W25 CS246 Tentative Lecture Schedule

Lecture	Date	Topics	Tutorial	Due Dates
1	07-Jan-25	Admin. Intro to I/O, I/O	Start 3rd week to accommo-date late admissions & help with A0	A0: Jan. 20
2	09-Jan-25	I/O, error-handling, manipulators, strings, files, string streams		
3	14-Jan-25	String streams. Command-line arguments, default function parameters, overloading, structs, constants		
4	16-Jan-25	Parameter passing, references, dynamic memory allocation		
5	21-Jan-25	Returning by value/reference/parameter, operator overloading, separate compilation	1	A1 DD1: Jan. 20
6	23-Jan-25	Separate compilation, initializing objects, constructors, object creation steps, MIL, copy constructors		
7	28-Jan-25	Copy constructors. Single-parameter constructors. Destructors. Copy assignment operator.	2	A1 DD2: Jan. 27
8	30-Jan-25	Copy assignment operator. Move constructor and move assignment operator. Rules for invoking move operations instead of copy and vice versa. Copy/move elision. Member operators.		
9	04-Feb-25	Member operators. Arrays of objects. Constant objects. Static with OOP. Operator <=>	3	A2 DD1: Feb. 3
10	06-Feb-25	Operator <=>. Invariants and encapsulation.		
11	11-Feb-25	Design patterns. Iterator design pattern. Encapsulation and friendship. Equality revisited. System modeling.	4	A2 DD2: Feb. 10
12	13-Feb-25	System modeling. Composition. Aggregation. Inheritance.		
Reading Week				
13	25-Feb-25	Inheritance. Polymorphism. Virtual methods.	5	A3 DD1: Feb. 24
14	27-Feb-25	Abstract classes. Virtual destructors. Inheritance and copy/move.		
15	04-Mar-25	Inheritance and copy/move. Templates. std::vector.	6	A3 DD2: Mar. 3
		Midterm		
16	06-Mar-25	Iterator design pattern. Observer design pattern. Decorator design pattern.		
17	11-Mar-25	Decorator design pattern. Exceptions.	7	A4 DD1: Mar. 10
18	13-Mar-25	Factory Method design pattern. Template Method design pattern. Non-Virtual Interface idiom. NVI idiom. std::map.		
19	18-Mar-25	Coupling and cohesion. What should go into a module? Decoupling the interface (MVC)	8	A4 DD2: Mar. 17
20	20-Mar-25	Exception safety. RAII. Smart pointers.		
21	25-Mar-25	Exception safety levels. Exception safety and the STL: std::vector. Casting.	9	A5 DD1: Mar. 24
22	27-Mar-25	Casting. std::variant. How virtual methods work.		
23	01-Apr-25	How virtual methods work. Multiple inheritance. Template functions. The algorithm library.	10	A5 DD2: Mar. 31
24	03-Apr-25	The algorithm library. Function objects. Lambdas. Iterators. Range abstraction.		