



Skills for Employment Investment Program (SEIP)

COMPETENCY-BASED LEARNING MATERIAL (FACULTY GUIDE) FOR WEB DESIGN (CONSTRUCTION SECTOR)

Finance Division, Ministry of Finance
Government of the People's Republic of Bangladesh

Table of Contents

Copyright	4
Approval Sheet	5
How to Use this Competency-based Learning Material	7
Introduction to Teaching Adult Learners	8
List of Icons	10
Modules	11
Module 1: Recognise the Web	11
Learning Outcome 1.1 - Identify client server architecture	12
Learning Outcome 1.2 - Identify the browser	13
Learning Outcome 1.3 - Use web design tools	15
Learning Outcome 1.4 - Explain role of web server	16
Learning Outcome 1.5 - Explain role of database server	17
Module 2: Setting up development environment	18
Learning Outcome 2.1 - Install local web server	19
Learning Outcome 2.2 - Work with the tools of web server	20
Learning Outcome 2.3 - Install FTP clients	21
Module 3: Working with HTML	22
Learning Outcome 3.1 - Recognise HTML	23
Learning Outcome 3.2 - Work with HTML	24
Learning Outcome 3.3 - Apply the fundamentals of typography	26
Module 4: Working with Cascading Style Sheets (CSS)	27
Learning Outcome 4.1 - Explain CSS	28
Learning Outcome 4.2 - Apply CSS	29
Learning Outcome 4.3 - Explain Media Query	30
Learning Outcome 4.4 - Work with SASS	31
Module 5: Performing graphic design aesthetic	32
Learning Outcome 5.1 - Install and work with Photoshop	33
Learning Outcome 5.2 - Create and/or work with image	34
Learning Outcome 5.3 - Carry out layout design	36
Module 6: Developing with JavaScript and j Query	37
Learning Outcome 6.1 - Identify JavaScript Core	38
Learning Outcome 6.2 - Introduce BOM and DOM	39
Learning Outcome 6.3 - Work with JavaScript	40
Module 7: Applying web design tools	41
Learning Outcome 7.1 - Apply web design platform or editor	42
Learning Outcome 7.2 - Apply web design software and CMS	43
Module 8: Working with bootstrap framework	45

Learning Outcome 8.1 - Understand responsive website	46
Learning Outcome 8.2 - Work with bootstrap components to develop a responsive website	47

Copyright

The Competency-based Learning Material (Faculty Guide) for Web Design is a document, aligned to its applicable competency standard, for providing training consistent with the requirements of industry in order for individuals who graduated through the established standard via competency-based assessment to be suitably qualified for a relevant job.

This document is owned by the Finance Division of the Ministry of Finance of the People's Republic of Bangladesh, developed under the Skills for Employment Investment Program (SEIP).

Public and private institutions may use the information contained in this competency-based learning material for activities benefitting Bangladesh.

Other interested parties must obtain permission from the owner of this document for reproduction of information in any manner, in whole or in part, of this Competency-based Learning Material, in English or other language.

This document is available from:

*Skills for Employment Investment Program (SEIP) Project
Finance Division
Ministry of Finance
Probashi Kallyan Bhaban (Level – 16)
71-72 Old Elephant Road
Eskaton Garden, Dhaka 1000
Telephone: +8802 551 38598-9 (PABX), +8802 551 38753-5
Facsimile: +8802 551 38752
Website: www.seip-fd.gov.bd*

Approval Sheet

Identification and validation of modules and content for this occupation were made by experts within this sector. A series of consultations were held to accurately capture industry and employer needs and expectations and develop the learning material that would help to enhance the employability of the youth trained. This process started on 3 June 2018 and concluded with a validation workshop with a sectoral working group on 8 October 2018.

Experts Involved

Industry and subject-matter experts who provided their valuable inputs to develop this competency-based learning material [June 2018 - October 2018]:

Name	Organisation	Designation
Talukder Mohammad Shabbir	BITM	Chief Coordinator
Md. Mokhlesur Rahman	Spondon IT	Chief Executive Officer
Zohirul Alam Tiemoun	Nerd Castle Limited	Chief Executive Officer
Md. Faruk Hossain	Graphics Design Boarding Vista Limited	Team Leader
Mian Zadid Rusdid	Pondit.com	Managing Director
David King	British Council - SD03	Team Leader
Mahbub UI Huda	British Council - SD03	National Subject Matter Consultant - IT Sector

Validation Workshop

Competency-based learning material validation workshop participants [held on 8 October 2018]:

Name	Organisation	Designation
Md. Mokhlesur Rahman	Spondon IT	Chief Executive Officer
A.B.M. Owai Islam	BITM	Trainer – Graphic Design
Md. Abdur Razzaque	SEIP-BTEB	Specialist-1 (Course Accreditation)
Syed Nasir Ershad	SEIP	AEPD (Public1)
Md. Ahsan Habib	SEIP	TVET Specialist
Mr Mohiuzzaman	SEIP	Course Specialist
Mahbub UI Huda	British Council - SD03	National Subject Matter Consultant - IT Sector

Committee Workshop

The National competency-based learning material for National Skills Certificate in Web Design, **NTVQF Level [INSERT LEVEL]** qualification is a document developed by the Skill for Employment Investment Programme (SEIP), Finance Division, Ministry of Finance. This competency-based learning material has

been developed by an industry expert group under guidance of SEIP. The competency-based learning material was approved by the SCDC [BTEB to insert date] at NTVQF Cell, BTEB.

Respectable members of the SCDC:

Web Design - Level [INSERT LEVEL]		

How to Use this Competency-based Learning Material

Welcome to the competency-based learning material for Web Design to use in IT. These modules contain training materials and activities for learners to complete in order to become competent and qualified as a skilled worker.

There are eight (8) modules that make up this course which comprises the skills, knowledge and attitudes required to become a skilled worker including:

1. Recognising the Web
2. Setting up development environment
3. Working with HTML
4. Working with Cascading Style Sheets (CSS)
5. Performing graphic design aesthetic
6. Developing with java script and jQuery
7. Applying web design tools
8. Working with bootstrap framework

As a trainer, you are required to guide the learners through a series of activities in order to complete each learning outcome of the module. These activities may be completed as part of structured classroom activities or they may be required to work at their own pace.

