Course Objective and Outcome Form

Department of Electrical and Computer Engineering
School of Engineering and Physical Sciences
North South University, Bashundhara, Dhaka-1229, Bangladesh

1. **Course Number and Title:** **CSE 325/CSE425 Concepts of Programing Language**
2. **Credits:** 3 Credits
3. **Type:** Core,
4. **Prerequisites:** CSE 327
5. **Contact Hours:** Lecture 3 Hours/week

6. Course Summary

This course covers the fundamental concepts of different programming languages by discussing the design issues of the various language constructs, examining the design choices for this construction in some of the most common languages, and critically comparing language design alternatives. Specifically, the course covers – Programming Paradigm and Language Categories, Language Design & Evolutions, Syntax & Semantics, Lexical & Syntax analyzers, Names, Scopes & Bindings, Datatypes & Type checking, abstract data types, Statements & Expressions, Subprograms, Object-Oriented Programming, Concurrency, Exception Handling, Functional and Logic programming languages etc.

7. **Course Objectives:**

The objectives of this course are to

a. illustrate the programming paradigms, principles, fundamental concepts and techniques involved in design and implementation of major programming languages
b. elaborate key programming concepts of major imperative, declarative, and object-oriented programming languages, their merits and limitations
c. familiarize , concurrency control, and exception handling .
d. demonstrate key concepts of functional and logic programming languages, their purpose and applications

8. Course Outcomes (COs):

Upon successful completion of this course, students will be able to

CO1: explain different implementation details of syntax & semantic analysis for significant programming languages
CO2: Differentiate aspects among various programming language paradigms
CO3: examine operations, control-structures, and program structure in imperative, declarative and object-oriented programming languages

CO4: evaluate behaviors of programs written in imperative languages using concepts such as binding, scope, control structures, subprograms, concurrency control and exception handling mechanisms

Sl.	CO Description	Weightage (%)
CO1	**Explain** different implementation details of syntax & semantic analysis for significant programming languages	25
CO2	**Differentiate** aspects among various programming language paradigms	25
CO3	**Examine** operations, control-structures, and program structure in imperative, declarative and object-oriented programming languages	25
CO4	**Evaluate** behaviors of programs written in imperative languages using concepts such as binding, scope, control structures, subprograms, concurrency control and exception handling mechanisms	25

9. Mapping of CO-PO

Sl.	CO Description	POs	Bloom's taxonomy domain/level	Delivery methods and activities	Assessment tools
CO1	**Explain** different implementation details of syntax & semantic analysis for significant programming languages	**a**	Cognitive/ Understand	Lecture, notes	Quiz, Exam
CO2	**Differentiate** aspects among various programming language paradigms	**a**	Cognitive/ Analyze	Analyze	
CO3	**Examine** operations, control-structures, and program structure in imperative, declarative and object-oriented programming languages	**c**	Cognitive/ Analyze	Lecture, notes	Quiz, Exam, Assignment
CO4	**Evaluate** behaviors of programs written in imperative languages using concepts such as binding, scope, control structures, subprograms, concurrency control and exception handling mechanisms	**b**	Cognitive/ Evaluate	Lecture, notes	Quiz, Exam, Assignment

10. Resources

Text books:

No	Name of Author(s)	Year of Publication	Title of Book	Edition	Publisher's Name	ISBN
1	Robert W. Sebesta	2015	Concepts of Programming Languages	10th	Pearson	ISBN-13: 978-0133943023
2	Leslie B. Wilson, Robert G. Clark, Addison-Wesley	2000	Comparative Programming Languages	3rd	Addison-Wesley	ISBN-13: 978-0201710120

11. Weightage Distribution among Assessment Tools

Assessment Tools	**Weightage (%)**
Class Performance	10%
Assignment	15%
Quizzes	20%
Midterm Exam	25%
Final Exam	30%
Total	100%

12. Grading policy: As per NSU grading policy available in

http://www.northsouth.edu/academic/grading-policy.html