### COSC 123 Computer Creativity

**Course Introduction** 

Dr. Ramon Lawrence University of British Columbia Okanagan ramon.lawrence@ubc.ca

#### Course Objectives

1) To be creative with programming and write fun, interesting programs

2) To master fundamental programming skills of data variables, decisions, iteration, and methods %  $\left( \frac{1}{2} \right) = \left( \frac{1}{2} \right) \left( \frac{1}{2}$ 

3) To learn to create stories using the Alice programming language

4) To learn the Java language, the basics of object-oriented programming, and how to create larger programs

5) To learn about graphics, events, and exceptions in Java

Page 2

COSC 123 - Dr. Ramon Law

### How to Pass This Course

The most important things to do to pass this course: Attend and participate in class

⇒ Read notes *before* class as preparation.

◆Attend the labs and do all lab assignments ⇒ They are for marks, and they are good practice and exam questions.

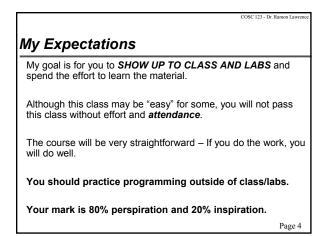
To get an "A" in this course do all the above plus:

• Spend more time practicing programming including questions in the notes and the free-form labs.

Page 3

COSC 123 - Dr. Ramon Lav

COSC 123 - Dr.



### The Lab Assignments

In each lab we will work on computers on a lab assignment.

Lab assignments are worth 20% of your overall grade.

Most assignments are due approximately one week after the lab. •No late assignments will be accepted.

- ◆An assignment may be handed in any time before the due date.
- Some lab assignments are larger and allow you to create your own programs.

Lab assignments are done in pairs (pair programming). The lab assignments are critical to learning the material and are designed to prepare you for the exams!

Page 5

## Pair Programming

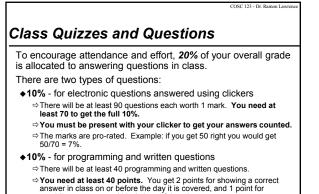
All lab assignments and projects will be done using the *pair-programming approach*.

- ◆Students will select a partner at the start of class that will be their partner for the duration of the course.
- •Students may ask the professor for help in finding a suitable partner.
- Accommodation is made for students whose partner leaves the course before its completion.
- ♦Both students in the pair receive the same mark.

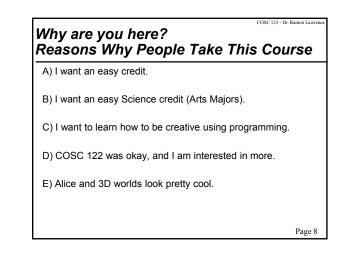
Pair programming has been shown to increase learning and satisfaction while programming.

Page 6

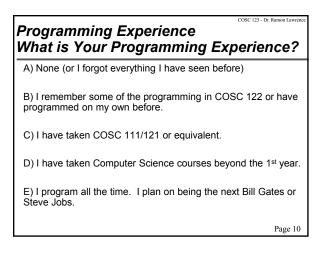
COSC 123 - Dr. Ramon Lawre



- answer in class on or before the day it is covered, and 1 point for providing an answer within 3 days of that class. ⇔ You should plan and work ahead as not all questions will be given
- sufficient time to complete during class time. Page 7



What do you expect? What Grade are You Expecting to Get?	
A) A	
B) B	
C) C	
D) D	
E) F	
	Page 9



### Why this Course is Important

- This course will make programming fun and relevant.
- •Our economy, health, and entertainment is dependent on software written by programmers.
- ♦We will learn to be creative programmers, so that we may create great software to be used by others.

Important results:

- ◆Storyboarding We will use Alice to tell stories with programs.
  ◆Algorithmic Thinking We will learn how to solve problems
  by providing a converse of actions.
- by specifying precise sequences of actions.
   Collaboration We will program in teams of two to build interpersonal skills and increase our knowledge.
- ◆ Java Language We will learn the Java programming language that can be used in many areas including future computer science courses.

Page 11

COSC 123 - Dr. Ramon Law

# The Essence of the Course

If you walk out of this course with nothing else you should:

Become a creative programmer with the ability to problem solve, perform critical thinking, and communicate precisely.

This course is not about learning a particular language or even programming itself.

Page 12

COSC 123 - Dr. Ramon Lawre

### Introduction to Alice

Alice is a computer environment in which you create virtual worlds containing three-dimensional characters and objects that move and interact.

Alice is an integrated development environment (IDE) – a program used to create and run another program.

Versions for Windows and Mac OS are available from the Alice website: http://www.alice.org.

Let's try a couple of demos!

Page 13

COSC 123 - Dr. Ramon Lawr