These activities will require the learners to complete associated learning and practice activities in order to gain knowledge and skills they need to achieve the learning outcomes. Refer to **Learning Activity Page of each module** to know the sequence of learning tasks and the appropriate resources to use for each task.

This page will serve as the road map towards the achievement of competence. If you read the **Information Sheets**, these will give you an understanding of the work, and why things are done the way they are. Once the learners have finished reading the Information Sheets, they are required to complete the questions in the **Self-Check Sheets**.

The self-check process follows the Information Sheets in the learning guide. Completing self-checks will help the learners know how they are progressing. To know how they fared with self-checks, they can review the **Answer Key**.

The learners are required to complete all activities as directed in the **Job Sheet**. This is where they will apply their newly acquired knowledge while developing new skills. When working, high emphasis should be laid on safety requirements. The learners should be encouraged to raise relevant queries or ask the facilitator for assistance as required.

When the learners have completed all the tasks required in the learning guide, an assessment event will be scheduled to evaluate if they have achieved competency of the specified learning outcomes and are ready for the next task.

Introduction to Teaching Adult Learners

Since you will be dealing with adult learners, it is important to understand the basic principles of adult learning and methodologies. Adults learn best through associations, experiences and application. A few facts to consider while teaching adult learners:

Discussion: Adult learning is best managed through mutual dialogue and discussion. Discussion needs to be encouraged and used in the classroom to maximise learning.

Associations: Adults have experiences which can be related to any learning objectives to create associations which enhance conceptual comprehension. Associations can be used to create user interest and gain attention. Adults learn new attitudes or skills best in relation to previous life experiences.



This strategy also ensures knowledge retention.

Create an environment conducive to learning and sharing: Make people feel comfortable talking to you and each other. They should feel at ease asking questions, sharing views even if they are not very sure of the efficacy of their suggestions or views.

Physical surroundings: Temperature, light, space and furniture should be optimal. There should be no distractions.

Inculcate respect: Encourage learners' contributions and experiences. People are more encouraged to learn and share when their experiences are acknowledged - new information builds easily on past knowledge and experience.

Reward and recognition: Acknowledging the efforts of people, even small attempts, can reap great benefits. Learners like to receive praise and positive encouragement, which motivates them to deliver their best.

Learners also like to be reassured that they are correctly recalling or using information they have absorbed in the classroom.

Structured teaching: Learners study faster when information or skills are presented in a structured way:

- Concepts to be taught in small, bite sized portions for easy assimilation
- Put forth the easiest ideas or skills first and then gradually build on them
- Bring in the important ideas first
- Reinforce key ideas at regular intervals
- Reinforce high order concepts at regular intervals

Move learner from generic to specific flow of information: Introduce the generic concepts first and then move to specific more complex information to ease understanding and comprehension.

Application of concepts/ideas taught: Help students put into practice the concepts taught in the class through exercises and work-based projects. Application ensures knowledge retention and skill building.

Relevance building: Build up relevance of the concepts being taught in class by relating them to day-to-day life and workplace experiences.

Learners should know to use and apply what they have learned in the classroom as they learn faster when they recognise that what they are learning will be useful in the future.

Sharing: Encourage learners to learn from each other and solve problems collectively. This makes learning easier and improves team spirit and the interpersonal skills of the learners.

Participation: Involve learners in the class - adults favour to be *active participants* in learning rather than passive receivers of knowledge. People learn faster when they actively process information, solve problems and practice skills.

Motivate: Inspire the class so that teaching does not become a one-way process of knowledge download. Learners will learn faster when they feel an inner urge to learn and be an active participant in the class.

Create a learning environment in which the learners feel free and able to shed their inhibitions and develop receptivity towards new ideas and concepts.

Students will have different motivation levels - some will be more eager to learn than others as each learner is different from the other and therefore need to be treated differently.

And remember - adapt your communication style to suit the needs of the audience.

Communicate effectively: Communicate in a manner that is understood by the class. The language and sentence structuring should be clear and succinct.

Technical concepts should be explained in a manner that de-mystifies the concept - make things simple and easy to understand.

Avoid using *too much* technical jargon - if it is part of the curriculum, ensure the class is first made familiar with the words or jargon used.

Assessments: Conduct skill and knowledge checks regularly:















- Reinforce high order concepts at regular intervals.
- Conduct formative and summative assessments.
- Strengthen areas which appear to be weak.

Regular feedback:

- Provide regular feedback to learners
- Help them identify their strengths and areas of improvement
- Feedback should always be constructive
- Timely and specific feedback is easier to accept and act on



List of Icons

Icon Name	Icon
Module content	
Learning outcomes	
Performance criteria	
Contents	
Assessment criteria	
Resources required	
Information sheet	
Self-check Quiz	
Answer key	
Activity	
Video reference	
Learner job sheet	
Assessment plan	
Review of competency	

Module 1: Recognising the Web

Module Descriptor:	This module covers the skills, knowledge and attitudes to recognize the web, which includes the tasks of identifying client server architecture/structure, identifying the browser, using web design tools, explaining role of web server & database server and also explaining the role of data base server.	
Nominal Duration:	12 hours	
Learning Outcomes:	1.1.	Identify client server architecture
	1.2.	Identify the browser
	1.3.	Use web design tools
	1.4.	Explain role of web server
	1.5.	Explain role of database server
Performance Criteria:	1.1.	Client server architecture/structure is identified.
	1.2.	Different types of network and their functionality is identified.
	1.3.	Different types of websites are categorised.
	1.4.	Web browser is identified.
	1.5.	Different types of web browser is introduced.
	1.6.	Installation and usage of different web browsers is demonstrated.
	1.7.	Working with a web browser is explained.
	1.8.	Features/options of different web browsers are recognised.
	1.9.	Cross browser compatibility of websites is practiced.
	1.10.	Web design language is understood.
	1.11.	Web design platform is used.
	1.12.	Web design software is used.
	1.13.	Web server is identified.
	1.14.	Local web server is defined.
	1.15.	Role of web server is explained.
	1.16.	Database server is defined.
	1.17.	Roles of database server are identified.
	1.18.	Role of database server is explained.



