**STUDY GUIDE, CITA/CSCI 140**

### Format of test:

The test will be a combination of short answer questions, essays, multiple choice, writing functions, and debugging code errors. **This study guide only covers sample questions.** You must have thorough knowledge of the chapters in order to be successful on the test.

### Chapters covered:

Introduction, 1, 2, 3 and 4

### Essay samples:

* Discuss reasons why programmers use comments in their code.
* List and briefly define types of variables discussed in Chapter 4.   
  Also, what are best practices for creating variables.

### Short answer example:

* Briefly explain how the Processing window is “graphed” differently from the Cartesian graph system.
* What three colors are represented in the parameters for fill() ?
* The line() function has 4 parameters. What is the meaning of EACH one?
* What is the main difference between setup() and draw() in terms of how the code blocks are run.
* Use an English sentence or two to explain the following code:   
  float mouseSpeed = abs(mouseX – pmouseX)
* Angles in arcs can be specified in 3 ways in Processing. Briefly describe two of them.   
  (see PowerPoint for Chapter2.)
* What do the 5th and 6th parameters represent in the arc() function?   
  Hint: arc(x, y, w, h, \_\_\_, \_\_\_ )

### Some of the definitions covered in class:

incremental development, algorithm, variable, parameter, argument, function, concatenate, etc.

### Examples of multiple choice questions:

* Which of the following programming languages is Processing's closest relative?
  + Python
  + C++
  + ActionScript
  + Java
* keyPressed() in Processing can be defined as a(n)
  + function
  + class
  + parameter
  + object
* The statement background(0) would render the background of a sketch in which color?
  + White
  + Black
  + Invisible
  + Gray
* Which of the following functions is like a windshield wiper in that when placed within the draw() structure can be used to clear the Display Window before the next frame is drawn?
  + draw()
  + clear()
  + background()
  + fill()
* The default for frameRate() in Processing is
  + 60
  + 5
  + 100
  + 30

### Examples of writing code: Be sure to write clearly and exactly the way they would look in your Processing program.

* Write the code for the following **multiline** comment.

Sketch is created by James Smith.

The program illustrates how variables work.

The first declaration is a global variable.

* Write the code for a circle that starts at 40 pixels from the top, 30 pixels from the left, is 20 pixels wide and 20 pixels high. (It’s understood that it’s drawn from center outward)
* Write the code to change the color of a stroke to white.
* Create a variable of float type and assign a value of 3.

### Find and correct 2 errors in the following block of code.

void draw() {

stroke(0);

fill(blue);

rectMode(center);

rect(mouseX, mouseY, 16, 16, 20);

}