STAMFORD UNIVERSITY BANGLADESH
Faculty of Engineering
Department of Computer Science and Engineering

Course Outline

Part A: Course Information

Program	:	M. Sc. in Computer Science and Engineering (CSE)
Course Code	:	MCSE 541
Course Title	:	Web Computing and Mining
Course Type	:	Core Course
Credit Value	:	3.0 Cr. Hr.
Contact Hours	:	2 X 1.5-hour classes per week X 14 Weeks = 42 Hours
Year/Level/Semester/Term	:	IT Management and Entrepreneurship Major
Academic Session	:	Spring 2022
Prerequisite Course	:	NA
Total Marks	:	100

Course Teacher	:
Class Schedule	:
Counseling Hour	:

Rationale of the Course :

This course is designed to introduce students to the basic concepts of C# and MS.NET framework. It encompasses different reusable services, components, middleware, controllers, views and model classes and apply them to develop different web applications. The course also addresses the bridging techniques including entity framework, LINQ and authentication schemes between database and web server.

Course Objectives :

This course is intended to help students to:
1. Familiarize MS.NET framework and its internal concepts.
2. Gain knowledge of OOP's and their implementation in C# language.
3. Create and manage strings, arrays, collections and enumerators using .NET framework library.
4. Learn the GUI applications using .NET Framework templates and Win Forms API.
5. Gain knowledge on basic MVC services and MVC web applications.
6. Learn reusable services, components, middleware, controllers, views and model classes and apply them in different applications.
7. Learn Entity Framework for crating and communicating with database and LINQ for querying the database.

Course Learning Outcomes :

Students who complete Web Computing and Mining course will be able to:
1. Understand C# language features with .NET framework and apply them to solve real life problems.
2. Learn reusable services, components, middleware, controllers, views and model classes and apply them in different applications.
3. Organize and implement different .NET framework models to connect relational database management system with web-based applications.
4. Design and develop a short course project using Software Engineering approaches to and skills to share knowledge.

Mapping Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

CLOs	PLOs															
	Fundamental Skills (FS)						Social Skills (SS)				Thinking Skills (TS)		Personal Skills (PS)			
	FS1	FS2	FS3	FS4	FS5	FS6	SS1	SS2	SS3	SS4	TS1	TS2	PS1	PS2	PS3	PS4
CLO1	2	1				2	1						1			2
CLO2	3	1	1			2				1			2		2	3
CLO3	2	1	1			2				1	1	1	3	3	1	3
CLO4	3	2	2	1		2	3	2	1	2	1	2	3	3	1	3

**1 = Moderate, 2 = Strong, 3 = Very Strong

Mapping of Course Outcomes (COs) with the Program Outcomes (POs):

No.	Course Learning Outcome (Upon completion of the course, the students will be able to)	Program Outcome											
		1	2	3	4	5	6	7	8	9	10	11	12
CLO1	Understand C# language features with .NET framework and apply them to solve real life problems.	Y	Y							Y	Y		
CLO2	Learn reusable services, components, middleware, controllers, views and model classes and apply them in different applications.		Y	Y						Y			
CLO3	Organize and implement different .NET framework models to connect relational database management system with web-based applications.		Y	Y						Y			
CLO4	Design and develop a short course project using Software Engineering approaches to and skills to share knowledge.	Y	Y	Y	Y		Y		Y	Y	Y	Y	
Y=Yes													

Part B: Course Plan

Week Plan	Topic	Teaching-Learning Strategy	Assessment Strategy	Corresponding CLOs
		Course Orientation		
Week 1	Introduction of the course, Basics of C# Programming Language	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	1
Week 2	Object Oriented Concepts, Class and Object in C# Operator Method, Indexer Properties	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	1

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Week Plan	Topic	• Teaching-Learning Strategy	• Assessment Strategy	Corresponding CLOs
Week 3	Delegates, Events & Lambda Expressions	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	1
Week 4	Inheritance, Sealed Class, Polymorphism, Virtual Method & Method Overloading Abstract, Interface, Structure and Enumerations	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	2
Week 5	LINQ-Language Integrated Query	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	2
Week 6	Generics, Collections, Enumerators, and Iterators	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	2
Week 7	ASP .Net Architecture, Http Header, Client-Server MVC Introduction	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	2

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Week Plan	Topic	• Teaching-Learning Strategy	• Assessment Strategy	Corresponding CLOs
Week 8	Middleware& Routing Controllers	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	2
Week 9	Models	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	3
Week 10	HTML, CSS Razor View			
Week 11	Error Handling in ASP .Net Core	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	3
Week 12	Entity Framework Connection	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	3
Week 13	Authentication and Authorization			
Week 14	Architecture styles/APIs (REST, RPC)	• Direct Instruction (Class lecture) • Indirect Instruction (Reflective discussion, Inquiry, Case study) • Interactive Instruction (Discussion) • Experiential Learning (Field trip, Field observation) • Independent Learning (Journals, Reports)	• Close-ended questions (Matching, F/B, MCQs) • Group Work (Group discussion, Group assignment) • Assignment (Project-based, Concept mapping etc.) • Oral Presentation • Viva-voce • Open-ended questions	3