Learning Outcome 1.1 - Identify client server architecture

Contents:	<ul style="list-style-type: none"> ▪ Identify client server architecture ▪ Identify types of network and their functionality ▪ Categorize different types of websites 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	1.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 1.1.1 ▪ Self-Check 1.1.1 ▪ Answer Key 1.1.1 <p>https://stackoverflow.com/questions/18508964/difference-between-server-and-client</p> <p>https://en.wikipedia.org/wiki/Client%E2%80%93server_model</p>	8 9 41
	1.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 1.1.2 ▪ Self-Check Quiz 1.1.2 ▪ Answer Key 1.1.2 <p>https://en.wikipedia.org/wiki/Paintbrush</p>	10 11 41
	1.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 1.1.3 ▪ Self-Check Quiz 1.1.3 ▪ Answer Key 1.1.3 <p>https://en.wikipedia.org/wiki/Paintbrush</p>	11 12 41
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Client server architecture/structure is identified ▪ Types of network and their functionality is identified ▪ Type of websites is categorised 		



Learning Outcome 1.2 - Identify the browser

Contents:	<ul style="list-style-type: none"> ▪ Identify web browser ▪ Introduce different web browsers ▪ Demonstrate installation and usage of different web browsers ▪ Explain working with a web browser ▪ Recognize features/options of different web browsers ▪ Practice cross browser compatibility of websites 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Pens ▪ Papers ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	1.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.1 ▪ Self-Check Quiz 1.2.1 ▪ Answer Key 1.2.1 https://resbook.zendesk.com/hc/en-us/articles/217297707-What-is-a-Web-Browser-And-How-To-Identify-It	14 15 41
	1.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.2 ▪ Self-Check Quiz 1.2.2 ▪ Answer Key 1.2.2 https://www.rustoleum.com/pages/industrial/resources/.../surface-preparation-guide/	16 17 41
	1.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.3 ▪ Self-Check Quiz 1.2.3 ▪ Answer Key 1.2.3 https://www.hellotech.com/blog/install-new-web-browser/ https://www.wikihow.com/Install-a-New-Browser	17 19 41
	1.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.4 ▪ Self-Check Quiz 1.2.4 ▪ Answer Key 1.2.4 https://thebestvpn.com/safe-internet-browsing/ https://www.slideshare.net/msz/web-browser-basics-tips-tricks-draft-20-revised-51871	19 20 42
	1.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.5 ▪ Self-Check Quiz 1.2.5 ▪ Answer Key 1.2.5 http://www.trustedreviews.com/guide/best-web-browser	21 22 42
	1.2.6	<ul style="list-style-type: none"> ▪ Information Sheet 1.2.6 ▪ Self-Check Quiz 1.2.6 ▪ Answer Key 1.2.6 https://crossbrowstesting.com/blog/development/cross-platform-website-development/	22 24 42

Assessment Criteria:	<ul style="list-style-type: none">▪ Web browser is identified▪ Different types of web browser is introduced▪ Installation and usage of different web browsers is demonstrated▪ Working with a web browser is explained▪ Features/options of different web browsers are recognised▪ Cross browser compatibility of websites is practiced
-----------------------------	--



Learning Outcome 1.3 - Use web design tools

Contents:	<ul style="list-style-type: none"> ▪ Understand web design language ▪ Use web design platform ▪ Use web design software 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Pens ▪ Papers 		
Learning Activities:	Activity	Resource	Student Guide Page
	1.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 1.3.1 ▪ Self-Check Quiz 1.3.1 ▪ Answer Key 1.3.1 https://www.webakruti.com/list-web-designing-web-development-programming-languages/	26 27 42
	1.3.2	<ul style="list-style-type: none"> ▪ Information Sheet 1.3.2 ▪ Self-Check Quiz 1.3.2 ▪ Answer Key 1.3.2 https://www.webdesignrankings.com/the-best-web-design-platforms/	27 29 42
	1.3.3	<ul style="list-style-type: none"> ▪ Information Sheet 1.3.3 ▪ Self-Check Quiz 1.3.3 ▪ Answer Key 1.3.3 https://websitesetup.org/web-design-software/ https://www.techradar.com/news/best-web-design-software	29 30 42
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Web design language is understood ▪ Web design platform is used ▪ Web design software is used 		



Learning Outcome 1.4 - Explain role of web server

Contents:	<ul style="list-style-type: none"> ▪ Identify web server ▪ Define local web server ▪ Explain role of web server 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationary ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	1.4.1	<ul style="list-style-type: none"> ▪ Information Sheet 1.4.1 ▪ Self-Check Quiz 1.4.1 ▪ Answer Key 1.4.1 https://www.cyberciti.biz/faq/find-out-remote-webserver-name/	32 32 42
	1.4.2	<ul style="list-style-type: none"> ▪ Information Sheet 1.4.2 ▪ Self-Check Quiz 1.4.2 ▪ Answer Key 1.4.2 https://en.wikipedia.org/wiki/Web_server	33 33 42
	1.4.3	<ul style="list-style-type: none"> ▪ Information Sheet 1.4.3 ▪ Self-Check Quiz 1.4.3 ▪ Answer Key 1.4.3 http://kb.bodhost.com/functions-of-a-web-server/	34 34 43
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Web server is identified ▪ Local web server is defined ▪ Role of web server is explained 		



Learning Outcome 1.5 - Explain role of database server

Contents:	<ul style="list-style-type: none"> ▪ Define database server ▪ Identify roles of database server ▪ Explain role of database server 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationary ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	1.5.1	<ul style="list-style-type: none"> ▪ Information Sheet 1.5.1 ▪ Self-Check Quiz 1.5.1 ▪ Answer Key 1.5.1 https://en.wikipedia.org/wiki/Cleaning_agent	36 36 43
	1.5.2	<ul style="list-style-type: none"> ▪ Information Sheet 1.5.2 ▪ Self-Check Quiz 1.5.2 ▪ Answer Key 1.5.2 https://www.computerhope.com/jargon/d/datab ase-server.htm	37 37 43
	1.5.3	<ul style="list-style-type: none"> ▪ Information Sheet 1.5.3 ▪ Self-Check Quiz 1.5.3 ▪ Answer Key 1.5.3 https://www.computerhope.com/jargon/d/datab ase-server.htm	37 39 43
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Database server is defined ▪ Roles of database server are identified ▪ Role of database server is explained 		

Module 2: Setting up development environment

Module Descriptor:	This module contains information and activities to set up development environment. It specifically includes the tasks of installing local web server, working with the tools of web server and installing FTP clients.	
Nominal Duration:	10 hours	
Learning Outcomes:	2.1.	Install local Web server
	2.2.	Work with the tools of Web server
	2.3.	Install FTP clients
Performance Criteria:	2.1.	Tools and OS Platform needed to install for local web server is identified.
	2.2.	Local Web server is installed.
	2.3.	Local Web server is recognized.
	2.4.	Local web server to test website performance is started.
	2.5.	Debugger is defined.
	2.6.	IDE (Integrated Development Environment), debugger, source control, source code is explained.
	2.7.	FTP (File Transfer Protocol) client is installed.
	2.8.	FTP client is recognised.
	2.9.	FTP clients is used to upload or move files to web server.



