AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

Faculty of Science and Technology (FST)
Department of Computer Science (CS)
Undergraduate Program

COURSE PLAN — Spring 2020-2021 SEMESTER

I. Course Core and Title
CSC 3222: Web Technologies
II. Credit
3 credit hours (2 hours of theory + 3 hours of lab per week)
III. Nature
Core Course for CS, CSE, CSSE, SE, CIS
IV. Prerequisite
CSC 3115: Object Oriented Programming 2

V. Vision:
Our vision is to be the preeminent Department of Computer Science through creating recognized professionals who will provide innovative solutions by leveraging contemporary research methods and development techniques of computing that is in line with the national and global context.

VI. Mission:
The mission of the Department of Computer Science of AIUB is to educate students in a student-centric dynamic learning environment; to provide advanced facilities for conducting innovative research and development to meet the challenges of the modern era of computing, and to motivate them towards a life-long learning process.

VII - Course Description:

- At the end of the course, the following objectives shall have been attained
- Appreciate the increasing importance of Web technology and how it is changing the role of the information technology
- Understand what strategic web development is and apply a framework to help identify strategic uses of Internet
- Compare the fundamental types of web technologies and how they can be used to provide real business benefit
- Explore new technologies and issues affecting the web development
- Apply a web development approach in analyzing the role of web technology in organizations
- Describe the process used in developing information systems and the concepts of web engineering and web process reengineering
- Analyze the skills needed for web development professionals
- Develop real life and society targeted Web Applications

VIII – Course outcomes (CO) Matrix:

By the end of this course, students should be able to:

		Level of Domain*				PO Assessed**
		C	P	A	S	
CO 1.1	*Describe* the increasing importance of web technologies on modern society and environment.	2			CT	7.1
CO 1.2	*Apply* the fundamental web technologies to obtain business sustainability.		3		CT	7.2
CO 2.1	*Design* real life and society targeted Client-Server based Web applications.			6	TS	11.1
CO 2.2	*Develop* real life and society targeted Client-Server based Web applications.			6	TS	11.2

C: Cognitive; P: Psychomotor; A: Affective; S: Soft-skills (CT: Critical Thinking, TS: Teamwork)
**The numbers under the 'Level of Domain' columns represent the level of Bloom's Taxonomy each CO corresponds to.*
*** The numbers under the 'PO Assessed' column represent the PO each CO corresponds to.*

PO 7					
Name: Environment and sustainability **Objective:** **Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development.**					
Components:		**CO Definition**	**Blooms level**	**Blooms learning level**	**Assessment method**
7.1	**Understand the impact of professional engineering solutions in societal and environmental contexts**	**Describe the increasing importance of web technologies on modern society and environment.**	**2**	**C**	**Project Report**
7.2	**Demonstrate the knowledge of and need for sustainable development.**	**Apply the fundamental web technologies to obtain business sustainability.**	**3**	**P**	**Project and Viva**
PO 11					
Name: Project management and finance **Objective: Demonstrate knowledge and understanding of engineering and management principles and apply these to one's work as a team member or a leader to manage projects in multidisciplinary environments.**					
Components:		**CO Definition**	**Blooms level**	**Blooms learning level**	**Assessment method**
11.1	**Demonstrate knowledge and understanding of engineering and management principles**	**Design real life and society targeted Client-Server based Web applications.**	**6**	**A**	**Project Report**
11.2	**Apply these to one's work as a team member or a leader to manage projects in multidisciplinary environments.**	**Develop real life and society targeted Client-Server based Web applications.**	**6**	**A**	**Project and Viva**

IX – Topics to be covered in Theory class*:

TOPICS	Specific Objective(s)	Time Frame	Suggested Activities	Teaching Strategy(s)	CO mapped
Git, HTML, HTTP, XML and XHTML	Introduction to Git and Github. Informing the students about web technology and how it can help in the Business World.	Week 1	Homework on HTML. Developing personal website.	Lecture notes, question	CO1
PHP Basic and PHP Validation	Discussing the advantage and importance of PHP. Generate dynamic HTML with PHP, Working with HTML form elements i.e. input validations with PHP	Week 2	Lecture, Lab Work and Assignments	Lecture notes, question	CO1, CO2
OOP in PHP & Data Access using PHP Object	Intro OOP in PHP Discussing the techniques to read and write text files, XML files and parsing JSON data with PHP	Week 3	Homework, Mini-project, Quiz	Lecture notes, question	CO1,
PHP Session and Cookie	Working with Session & Cookie in PHP	Week 4	Homework, Mini-project	Lecture notes, question	CO2, CO3
PHP & MySQL	Discussing the use and importance of Database, SQL and PHP.	Week 5	Homework, Mini-project, Quiz	Lecture notes, question	CO4
MVC using PHP	Discussing the advantages and importance of MVC architecture	Week 6	Homework, Mini-project, Assignments	Lecture notes, question	CO3
Mid Term Exam Week Week 7					
PHP & MySQL Extended	Further extended practice with SQL Database & PHP.	Week 8	Homework, Mini-project	Lecture notes, question	CO3, CO4
CSS, Intro to JavaScript	Discussing the use of CSS to apply style to a HTML document., JS history & Execution environment, Discussing the use and importance of JavaScript.	Week 9	Lecture, Lab Work, Quiz	Lecture notes, question	CO2, CO3,

