National Computing Education Accreditation Council
NCEAC

NCEAC.FORM.001-D

COURSE DESCRIPTION FORM

INSTITUTION FAST-NUCES

PROGRAM (S) TO BE EVALUATED BSCS

A. Course Description

(Fill out the following table for each course in your computer science curriculum. A filled out form should not be more than 2-3 pages.)

Course Code	CS-4032
Course Title	Web Programming
zCredit Hours	3+0
Prerequisites by Course(s) and Topics	CS118 Programming Fundamentals
Assessment Instruments with Weights (homework, quizzes, midterms, final, programming assignments, lab work, etc.)	Project + Presentation 10% Assignments 10% Midterms 30% Final 50%
Course Coordinator	Engr. Abdul Rahman
URL (if any)	http://slate.nu.edu.pk/portal/site/KHICS406SPRING2020CS
Current Catalog Description	Web programming languages (e.g., HTML5, CSS 3, Java Script, PHP/MySQL), Design principles of Web based applications, Web platform constraints, Software as a Service (SaaS), Web standards, Responsive Web Design, Web Applications, Browser/Server Communication, Storage Tier, Cookies and Sessions, Input Validation.
Textbook (or **Laboratory Manual** for Laboratory Courses)	• SamsTeachYourself HTML, CSS and JavaScript by Julie C. Meloni • Learn PHP 7 2016 - Object Oriented Modular Programming Using HTML5, CSS3, JavaScript, XML, JSON and MySQL by Steve Prettyman • PHP Web Services (APIs for the Modern Web) by Lorna Jane Mitchell
Reference Material	• Pro JavaScript Development - Coding, Capabilities and Tooling by Den Odell
Course Goals	At the end of this course, students are expected to: ✓ Have a sound understanding of the fundamental concepts of Web Development ✓ Understand and apply the different common practices used in software industry

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- ✓ Become familiar with different tools used by industry in the software development process.
- ✓ Develop Responsive Web Apps
- ✓ Effectively utilize web-based frameworks.

A. Course Learning Outcomes (CLOs)

CLO	Name	Domain	Taxonomy Level	Tools
01	Understand the role of design and its major activities within the web development process, with focus on the w3c standards.	Cognitive	1,2	A,M,F
02	Comprehend the advantages of consistent and reliable web application design.	Cognitive	1,2	A,M,F
03	Design and Implement OOD models and refine them to reflect implementation details using frameworks	Cognitive	3,4	A,M,F,P

Tool: A = Assignment, M = Midterm, F=Final, P = Project

B. Program Learning Outcomes

For each attribute below, indicate whether this attribute is covered in this course or not. Leave the cell blank if the enablement is little or non-existent.

PLO 1	Computing Knowledge	Apply knowledge of mathematics, natural sciences, computing fundamentals, and a computing specialization to the solution of complex computing problems.	✔
PLO 2	Problem Analysis	Identify, formulate, research literature, and analyze complex computing problems, reaching substantiated conclusions using first principles of mathematics, natural sciences, and computing sciences.	✔
PLO 3	Design/Develop Solutions	Design solutions for complex computing problems and design systems, components, and processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	✔
PLO 4	Investigation & Experimentation	Conduct investigation of complex computing problems using research-based knowledge and research-based methods	
PLO 5	Modern Tool Usage	Create, select, and apply appropriate techniques, resources and modern computing tools, including prediction and modelling for complex computing problems.	✔
PLO 6	Society Responsibility	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal, and cultural issues relevant to context of complex computing problems.	
PLO 7	Environment and Sustainability	Understand and evaluate sustainability and impact of professional computing work in the solution of complex computing problems	

PLO 8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of computing practice.	✔
PLO 9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.	✔
PLO 10	Communication	Communicate effectively on complex computing activities with the computing community and with society at large.	✔
PLO 11	Project Mgmnt and Finance	Demonstrate knowledge and understanding of management principles and economic decision making and apply these to one's own work as a member or a team.	
PLO 12	Life Long Learning	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological changes.	

C. Relation between CLOs and PLOs
(CLO: Course Learning Outcome, PLOs: Program Learning Outcomes)

		PLOs											
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
CLOs	1	✔											
	2		✔										
	3			✔									

Topics Covered in the Course, with Number of Lectures on Each Topic (assume 15-week instruction and one-hour lectures)

1. Topics to be covered:

Weeks	List of Topics	No. of Weeks	Contact Hours	CLO
1	History and overview of internet and markup languages., HTML5 basics	1	3	1,2
2	HTML5 advance concepts	1	3	1,2
3	CSS	1	3	2, 3
4	JavaScript	1	3	2, 3
5	Advance JavaScript (ES6)	1	3	3
6	Mid Term 1			
7	PHP Introduction, Basic constructs, Forms Handling, File handling	1	3	1,2
8	Sessions, Cookies, Advanced PHP, OOP in PHP, MySQL.	1	3	3
9	Introduction to jQuery	1	3	1, 2, 3
10	Advanced jQuery and Ajax	1	2	2, 3
11	Responsive Web Design with Bootstrap	1	1 2	2, 3
12	Mid Term 2			
13	PHP Web Services, RPC, SOAP , RESTful APIs	1	2 1	2 2,3
14	React part 1	1	3	1,2

	15	React part 2	1	3	2
	16	React part 3	0.5	1.5	3
	17	Project Submission & Presentation	1.5	4.5	1,2,3
		Total	**15**	**45**	

Laboratory Projects/Experiments Done in the Course	There will be class activities carried out after covering course topics in the form of case study evaluation and other class activities to help better learn the concepts.			
Programming Assignments Done in the Course	N/A			
Class Time Spent on (in credit hours)	**Theory**	**Problem Analysis**	**Solution Design**	**Social and Ethical Issues**
	20	15	6	1
Oral and Written Communications	Every student is required to submit at least 2 written reports of typically 50 pages and to make 1 oral presentations of typically 20 minute's duration. Include only material that is graded for grammar, spelling, style, and so forth, as well as for technical content, completeness, and accuracy.			

Instructor Name Engr. Abdul Rahman Mahmood

Instructor Signature _____

Date 27-08-2023