Learning Outcome 2.1 – Install local web server

Contents:	<ul style="list-style-type: none"> ▪ Identify tools and OS Platform needed to install for Local web server ▪ Install local Web server ▪ Recognise local Web server ▪ Start local web server to test website performance 		
Resources Required:	<ul style="list-style-type: none"> ▪ Personal protective equipment (PPE): gloves, dust mask, safety shoes, hard hat, body harness, goggles, working clothes, apron ▪ Tools and equipment: paint brushes, scraper, spatula, mixing stick, rags, putty knife, lifeline and anchorage, roller brush, steel wire brush, sand paper (fine), pumice stone 		
Learning Activities:	Activity	Resource	Student Guide Page
	2.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 2.1.1 ▪ Self-Check Quiz 2.1.1 ▪ Answer Key 2.1.1 https://stackoverflow.com/questions/8664901/what-is-the-difference-between-xampp-or-wamp-server-iis/35099015	46 47 63
	2.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 2.1.2 ▪ Self-Check Quiz 2.1.2 ▪ Answer Key 2.1.2 https://www.maketecheasier.com/setup-local-web-server-all-platforms/	48 49 63
	2.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 2.1.3 ▪ Self-Check Quiz 2.1.3 ▪ Answer Key 2.1.3 https://www.maketecheasier.com/setup-local-web-server-all-platforms/	49 50 63
	2.1.4	<ul style="list-style-type: none"> ▪ Information Sheet 2.1.4 ▪ Self-Check Quiz 2.1.4 ▪ Answer Key 2.1.4 https://make.wordpress.org/core/handbook/tutorials/installing-a-local-server/xampp/ https://mrcoles.com/how-start-local-web-server-view-html-files/	51 51 63
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Tools and OS Platform needed to install for Local web server is identified ▪ Local Web server is installed ▪ Local Web server is recognized ▪ Local web server to test website performance is started 		



Learning Outcome 2.2 - Work with the tools of web server

Contents:	<ul style="list-style-type: none"> ▪ Define debugger ▪ Explain IDE (Integrated Development Environment), debugger, source control, source code 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	2.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 2.2.1 ▪ Self-Check Quiz 2.2.1 ▪ Answer Key 2.2.1 https://www.templatemonster.com/blog/web-debugging-tools-and-resources/	53 54 63
	2.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 2.2.2 ▪ Self-Check Quiz 2.2.2 ▪ Answer Key 2.2.2 https://stackify.com/top-integrated-developer-environments-ides/ https://www.templatemonster.com/blog/web-debugging-tools-and-resources/	54 56 63
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Debugger is defined ▪ IDE (Integrated Development Environment), debugger, source control, source code is explained 		



Learning Outcome 2.3 - Install FTP Client

Contents:	<ul style="list-style-type: none"> ▪ Install FTP (File Transfer Protocol) client ▪ Recognise FTP client ▪ Use FTP clients to upload or move files to web server 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	2.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 2.3.1 ▪ Self-Check Quiz 2.3.1 ▪ Answer Key 2.3.1 <p>https://www.uvic.ca/systems/support/web/personalwebhosting/ftp.php</p> <p>https://www.siteground.com/tutorials/ftp/client/</p>	58 58 63
	2.3.2	<ul style="list-style-type: none"> ▪ Information Sheet 2.3.2 ▪ Self-Check Quiz 2.3.2 ▪ Answer Key 2.3.2 <p>https://sg.godaddy.com/help/how-do-i-test-my-ftp-connection-via-the-command-line-in-windows-or-macosx-1786</p>	59 60 64
	2.3.3	<ul style="list-style-type: none"> ▪ Information Sheet 2.3.3 ▪ Self-Check Quiz 2.3.3 ▪ Answer Key 2.3.3 <p>https://www.youtube.com/watch?v=vQhypyKAVCU</p> <p>https://www.youtube.com/watch?v=aRol4qRWSNg</p> <p>https://www.youtube.com/watch?v=XUmfXTnFMuW</p>	60 61 64
Assessment Criteria:	<ul style="list-style-type: none"> ▪ FTP (File Transfer Protocol) client is installed ▪ FTP client is recognised ▪ FTP clients is used to upload or move files to web server 		

Module 3: working with HTML

Module Descriptor:	This module contains information and activities to work with HTML. It specifically guides with the tasks of understanding HTML, working with HTML and applying the fundamentals of typography.	
Nominal Duration:	42 hours	
Learning Outcomes:	3.1.	Recognise HTML
	3.2.	Work with HTML
	3.3.	Apply the fundamentals of typography
Performance Criteria:	3.1.	Entities and attributes of HTML (Hypertext Mark-up Language) is explained.
	3.2.	HTML of a website is written.
	3.3.	HTML concepts is implemented.
	3.4.	HTML is implemented in software.
	3.5.	HTML forms are identified.
	3.6.	HTML form elements are used.
	3.7.	HTML input types are used.
	3.8.	HTML input attributes are used.
	3.9.	HTML graphics are used.
	3.10.	HTML media is used.
	3.11.	Typography is defined.
	3.12.	Different lettering styles are described.
	3.13.	Guidelines for print typography is described and applied.
	3.14.	The role of typography on the web is described.
	3.15.	Guidelines for web typography is described and applied.