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Part C: Assessment and Evaluation

The assessment and evaluation strategies for the course are given as follows:

Assessment Strategies	
Class Participation:	Students' individual in-class responses, attention, and sense of discipline, morality will be adjudged on the basis of 5 (five) marks.
Class Test/Quiz:	Students will sit for only 1 (one) class test/quiz during the semester. The test/quiz will be taken before midterm. Class test/quis marks will be assessed in 5 (five). **No makeup class test will be taken.** Students are strongly recommended not to miss any test.
Group Work:	The students will have to form groups consisting of maximum 4 members. There will be 1 assignment consisting of 5 (five) marks. The topics or case studies will be given as assignments in groups during the class which they have to prepare at home and will submit on or before the due date.
Assignment:	**No late submission of assignments will be accepted.**
Oral Presentation:	Students, in groups, will have to present the report of their assignments. Oral presentations of the students will be assessed in 5 (five) marks. **No late presentation will be accepted.**
Viva-vocé	Students will have to appear for viva-vocé before their Midterm (5 marks) and Final examination (5 marks).
Midterm Exam:	Midterm exam will be held according to the Academic Calendar published by the university. Midterm assessment marks will be 30 (thirty).
Final Exam:	Final exam will be held according to the Academic Calendar published by the university. Final assessment marks will be 40 (forty). Course contents learnt before Midterm examination will be included in the syllabus of Final Examination.
Make-up Procedure:	No late submission and/or make-up assignment/presentation/quiz will be allowed without prior permission and adequate and reasonable proof of absence.

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Part C: Assessment and Evaluation (continued…)

Marks Distribution: CIE & SMEE

Assessment Type	Assessment Criteria	Bloom's Taxonomy (Cognitive Domain)					Affective	Psycho motor	Marks Distribution
		Understand	Apply	Analyze	Evaluate	Create	A1- A5	P1-P5	
Continuous Internal Evaluation (CIE)	Class Participation						A2		5%
	Assignments (1) Viva-vocé (2) Oral Presentation		6		4				10%
	Class Test (1)	7	8				A3		15%
Semester Mid and End Examination (SMEE)	Midterm Examination	10	10	10				P3	30%
	Final Examination	10	20	10					40%
	Total	27	44	20	4		5		100%

Attendance and Class Performance Marks Distribution:

** A student is expected to attend all the classes in each course. Maximum 20% absence in a course in one semester may be exempted under emergency. It is the responsibility of the student to keep the course teacher informed regarding absence from classes.

** A student may be dropped from a course for absence from three consecutive classes without sufficient reasons and evidence.

Attendance (%)	Marks
90-100	5
85-89	4.5
80-84	4.0
75-79	3.5
70-74	3.0
65-69	2.5
60-64	2.0
55-59	1.5
50-54	1.0
45-49	0.5
Below 45%	0

Grading System:
Letter grades and grade points are used to evaluate the performance of a student in the given course as follow:

Marks Range	Letter Grade	Grade Point
80% and above	A+	4.00
75% to less than	A	3.75
70% to less than	A-	3.50
65% to less than	B+	3.25
60% to less than	B	3.00
55% to less than	B-	2.75
50% to less than	C+	2.50
45% to less than	C	2.25
40% to less than	D	2.00
Less than 40%	F	0.00

Code of Conduct

1. It is mandatory for all the students to participate in the class regularly and maintain proper discipline in the class.
2. If a student fails to attend any class test, term exams, or final examination, he/she will get a zero in that class test, term, or final examination.
3. Adopting unfair means in the exams will be considered as a serious crime and the student shall be placed to the university disciplinary committee.
4. All the assignments, class test and exam copies should be neat and clear and demonstrate professionalism.
5. No student is allowed to duplicate other student's work directly or with minor change.
6. Plagiarism is strictly restricted. One need to provide a reference while using someone else's words, ideas, or research in assignments/exams.

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Part D: Learning Materials

Recommended Readings:	
Textbooks:	1. C# 4.0: The Complete Reference by Herbert Scheldt, McGraw Hill, 6th Edition, 2014 2. ASP.NET Core 2.0 MVC and Razor Pages for beginner: How to Build a Website by Jonas Fagerberg CreateSpace 1st Edition 2017 3. Pro ASP.NET MVC 4 APRESS 4th Edition
Reference Books:	1. C# for Beginners The tactical guidebook by Jonas Fagerberg CreateSpace 1st Edition, 2015 2. ASP.NET Core 1.1 Building a website for beginners by Jonas Fagerberg CreateSpace 1st Edition 2017 3. ASP.NET Core 1.1 Building a web api beginners by Jonas Fagerberg CreateSpace 1st Edition 2017
Supplementary Learning Materials:	• Lecture Sheets • Listening Materials from YouTube and other online materials • Research articles