UNITED INTERNATIONAL UNIVERSITY

Department of Computer Science and Engineering (CSE)

Course Syllabus

1	**Course Title**	Compiler
2	**Course Code**	CSE 4611
3	**Trimester and Year**	Summer, 2023
4	**Pre-requisites**	CSE 2233
5	**Credit Hours**	3.0
6	**Section**	B
9	**Instructor's Name**	Nabila Sabrin Sworna
10	**Email**	nabila@cse.uiu.ac.bd, Phone: 01911644209
12	**Counselling Hours**	
13	**Text Book**	1. Alfred V. Aho, Ravi Sethi, Jeffrey D. Ullman, Monica S. Lam, Compilers: Principles, Techniques, and Tools. 2. Thomas W. Parsons, Introduction to Compiler Construction. Computer Science Press.
15	**Course Contents (approved by UGC)**	Compiler modules; lexical analysis; parsing theory; symbol tables; type systems; scope; semantic analysis; intermediate representations; runtime environments; code generation; code optimization.
16	**Course Outcomes (COs)**	

COs	Description
CO1	Describe various phases of modern compiler and its features.
CO2	Build lexical and syntax analyzers and use them in the construction of parsers.
CO3	Express the grammar of a programming language.
CO4	Apply the code optimization techniques to improve the performance of a program in terms of speed and space.

17	**Teaching Methods**	Lecture, Exercise, Assignment, Discussion
18	**CO with Assessment Methods**	

CO	Assessment Method	(%)
-	Attendance	5
1, 3	Assignments	5
1, 2, 3, 4	Class Tests	20
1, 2	Midterm exam	30
3, 4	Final exam	40

20	**Lecture Outline**	

Class	Topics/Assignments	COs	Reading Reference	Lecture Outcomes/Activities
1	Introduction to compilers	1, 2	Ch 1	Lecture
2	Anatomy of compilers	1, 2	Ch 1	Lecture
3	Simple Syntax Directed translation	1, 2	Ch 2	Lecture, Exercise
4	Simple Syntax Directed translation	1, 2	Ch 2	Lecture
5	Lexical Analyzer	1, 2	Ch 3	Class Test, Discussion
6	Lexical Analyzer	1, 2	Ch 3	Lecture, Exercise
7	Lexical Analyzer	1, 2	Ch 3	Lecture
8	Syntax analysis	1, 2	Ch 4	Lecture
9	Syntax analysis	1, 2	Ch 4	Lecture
10	Syntax analysis	1, 2	Ch 4	Lecture, Exercise
11	Syntax analysis	1, 2	Ch 4	Class Test, Lecture
12	Problem Solving and Discussions	-		Exercise, Discussion
	MIDTERM EXAM	1, 2		
13	Syntax Directed Translation	3	Ch 5	Lecture
14	Syntax Directed Translation	3	Ch 5	Lecture
15	Syntax Directed Translation	3	Ch 5	Class Test, Lecture
16	Syntax Directed Translation	3	Ch 5	Lecture
17	Intermediate code generation	3	Ch 6	Lecture
18	Intermediate code generation	4	Ch 6	Lecture, Discussion
19	Intermediate code generation	4	Ch 6	Lecture, Exercise
20	Runtime environment	4	Ch 7	Class Test, Lecture
21	Code generation	4	Ch 8	Lecture
22	Machine Independent Code optimization	4	Ch 9	Lecture
23	Machine Independent Code optimization	4	Ch 9	Lecture
24	Problem solving and discussion	-		Exercise, Discussion

Appendix 1: Assessment Methods

Assessment Types	Marks
Attendance	5%
Assignments	5%
Class Tests	20%
Mid Term	30%
Final Exam	40%

Appendix 2: Grading Policy

Letter Grade	Marks %	Grade Point	Letter Grade	Marks%	Grade Point
A (Plain)	90-100	4.00	C+ (Plus)	70-73	2.33
A- (Minus)	86-89	3.67	C (Plain)	66-69	2.00
B+ (Plus)	82-85	3.33	C- (Minus)	62-65	1.67
B (Plain)	78-81	3.00	D+ (Plus)	58-61	1.33
B- (Minus)	74-77	2.67	D (Plain)	55-57	1.00
			F (Fail)	<55	0.00