Learning Outcome 3.1 - Recognise HTML

Contents:	<ul style="list-style-type: none"> ▪ Explain entities & attributes of HTML (Hypertext Mark-up Language) ▪ Write HTML of a website ▪ Implement HTML concepts ▪ Implement HTML in software 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ HTML Editor ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	3.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 3.1.1 ▪ Self-Check Quiz 3.1.1 ▪ Answer Key 3.1.1 https://www.w3schools.com/html/html_attributes.asp	67 74 106
	3.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 3.1.2 ▪ Self-Check Quiz 3.1.2 ▪ Answer Key 3.1.2 http://www.jneuhaus.com/write.html	76 78 106
	3.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 3.1.3 ▪ Self-Check Quiz 3.1.3 ▪ Answer Key 3.1.3 http://www.jneuhaus.com/write.html	79 79 106
	3.1.4	<ul style="list-style-type: none"> ▪ Information Sheet 3.1.4 ▪ Self-Check Quiz 3.1.4 ▪ Answer Key 3.1.4 http://www.jneuhaus.com/write.html	80 81 106
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Entities and attributes of HTML (Hypertext Mark-up Language) is explained ▪ HTML of a website is written ▪ HTML concepts is implemented ▪ HTML is implemented in software 		



Learning Outcome 3.2 - Work with HTML

Contents:	<ul style="list-style-type: none"> ▪ Identify HTML forms ▪ Use HTML form elements ▪ Use HTML input types ▪ Use HTML input attributes ▪ Use HTML graphics ▪ Use HTML media 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ HTML editor/software/tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	3.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.1 ▪ Self-Check Quiz 3.2.1 ▪ Answer Key 3.2.1 https://www.w3.org/TR/html401/interact/forms.html	83 83 107
	3.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.2 ▪ Self-Check Quiz 3.2.2 ▪ Answer Key 3.2.2 https://www.w3.org/TR/html401/interact/forms.html	84 86 107
	3.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.3 ▪ Self-Check Quiz 3.2.3 ▪ Answer Key 3.2.3 https://www.w3schools.com/html/html_form_input_types.asp	86 87 107
	3.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.4 ▪ Self-Check Quiz 3.2.4 ▪ Answer Key 3.2.4 https://www.w3schools.com/html/html_form_attributes.asp	88 89 107
	3.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.5 ▪ Self-Check Quiz 3.2.5 ▪ Answer Key 3.2.5 https://www.w3schools.com/html/html5_canvas.asp https://www.w3schools.com/html/html5_svg.asp https://www.w3schools.com/html/google_maps.asp https://www.w3schools.com/graphics/google_maps_basic.asp	89 92 107
	3.2.6	<ul style="list-style-type: none"> ▪ Information Sheet 3.2.6 ▪ Self-Check Quiz 3.2.6 ▪ Answer Key 3.2.6 	92 93 107

		https://www.w3schools.com/html/html_media.asp	
Assessment Criteria:	<ul style="list-style-type: none"> ▪ HTML forms are identified ▪ HTML form elements are used ▪ HTML input types are used ▪ HTML input attributes are used ▪ HTML graphics are used ▪ HTML media is used 		



Learning Outcome 3.3 - Apply fundamentals of typography

Contents:	<ul style="list-style-type: none"> ▪ Define typography ▪ Describe different lettering styles ▪ Describe and apply guidelines for print typography ▪ Describe the role of typography on the web ▪ Describe and apply guidelines for web typography 		
Resources Required:	<ul style="list-style-type: none"> ▪ Personal protective equipment (PPE): gloves, dust mask, safety shoes, hard hat, belt/body harness, goggles, working clothes, apron ▪ Tools and equipment: paint brushes, scraper, spatula, mixing stick, rags, putty knife, lifeline and anchorage, roller brush, steel wire brush, sand paper (fine), pumice stone ▪ Materials: base materials for painting, primer, putty 		
Learning Activities:	Activity	Resource	Student Guide Page
	3.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 3.3.1 ▪ Self-Check Quiz 3.3.1 ▪ Answer Key 3.3.1 https://creativemarket.com/blog/what-is-typography	95 95 108
	3.3.2	<ul style="list-style-type: none"> ▪ Information Sheet 3.3.2 ▪ Self-Check Quiz 3.3.2 ▪ Answer Key 3.3.2 https://creativemarket.com/blog/what-is-typography	96 97 108
	3.3.3	<ul style="list-style-type: none"> ▪ Information Sheet 3.3.3 ▪ Self-Check Quiz 3.3.3 ▪ Answer Key 3.3.3 http://www.blurb.com/blog/choosing-a-font-for-print-6-things-you-should-know/	97 99 108
	3.3.4	<ul style="list-style-type: none"> ▪ Information Sheet 3.3.4 ▪ Self-Check Quiz 3.3.4 ▪ Answer Key 3.3.4 http://www.blurb.com/blog/choosing-a-font-for-print-6-things-you-should-know/	99 100 108
	3.3.5	<ul style="list-style-type: none"> ▪ Information Sheet 3.3.5 ▪ Self-Check Quiz 3.3.5 ▪ Answer Key 3.3.5 http://www.blurb.com/blog/choosing-a-font-for-print-6-things-you-should-know/ <ul style="list-style-type: none"> ▪ https://blog.prototypr.io/top-10-resources-for-great-web-fonts-2355121f1273 	101 104 108
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Typography is defined ▪ Different lettering styles are described ▪ Guidelines for print typography is described and applied ▪ The role of typography on the web is described ▪ Guidelines for web typography is described and applied 		

Module 4: Working with cascading style sheets (CSS)

Module Descriptor:	This module contains information and activities to work with cascading style sheets (CSS). It specifically guides with the tasks of explaining and applying CSS, explaining media query and working with SASS.	
Nominal Duration:	40 hours	
Learning Outcomes:	4.1.	Explain CSS
	4.2.	Apply CSS
	4.3.	Explain Media Query
	4.4.	Work with SASS
Performance Criteria:	4.1.	CSS (Cascading Style Sheets) is understood.
	4.2.	Role of CSS is explained.
	4.3.	CSS is applied.
	4.4.	Basic concepts of CSS are implemented.
	4.5.	CSS box model and positioning are explained.
	4.6.	CSS transition and gradients are explained.
	4.7.	2D/3D transformation and animation are applied.
	4.8.	Media Query is explained with CSS.
	4.9.	SASS (Syntactically Awesome Style Sheets).
	4.10.	Style sheet language (LESS) is explained.
	4.11.	Variables and nesting are demonstrated
	4.12.	Related tools are used.



