Motivation	*C++ is required for efficient programming*
Objective	*Fundamentals of the C++20*
Scope	*First 6 Weeks of the Gakwaya C++ course, until Section 31*

Start Date	**12.04.2025**	**End Date**	**23.05.2025**

Task No	Task Description	Duration	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
1	Section 11: Data Conversions: Overflow & Underflow	0 h 36 mins						
2	Section 12: Bitwise Operators	1 h 23 mins						
3	Section 13: Variable Lifetime and Scope	0 h 12 mins						
4	Section 14: Control Flow	2 h 1 min						
5	Section 15: Loops	2 h 57 mins						
6	Section 16: Arrays	2 h 44 mins						
7	Section 17: Pointers	4 h 12 mins						
8	Section 18: References	0 h 41 mins						
9	Section 19: Character manipulation and strings	5 h 23 mins						
10	Section 20: Functions	3 h 50 mins						
11	Section 21: Enums and Type Aliases	0 h 56 mins						
12	Section 22: Arguments to main	0 h 37 mins						
13	Section 23: Getting things out of functions	2 h 56 mins						
14	Section 24: Function Overloading	1 h 17 mins						
15	Section 25: Lambda Functions	0 h 54 mins						
16	Section 26: Functions : The misfits	0 h 39 mins						
17	Section 27: Function call stack and debugging	1 h 14 mins						
18	Section 28: Function Templates	4 h 2 mins						
19	Section 29: C++20 Concepts	1 h 14 mins						
20	Section 30: Classes	2 h 47 mins						
21	Section 31: Classes, objects and const	2 h 0 mins						

Legend	
	Not Started
	Currently
	Completed
	Incompleted within time limits

Assumption is that 1 to 1.5 hours per day will be consumed during this stretch. Pace can be inconsistent, the important thing is that the average pace must be enough to follow the plan.

Every Saturday, this timeline will be updated to see where the things currently are.

Pomodoro technique will be applied, each day study session is predicted as 2 to 3 Pomodoro sessions (1 to 1.5 hours).

Motivation	*C++ is required for efficient programming*
Objective	*Fundamentals of the C++20*
Scope	*Weeks 7 to 12 of the Gakwaya C++ course, until Section 45*

Start Date	**24.05.2025**	**End Date**	**03.07.2025**

Task No	Task Description	Duration	W6	Week 7							Week 8							Week 9							Week 10							Week 11							Week 12				
22	Section 32: Diving deep into constructors and initialization	3 h 44 mins																																									
23	Section 33: Friends	0 h 27 mins																																										
24	Section 34: Static members	2 h 29 mins																																										
25	Section 35: Namespaces	1 h 20 mins																																										
26	Section 36: Programs with multiple files: A closer look	2 h 19 mins																																										
27	Section 37: Smart Pointers	3 h 8 mins																																										
28	Section 38: Operator Overloading	4 h 48 mins																																										
29	Section 39: Logical Operators and C++20 Three Way Comparison Infrastructure	4 h 2 mins																																										
30	Section 40: Inheritance	3 h 38 mins																																										
31	Section 41: Polymorphism	5 h 52 mins																																										
32	Section 42: Exception Handling	3 h 12 mins																																										
33	Section 43: BoxContainer class: Practicing what we know	1 h 21 mins																																										
34	Section 44: Class Templates	3 h 27 mins																																										
35	Section 45: Move Semantics	2 h 5 mins																																										

Legend	
	Not Started
	Currently
	Completed
	Incompleted within time limits

Motivation	*Advanced concepts are really required in order to produce high quality codes*
Objective	*Advanced Concepts of the C++20, Data structures and Algorithms*
Scope	*Weeks 12 to 15 of the Gakwaya C++ course, until Section 53. Then, Abdulbari's Algorithm Course, from Week 15 to Week 18, until Section 9.*

Start Date	**04.07.2025**	**End Date**	**15.08.2025**

Task No	Task Description	Duration	W12	Week 13	Week 14	Week 15	Week 16	Week 17	Week 18
36	Section 46: Function Like Entities	3 h 13 mins							
37	Section 47: STL, Containers and Iterators	1 h 58 mins							
38	Section 48: Zooming in on STL Containers	4 h 45 mins							
39	Section 49: STL Algorithms	1 h 25 mins							
40	Section 50: C++20 Ranges and Range Algorithms	1 h 58 mins							
41	Section 51: Building Custom Iterators for Your Containers	1 h 51 mins							
42	Section 52: C++20 Coroutines	2 h 17 mins							
43	Section 53: C++20 Modules	3 h 38 mins							
44	Section 2: Essential C and C++ Concepts	4 h 16 mins							
45	Section 3: Required Setup for Programming	0 h 50 mins							
46	Section 4: Introduction	1 h 25 mins							
47	Section 5: Recursion	5 h 5 mins							
48	Section 6: Arrays Representations	1 h 54 mins							
49	Section 7: Array ADT	6 h 6 mins							
50	Section 8: Strings	2 h 32 mins							
51	Section 9: Matrices	2 h 18 mins							

Legend	
	Not Started
	Currently
	Completed
	Incompleted within time limits

Motivation	*Advanced concepts are really required in order to produce high quality codes*
Objective	*Data structures and Algorithms*
Scope	*Abdulbari's Data Structures and Algorithm Course, from Week 18 to Week 24, until Section 23.*

Start Date	**16.08.2025**	**End Date**	**15.09.2025**

Task No	Task Description	Duration	W18	Week 19							Week 20							Week 21							Week 22							Week 23	
52	Section 10: Sparse Matrix and Polynomial Representation	2 h 13 mins																														
53	Section 11: Linked List	6 h 53 mins																														
54	Section 12: Sparse Matrix and Polynomial using Linked List	25 mins																														
55	Section 13: Stack	3 h 16 mins																														
56	Section 14: Queues	1 h 32 mins																														
57	Section 15: Trees	4 h 4 mins																														
58	Section 16: Binary Search Trees	1 h 35 mins																														
59	Section 17: AVL Trees	1 h 32 mins																														
60	Section 18: Search Trees	2 h 9 mins																														
61	Section 19: Heap	1 h 11 mins																														
62	Section 20: Sorting Techniques	4 h 13 mins																														
63	Section 21: Hashing Technique	1 h 29 mins																														
64	Section 22: Graphs	3 h 8 mins																														
65	Section 23: Asymptotic Notations	0 h 11 mins																														

Legend	
	Not Started
	Currently
	Completed
	Incompleted within time limits