ICE-3206: Web Technologies Laboratory

COURSE INFORMATION			
Course Code Course Title	: ICE-3206 : Web Technologies Laboratory	Lecture Contact Hours Credit Hours	: 3.00 : 1.50

PRE-REQUISITE

Course Code: Nil
Course Title: Nil

CURRICULUM STRUCTURE

Outcome Based Education (OBE)

RATIONALE

This course is designed to prepare its learners to solve advanced-level industry problems and develop real-time projects professionally.

OBJECTIVE

1. To give idea about programming related to web sites.
2. Acquire knowledge and skills for the creation of web sites.
3. To design real time projects in web platform.
4. To increase practical knowledge to identify the relative merits of different project designs

CLO No.	Course Learning Outcome
CO1	Select and use modern web based tools in order to develop and maintain industry– level web applications.
CO2	Investigate the current designs of web applications for developing new solutions
CO3	Create industry level web applications by using modern web based frameworks and tools (to solve complex engineering)
CO4	Manage the multi- disciplinary components of web projects in group / team work.
CO5	Demonstrate individual skills and responsibilities as leader in multi-disciplinary components of web projects

TEACHING LEARNING STRATEGY

Teaching and Learning Activities	Engagement (hours)
Face-to-Face Learning	
Lecture	-
Practical / Tutorial / Studio	42
Student-Centered Learning	-
Self-Directed Learning	
Non-face-to-face learning	-
Revision	-
Project Preparations	21
Formal Assessment	
Continuous Assessment	4
Final Examination	3
Total	70

TEACHING METHODOLOGY

Lecture and Discussion, Co-operative and Collaborative Method, Problem-Based Method

COURSE SCHEDULE

Week	Lab	Topics	Remarks
1	Introduction, Syllabus Review, Tools for developing client-side web application, **HTML** basics, Common tags		
2	**Cascading Style sheets**, CSS Properties, **CSS Framework (Tailwind)**	Problem-Based Learning (PBL)	Exercise
3	Hosting- GitHub (version controlling), **Java Script**: Introduction to Java Script, Javascript Basics.	Problem-Based Learning (PBL)	Exercise
4	**Java Script**: Objects in Java Scrip, Javascript Version ES6+	Problem-Based Learning (PBL)	Exercise
5	**Quiz/Lab performance Test 1**		
6	Front-end Framework (React.js)	Problem-Based Learning (PBL)	Exercise
7,8	Back-end Framework (Node.js/Express.js)	Problem-Based Learning (PBL)	Exercise
9	Database Connection (SQL, NoSQL), Bridge With Database, Creating, Inserting, Updating And Deleting Data In Database Tables.	Problem-Based Learning (PBL)	Exercise
10	Frontend hosting- Netlify, Backend server- heroku	Problem-Based Learning (PBL)	Exercise
11	**Quiz/Lab performance Test 2**		
12	**Project Demonstration + Viva/Presentation**		Presentation
13	**Project Demonstration + Viva/Presentation**		Presentation
14	**Lab Final**		

ASSESSMENT STRATEGY

Components	Grading	CO	Blooms Taxonomy
Attendance	10%	CO2	P3, P4
Class Performance / Observation	10%	CO2, CO3	
Home Assignment / Report	10%	CO1	P1, P2
Project + Viva / Presentation (The project will be jointly prepared by two students in a group)	15%+15%=30%	CO2, CO3, CO4	
		CO2	P3, P4
Quiz/Lab Performace Tests	20%	CO2, CO3, CO4	
Lab Final	20%		
Total Marks	100%		

(CO = Course Outcome, C = Cognitive Domain, P = Psychomotor Domain, A = Affective Domain)

REFERENCE BOOKS

1. Learning Web App Development: Build Quickly with Proven JavaScript Techniques - by Semmy Purewal
2. Go Web Programming – by Chang Sau Sheong
3. "Learning web Design", Jennifer Niederst Robbins.