JavaScript, HTML Form & JavaScript Continued	Applying JavaScript as a client-side execution tool, Client-side form validation using JavaScript	Week 10	Lecture, Lab Work and Assignments	Lecture notes, question	CO2, CO3, CO4
AJAX	Discussing advantages of using JavaScript through AJAX	Week 11	Homework, Mini-project	Lecture notes, question	CO2, CO3, CO4
jQuery	Discussing advantages of using jQuery, Implementing jQuery Ajax	Week 12	Homework, Mini-project, Quiz	Lecture notes, question	CO3, CO4
DTD, XSD	Discussing the use and importance of DTD and XSD.	Week 13	Lecture, Lab Work and Assignments	Lecture notes, question	CO2, CO3
Final Term Exam Week Week 14					

* The faculty reserves the right to change, amend, add or delete any of the contents.

X- Course Requirements

At least **75% class attendance** is necessary to sit for the exam. If there is any assignment given to the students, they have to submit it before the deadline decided by the course teacher.

XI – Evaluation & Grading System

The following grading system will be strictly followed in this class

Marking Distribution (Midterm and Final term)	
Quiz	20%
Attendance	5%
Lab Performance	25%
Term Project	50%
Total	100%

Final Grade/ Grand Total	
Midterm:	40%
Final Term:	60%
Grand Total	100%

Grand Total = 40% of Midterm + 60% of Final Term

The evaluation system will be strictly followed as par the AIUB grading policy.

Letter	Grade Point	Numerical %
A+	4.00	90-100
A	3.75	85 - < 90
B+	3.50	80 - < 85
B	3.25	75 - < 80
C+	3.00	70 - < 75
C	2.75	65 - < 70
D+	2.50	60 - < 65
D	2.25	50 - < 60
F	0.00	< 50 (Failed)
A+	4.00	90-100
I	Incomplete	
W	Withdrawal	
UW	Unofficial Withdrawal	

XII – Teaching Methods

Maximum topics will be covered from the textbook. For the rest of the topics, reference books will be followed. Some Class notes will be uploaded on the web. White board will be used for most of the time.
For some cases, multimedia projector will be used for the convenience of the students.
Students must study up to the last lecture before coming to the class and it is suggested that they should go through the relevant chapter before coming to the class. Just being present in the class is not enough- students must participate in classroom discussions.

XIII – Textbook/ References

1. **W3Schools Online Web Tutorials; URL: http://www.w3schools.com**
2. **PHP Documentation; URL: http://www.php.net/docs.php**
3. **Sams Teach Yourself Ajax JavaScript and PHP All in One; Phil Ballard and Michael Moncur; Sams Publishing; 2010**
4. **JavaScript Phrasebook; Christian Wenz; Sams Publishing; 2007**
5. **PHP and MySQL Web Development, 4/E; Luke Welling and Laura Thomson; Addison-Wesley Professional; 2009**
6. **JavaScript for Programmers Paul J. Deitel and Harvey M. Deitel; Prentice Hall; 2009**
7. **Beginning PHP5, Apache, and MySQL Web Development; Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz and Michael K. Glass; Wiley Publishing; 2005**
8. **XML in a Nutshell, 3/E; Elliotte Rusty Harold and W. Scott Means; O'Reilly Media; 2004**

XIV - List of Faculties Teaching the Course

1. **Md. Al-Amin (***Course Convener)*
2. Mir Md Kawsur
3. Rashidul Hasan Nabil
4. Sazzad Hossain
5. Tanvir Ahmed

XV – Verification:

<table>
<tr><td>Prepared by:

Md.Al-Amin
Course Convener

Date:</td><td colspan="2">Moderated by:

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Dr. Md. Mahbub Chowdhury Mishu
Point of Contact
OBE Implementation Committee for CS

Date:</td></tr>
<tr><td>Checked by:

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Dr. Md. Mahbub Chowdhury Mishu
Head (Undergraduate Program)
Department of Computer Science

Date:</td><td>Certified by:

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Dr. Dip Nandi
Director,
Faculty of Science and Technology

Date:</td><td>Approved by:

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Mr. Mashiour Rahman
Associate Dean,
Faculty of Science and Technology

Date:</td></tr>
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