Learning Outcome 4.1 - Explain CSS

Contents:	<ul style="list-style-type: none"> ▪ Understand CSS (Cascading Style Sheets) ▪ Explain role of CSS 		
Resources Required:	<ul style="list-style-type: none"> ▪ Personal protective equipment (PPE): gloves, dust mask, safety ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Operating software ▪ Local web server ▪ HTML editor ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	4.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 4.1.1 ▪ Self-Check Quiz 4.1.1 ▪ Answer Key 4.1.1 https://www.w3schools.com/css/css_intro.asp	111 111 137
	4.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 4.1.2 ▪ Self-Check Quiz 4.1.2 ▪ Answer Key 4.1.2 https://hostpresto.com/articles/css-role-in-web-design/	112 112 137
Assessment Criteria:	<ul style="list-style-type: none"> ▪ CSS (Cascading Style Sheets) is understood ▪ Role of CSS is explained.HTML concept is implemented 		



Learning Outcome 4.2 - Apply CSS

Contents:	<ul style="list-style-type: none"> ▪ Apply CSS ▪ Implement basic concepts of CSS ▪ Explain CSS box model and positioning ▪ Explain CSS transition and gradients ▪ Apply 2D/3D transformation and animation 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ HTML editor/software/tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	4.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 4.2.1 ▪ Self-Check Quiz 4.2.1 ▪ Answer Key 4.2.1 http://www.html5dog.com/guides/css/beginner/applyingcss/	114 115 137
	4.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 4.2.2 ▪ Self-Check Quiz 4.2.2 ▪ Answer Key 4.2.2 https://www.w3schools.com/css/default.asp	116 118 137
	4.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 4.2.3 ▪ Self-Check Quiz 4.2.3 ▪ Answer Key 4.2.3 https://www.w3schools.com/css/css_boxmodel.asp	118 120 137
	4.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 4.2.4 ▪ Self-Check Quiz 4.2.4 ▪ Answer Key 4.2.4 https://www.w3schools.com/cssref/css3_transition.asp https://www.w3schools.com/css/css3_gradients.asp	120 122 138
	4.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 4.2.5 ▪ Self-Check Quiz 4.2.5 ▪ Answer Key 4.2.5 https://www.w3schools.com/css/css3_2dtransforms.asp https://www.w3schools.com/css/css3_3dtransforms.asp	122 124 138
Assessment Criteria:	<ul style="list-style-type: none"> ▪ CSS is applied ▪ Basic concepts of CSS are implemented ▪ CSS box model and positioning are explained ▪ CSS transition and gradients are explained ▪ Apply 2D/3D transformation and animation 		



Learning Outcome 4.3 – Explain media query

Contents:	<ul style="list-style-type: none"> ▪ Explain media query with CSS 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ HTML editor/ software/ tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	4.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 4.3.1 ▪ Self-Check Quiz 4.3.1 ▪ Answer Key 4.3.1 <p> https://en.wikipedia.org/wiki/Media_queries https://gist.github.com/gokulkrishh/242e68d1ee94ad05f488 https://www.w3schools.com/css/tryit.asp?file=name=trycss_mediaqueries_fontsize </p>	<p>126</p> <p>128</p> <p>138</p>
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Media Query is explained with CSS 		



Learning Outcome 4.4 - Work with SASS

Contents:	<ul style="list-style-type: none"> ▪ Explain SASS (Syntactically Awesome Style Sheets) or style sheet language (LESS) ▪ Demonstrate variables and nesting ▪ Use related tools 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ HTML editor/ software/ tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	4.4.1	<ul style="list-style-type: none"> ▪ Information Sheet 4.4.1 ▪ Self-Check Quiz 4.4.1 ▪ Answer Key 4.4.1 <p>https://www.creativebloq.com/web-design/what-is-sass-111517618</p> <p>http://lesscss.org/</p> <p>https://www.keycdn.com/blog/sass-vs-less/</p>	130 131 138
	4.4.2	<ul style="list-style-type: none"> ▪ Information Sheet 4.4.2 ▪ Self-Check Quiz 4.4.2 ▪ Answer Key 4.4.2 <p>https://www.creativebloq.com/web-design/what-is-sass-111517618</p> <p>http://lesscss.org/</p> <p>https://www.keycdn.com/blog/sass-vs-less/</p>	132 133 138
	4.4.3	<ul style="list-style-type: none"> ▪ Information Sheet 4.4.3 ▪ Self-Check Quiz 4.4.3 ▪ Answer Key 4.4.3 <p>https://www.creativebloq.com/web-design/what-is-sass-111517618</p> <p>http://lesscss.org/</p> <p>https://www.keycdn.com/blog/sass-vs-less/</p>	133 135 138
Assessment Criteria:	<ul style="list-style-type: none"> ▪ SASS (Syntactically Awesome Style Sheets) or style sheet language (LESS) is explained ▪ Variables and nesting are demonstrated ▪ Related tools are used 		

Module 5: Performing graphic design aesthetic

Module Descriptor:	This module contains information and activities to work with performing graphic design aesthetic. It specifically guides with the tasks of installing and working with Photoshop, creating and/or working with image and carrying-out layout design.	
Nominal Duration:	40 hours	
Learning Outcomes:	5.1.	Install and work with Photoshop
	5.2.	Create and/or work with image
	5.3.	Carry-out layout design
Performance Criteria:	5.1.	Photoshop is installed.
	5.2.	Photoshop environment is introduced.
	5.3.	Images are added and transformed.
	5.4.	Layers are recognised.
	5.5.	Smart objects vs normal layers is introduced.
	5.6.	Basic shape is created using the pen tool of the selected application.
	5.7.	Desired color is selected and applied.
	5.8.	Desired shadow is selected where applicable.
	5.9.	Text is added in accordance with project design requirement.
	5.10.	Background gradient is added where desirable.
	5.11.	Logo, icon and banner design are completed and used.
	5.12.	The “mysteries” behind screen size and resolution is decoded.
	5.13.	Images as JPEG, GIF, or PNG files optimized.
	5.14.	Layout design is carried-out.



