CS211/611 lecture schedule Summer 2019, instructor Dr. Sateesh R. Mane (©2019)

Week 1

1. arrays, loops, if-else conditionals, recursion, function overloading

2. call by value, call by reference, keyword `const`

3. keywords `break` and `continue`

4. prefix and postix operators `++i` and `i++`, `--i` and `i--` (minor topic)

Week 2

5. vectors, resizeable array, example of C++ class, compare strings

6. pointers, call by pointer (function argument), dynamic memory, operator `new` and `delete`

7. (continue in Week 3) C++ classes, data members, dot operator, methods, accessor/mutator, arrow operator (pointers), keyword `private`, non-inline declarations, forward declarations

Week 3

8. C++ classes, default/non-default constructors, data initialization (memberwise initialization), arrays of objects, implicitly generated functions by compiler

Midterm

Week 4

9. C++ copy/assign/destroy, `this` pointer, shallow and deep copy

10. keyword `static`, data and methods, initialization

11. namespaces (minor topic)

12. operator overloading, standalone operators and class methods

13. inheritance, IS-A, HAS-A, overriding, inheritance tree, keyword `protected`

14. (may continue in Week 5) inheritance, constructors/copy/assign/destroy of derived classes, slicing, references & pointers to base and derived class

Week 5

15. (may continue in Week 6) polymorphism, keyword `virtual`, abstraction

16. virtual destructor, dynamic memory release

17. abstract base class, pure virtual function, protected constructor, polymorphic software library

Week 6

18. templates, generic programming, abstraction, contrast with polymorphism

19. STL brief intro, vectors, sets, maps, iterators, algorithms (sorting)