ed. by Lewis and Loftus. I find this text is better for introductory concepts than it is for advanced details. For this reason, you will use a different text in ITEC2610. Suggested readings are given for the required text.

## **Class Format**

The class will be taught in hybrid format. Like an internet course, lecture materials, assignments, and tutoring are available on-line (note: use the discussion forum, it is faster than e-mail). It is expected that you will do a large amount of independent learning. Class time will be used more for review and exercises.

## **Quotes (useful comments about programming)**

It goes against the grain of modern education to teach students to program. What fun is there to making plans, acquiring discipline, organizing thoughts, devoting attention to detail, and learning to be self critical?

- A. Perlis

In practice, debugging often takes the place of understanding how programs work (i.e. if we all understood perfectly how our own code worked, we would not need to debug it to find out why it is not doing what we think it should).

- Literate Programming page

<http://www.cs.cmu.edu/~vaschelp/Programming/Literate/literate.html>

## **Important Dates**

The midterm for this class will be held on Tuesday, October 25, time TBA – location TBA.

## **Evaluation**

|                      |               |
|----------------------|---------------|
| Lab Assignments 1-5: | 15% – 3% each |
| Midterm (on 10/25):  | 30%           |
| Final (TBA):         | 55%           |

Note: the final exam is cumulative. If you do better on the final exam than the midterm, your final exam score will replace your midterm score.

The grades for the Lab Assignments 1-5 can be 0, 1, 2, or 3. Any marks missed will be added to the weight of the final exam. For example, if your lab grades are 2, 2, 1, 3, 2 for a total of 10/15, the five marks you missed will be added to the weight of the final exam – which will now be worth 60% for you.

## **Late Policy**

Late lab assignments will NOT be accepted. A make-up midterm will NOT be provided. If you miss the lab assignments or midterm for any reason, the weight will be added to the weight of the final exam – see the previous note.

## Lecture Topics

| <u>Lect</u> | <u>Day</u> | <u>Topic</u>  |
|-------------|------------|---|
| 1           | 9/13       | Introduction  |
| 2           | 9/13       | Iconic Programming I                                  |
|             | 9/20       | Iconic Programming (TEL2116/2118)                     |
| 3           | 9/20       | Iconic Programming II                                 |
| 4           | 9/27       | Introduction to JAVA                                  |
| 5           | 9/27       | Working with Data                                     |
|             | 10/4       | Programming in JAVA (TEL2116/2118)                    |
| 6           | 10/4       | Boolean algebra                                       |
| 7           | 10/11      | Programming in JAVA                                   |
| 8           | 10/11      | Programming with Objects (Scanner and Random)         |
|             | 10/18      | Lab Review (TEL2116/2118)                             |
|             | 10/18      | Midterm Review  |
|             | 10/25      | MIDTERM   |
| 11          | 11/1       | User Defined Datatypes                                |
| 12          | 11/1       | Method Signatures and APIs                            |
| 13          | 11/8       | References I – Equals and Equality, Object Diagrams   |
| 14          | 11/8       | References II – Pass-by-Copy and Pass-by-Reference    |
| 15          | 11/15      | Object-Based Programming I – Programming with Objects |
| 16          | 11/15      | Object-Based Programming II – Objects in Objects      |
| 17          | 11/22      | Arrays  |
| 18          | 11/22      | Arrays of Objects                                     |
| 19          | 11/29      | Strings and other Arrays inside Objects               |
|             | 11/29      | Final Exam Review                                     |