Learning Outcome 5.1 - Install and work with photoshop

Contents:	<ul style="list-style-type: none"> ▪ Install Photoshop ▪ Introduce Photoshop environment ▪ Add and transform Images ▪ Recognise layers ▪ Introduce smart objects vs normal layers 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Operating software ▪ Local web server ▪ Adobe Photoshop CC 2018 19.1.6 (64-bit) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	5.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 5.1.1 ▪ Self-Check Quiz 5.1.1 ▪ Answer Key 5.1.1 https://www.itechtics.com/?ddownload=25631	141 142 164
	5.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 5.1.2 ▪ Self-Check Quiz 5.1.2 ▪ Answer Key 5.1.2 https://hostpresto.com/articles/css-role-in-web-design/	142 143 164
	5.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 5.1.3 ▪ Self-Check Quiz 5.1.3 ▪ Answer Key 5.1.3 https://mashable.com/2010/08/12/12-beginner-tutorials-for-getting-started-with-photoshop/#EGWzGhZPEmqb	143 144 164
	5.1.4	<ul style="list-style-type: none"> ▪ Information Sheet 5.1.4 ▪ Self-Check Quiz 5.1.4 ▪ Answer Key 5.1.4 https://www.youtube.com/watch?v=qVTE-Y0I9xQ	144 145 164
	5.1.5	<ul style="list-style-type: none"> ▪ Information Sheet 5.1.5 ▪ Self-Check Quiz 5.1.5 ▪ Answer Key 5.1.5 https://www.guru99.com/how-to-use-smart-object-in-photoshop-cc.html	145 146 164
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Photoshop is installed ▪ Photoshop environment is introduced ▪ Images are added and transformed ▪ Layers are recognized ▪ Smart objects vs normal layers is introduced 		



Learning Outcome 5.2 - Create and/or work with image

Contents:	<ul style="list-style-type: none"> ▪ Create basic shapes using the pen tool of the selected application ▪ Select and apply desired colors ▪ Select desired shadow where applicable ▪ Add text in accordance with project design requirement ▪ Add background gradient where desirable ▪ Complete designing logo, icon and banner and use them 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Photoshop ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	5.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.1 ▪ Self-Check Quiz 5.2.1 ▪ Answer Key 5.2.1 https://www.youtube.com/watch?v=9eRJI7xH698	148 149 164
	5.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.2 ▪ Self-Check Quiz 5.2.2 ▪ Answer Key 5.2.2 https://www.youtube.com/watch?v=mv3WjcvBrQo https://www.youtube.com/watch?v=BRtcZBvk_LA https://www.photoshopessentials.com/photo-editing/color-replacement-tool/	149 150 164
	5.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.3 ▪ Self-Check Quiz 5.2.3 ▪ Answer Key 5.2.3 https://www.wikihow.com/Create-a-Simple-Shadow-Using-Photoshop-CS3	150 151 165
	5.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.4 ▪ Self-Check Quiz 5.2.4 ▪ Answer Key 5.2.4 https://helpx.adobe.com/photoshop/using/editing-text.html	151 152 165
	5.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.5 ▪ Self-Check Quiz 5.2.5 ▪ Answer Key 5.2.5 https://helpx.adobe.com/photoshop/using/gradients.html http://www.photoshopforphotographers.com/CC_2013/Help_guide/tp/Gradient_tool.html	152 153 165
	5.2.6	<ul style="list-style-type: none"> ▪ Information Sheet 5.2.6 ▪ Self-Check Quiz 5.2.6 ▪ Answer Key 5.2.6 	153 154 165

		https://graphicdesign.stackexchange.com/questions/87237/how-to-save-a-sharp-logo-for-my-website https://www.freepik.com/free-photos-vectors/web-design	
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Basic shape is created using the pen tool of the selected application ▪ Desired color is selected and applied ▪ Desired shadow is selected where applicable ▪ Text is added in accordance with project design requirement ▪ Background gradient is added where desirable ▪ Logo, icon and banner design are completed and used 		



Learning Outcome 5.3 - Carry-out layout design

Contents:	<ul style="list-style-type: none"> ▪ Decode the “mysteries” behind screen size and resolution ▪ Optimize images as JPEG, GIF, or PNG files ▪ Carry-out layout design 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Photoshop CC ▪ HTML editor/software/tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	5.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 5.3.1 ▪ Self-Check Quiz 5.3.1 ▪ Answer Key 5.3.1 <p>https://www.youtube.com/watch?v=NEapNEIEPZg</p> <p>https://www.webydo.com/blog/web-design/screen-resolution/screen-resolution-and-web-design/</p>	<p>156</p> <p>157</p> <p>165</p>
	5.3.2	<ul style="list-style-type: none"> ▪ Information Sheet 5.3.2 ▪ Self-Check Quiz 5.3.2 ▪ Answer Key 5.3.2 <p>https://helpx.adobe.com/photoshop-elements/using/optimizing-images.html</p>	<p>157</p> <p>158</p> <p>165</p>
	5.3.3	<ul style="list-style-type: none"> ▪ Information Sheet 5.3.3 ▪ Self-Check Quiz 5.3.3 ▪ Answer Key 5.3.3 <p>https://www.photoshoptutorials.ws/photoshop-tutorials/layouts/how-to-create-a-professional-web-layout-in-photoshop/?doing_wp_cron=1535349890.3634090423583984375000</p>	<p>158</p> <p>162</p> <p>165</p>
Assessment Criteria:	<ul style="list-style-type: none"> ▪ The “mysteries” behind screen size and resolution is decoded ▪ Images as JPEG, GIF, or PNG files optimized ▪ Layout design is carried-out 		

Module 6: Work with java script and jQuery

Module Descriptor:	This module contains information and activities to work with java script and jQuery. It specifically guides with the tasks of identifying JavaScript Core, introducing BOM and DOM, and working with JavaScript.	
Nominal Duration:	32 hours	
Learning Outcomes:	6.1.	Identify JavaScript core
	6.2.	Introduce BOM and DOM
	6.3.	Apply putty and primer
Performance Criteria:	6.1.	JavaScript core components are identified.
	6.2.	The basic Java Scripting concepts are explained.
	6.3.	BOM (Browser Object Model) and DOM (Document Object Model) is described.
	6.4.	BOM & DOM are applied.
	6.5.	JavaScript is written and debugged.
	6.6.	JavaScript library is used.
	6.7.	Navigation skill is displayed.



