

## CSC 360 Midterm 2 study guide

Tentative date for Midterm 1: Friday, October 24

This will be a closed-note, closed-book, in-class exam. You will write your answers on paper (non-electronic exam). The exam will be 50 minutes long. The exam will consist of writing code, examining code and describing what it does, what it will output, what is wrong with the code, or how to make changes to the given code, and questions on concepts. The exam covers the following material/chapters.

### Chapter 12

Know the relationship between a JFrame and a JPanel. Know how to insert JButtons, JLabels, JTextFields, JCheckBoxes, JRadioButtons (and ButtonGroups) and JSliders into a JFrame or JPanel (see also chapter 16 for Listeners for JButtons). Know how to use LayoutManagers (and the 3 types) in a JPanel to create a reasonably good looking GUI. You will not have to know alignment or BorderLayout for LayoutManagers. Know how to set a foreground and/or background Color and to change a Font. You will not have to know how to change the mouse cursor or add a LineBorder. You will not have to know how to use ImageIcon, Pressed or Rollover Icons for GUI components (but see chapter 13 for drawImage). You do not need to know about JTextAreas, JComboBoxes, JLists or JScrollBars.

### Chapter 13

Know how to create a GUI that contains a JPanel so that you can use the Graphics class. For the Graphics class, know how to implement the paintComponent method with messages to draw lines and draw and fill ovals, rectangles, arcs, polygons, drawString, and drawImage, change Color and Font. You do not need to know the FontMetrics class or how to do roundRects, 3Drects or polylines. There will be no questions about recursive methods to draw Graphics.

### Chapter 14

Know what Exceptions are and how they arise. Know how to use the Java keywords of try, catch, throw, throws, finally. Know how to write try-catch blocks. Know the flow of control with try-catch-finally blocks and throw statements. Be able to define your own classes of Exceptions by extending Exception. Any Exceptions that you define will only need no-arg and 1-arg constructors. Know how to use File, Scanner and PrintWriter to read from and write to disk files. You do not need to know the Exception class hierarchy.

### Chapter 15

Know what an abstract method is, what an abstract class is, and what an interface is. Know how to define abstract methods, abstract classes and interfaces. Know whether we can declare variables of an abstract class, instantiate variables of an abstract class, and whether a child class must implement the abstract methods. Know what must not appear in an interface. Know why we might define an abstract class or interface. Know how to implement the comparable and comparator interfaces.

### Chapter 16

Know how to implement ActionListener for JButtons and Timer, MouseListener, MouseMotionListener, and KeyListener. You do not need to know any of the other Listeners covered in this chapter. Be able to implement these Listeners by adding them to this class rather than as anonymous listeners or implemented in separate classes (e.g., addMouseListener(this); button.addActionListener(this);). You do not need to know about Adapters or how to create multiple windows.

### Chapter 17

There will be nothing specific from this chapter except for understanding how to create and add JRadioButtons and JCheckBoxes to a GUI (from Chapter 12). You do not need to know how to implement their Listeners.