**CS141 Midterm Student Revision Guideline**

**Midterm Exam 1 hour long.**

**Students are advised to bring calculators with them, as they will not be able to share calculators. (NO MOBILE Phones)**

**The exam paper consists of:**
**MCQs**
**T/F**
**Fill in the Blanks. And what is the output.**
**Short answer questions**
**Demonstrate programming skills.**

***Week 2: chapter(9) Interface and Polymorphism***

- Concept and no code as was given on assignment 1.
- Important terms polymorphism, interface, implements.
- An interface variable can point to an object of a class that implements that interface. The reverse can be done but needs casting.
- No GUI. inner class is not very important just concept

***Week 3: chapter(10) Inheritance***

- Very important both theory part and coding.
- Students must be familiar with the following terminologies:
- Superclass, Subclass, extends, override, super, protected.

***Week 4: chapter(12) Object Oriented Design***

- All this chapter is important except:
- Rational Unified Process will not appear on the paper.
- No coding will appear from this chapter.

***Week 5: chapter(13) Recursion and Iteration***

- All theory and coding concepts are important, especially:
- Factorial algorithm.
- Fib algorithm and its tree.

***Week 6: chapter(14) Sorting and Searching: Part I***

- Only the first Part I of chapter 14 is included. (Week 7) is Not included.
- Sorting focus on Selection, Insertion, and Merge Sorts, concept and code.
- Quick sort just concept no code.

- Stopwatch algorithm is NOT required.
- The Big O for each algorithm is very important, students need to memorize and will be asked to solve questions.
- Mathematical proof (given in the slides) are NOT important.

***Week 7: chapter(14) Sorting and Searching: Part II (NOT INCLUDED IN MIDTERM BUT IN FINAL)***

- Sorting focus on Selection, Insertion, and Merge Sorts, concept and code.
- Quick sort just concept no code.
- Week 7 Searching: sequential and binary search concept and code.
- Stopwatch algorithm is NOT required.
- The Big O for each algorithm is very important, students need to memorize and will be asked to solve questions.
- Mathematical proof (given in the slides) are NOT important.