Learning Outcome 6.1 - Identify JavaScript Core

Contents:	<ul style="list-style-type: none"> ▪ Identify JavaScript core components ▪ Explain the basic Java Scripting concepts 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Operating software ▪ Local web server ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	6.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 6.1.1 ▪ Self-Check Quiz 6.1.1 ▪ Answer Key 6.1.1 https://www.w3schools.com/js/default.asp	168 176 212
	6.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 6.1.2 ▪ Self-Check Quiz 6.1.2 ▪ Answer Key 6.1.2 https://codeburst.io/10-javascript-concepts-you-need-to-know-for-interviews-136df65ecce	177 179 212
Assessment Criteria:	<ul style="list-style-type: none"> ▪ JavaScript core components are identified ▪ The basic Java Scripting concepts are explained 		



Learning Outcome 6.2 - Introduce BOM and DOM

Contents:	<ul style="list-style-type: none"> ▪ Describe BOM (Browser Object Model) and DOM (Document Object Model) ▪ Apply BOM and DOM 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	6.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 6.2.1 ▪ Self-Check Quiz 6.2.1 ▪ Answer Key 6.2.1 ▪ https://www.w3schools.com/js/js_window.asp 	181 186 212
	6.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 6.2.2 ▪ Self-Check Quiz 6.2.2 ▪ Answer Key 6.2.2 <p>https://www.youtube.com/watch?v=A-C9gB_4RZk</p> <p>http://www-db.deis.unibo.it/courses/TW/DOCS/w3schools/js/js_dom_examples.asp.html</p>	187 195 212
Assessment Criteria:	<ul style="list-style-type: none"> ▪ BOM (Browser Object Model) and DOM (Document Object Model) is described ▪ BOM and DOM are applied 		



Learning Outcome 6.3 - Work with JavaScript

Contents:	<ul style="list-style-type: none"> ▪ Write and debug JavaScript ▪ Use JavaScript library ▪ Display navigation skill 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Photoshop CC ▪ HTML editor/software/tools ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	6.3.1	<ul style="list-style-type: none"> ▪ Information Sheet 6.3.1 ▪ Self-Check Quiz 6.3.1 ▪ Answer Key 6.3.1 <p> http://www-db.deis.unibo.it/courses/TW/DOCS/w3schools/js/js_whereo.asp.html https://www.quackit.com/javascript/examples/ https://www.w3schools.com/js/js_debugging.asp </p>	197 205 213
	6.3.2	<ul style="list-style-type: none"> ▪ Information Sheet 6.3.2 ▪ Self-Check Quiz 6.3.2 ▪ Answer Key 6.3.2 <p> https://www.khanacademy.org/computing/computer-programming/html-css-js/using-js-libraries-in-your-webpage/a/whats-a-js-library https://www.youtubeeducation.com/embed/R58JyVEjPsU http://www.javascriptkit.com/javatutors/external.shtml https://developers.google.com/speed/libraries/ </p>	205 208 213
	6.3.3	<ul style="list-style-type: none"> ▪ Information Sheet 6.3.3 ▪ Self-Check Quiz 6.3.3 ▪ Answer Key 6.3.3 <p> https://www.w3schools.com/js/js_html_dom_navigation.asp </p>	208 210 213
Assessment Criteria:	<ul style="list-style-type: none"> ▪ JavaScript is written and debugged ▪ JavaScript library is used ▪ Navigation skill is displayed 		

Module 7: Apply web design tools

Module Descriptor:	This module contains information and activities to apply web design tools. It specifically guides with the tasks of applying web design platform or editor, web design software and CMS.	
Nominal Duration:	32 hours	
Learning Outcomes:	7.1.	Apply web design platform or editor
	7.2.	Apply web design software and CMS
Performance Criteria:	7.1.	Notepad is used.
	7.2.	Effective use of MS FrontPage is displayed.
	7.3.	Macromedia DreamWeaver is introduced.
	7.4.	Web design platform or editor is applied.
	7.5.	Joomla is introduced.
	7.6.	Drupal is introduced.
	7.7.	WordPress is introduced.
	7.8.	Effective use of Joomla/Drupal/WordPress is explained.
	7.9.	CMS (Content Management System) is applied.



Learning Outcome 7.1 - Apply web design platform or editor

Contents:	<ul style="list-style-type: none"> ▪ Use Notepad ▪ Display effective use of MS FrontPage ▪ Introduce Macromedia DreamWeaver ▪ Apply Web design platform or editor 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Operating software ▪ Local web server ▪ Internet ▪ Notepad application ▪ MS FrontPage ▪ Macromedia DreamWeaver ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	7.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 7.1.1 ▪ Self-Check Quiz 7.1.1 ▪ Answer Key 7.1.1 <p> https://www.w3schools.com/html/html_editors.asp https://www.wikihow.com/Create-a-Simple-Webpage-Using-Notepad https://turbofuture.com/computers/A-Complete-Beginners-Guide-to-Notepad </p>	216 218 234
	7.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 7.1.2 ▪ Self-Check Quiz 7.1.2 ▪ Answer Key 7.1.2 <p> https://microsoft_office_frontpage.en.downloadastro.com/ https://en.wikipedia.org/wiki/Microsoft_FrontPage </p>	218 219 234
	7.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 7.1.3 ▪ Self-Check Quiz 7.1.3 ▪ Answer Key 7.1.3 <p> https://qpdownload.com/macromedia-dreamweaver/ </p>	219 221 234
	7.1.4	<ul style="list-style-type: none"> ▪ Information Sheet 7.1.4 ▪ Self-Check Quiz 7.1.4 ▪ Answer Key 7.1.4 <p> https://code.visualstudio.com/ https://code.visualstudio.com/docs/getstarted/userinterface </p>	222 223 234
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Notepad is used ▪ Effective use of MS FrontPage is displayed ▪ Macromedia DreamWeaver is introduced ▪ Web design platform or editor is applied 		



Learning Outcome 7.2 - Apply web design software and CMS

Contents:	<ul style="list-style-type: none"> ▪ Introduce Joomla ▪ Introduce Drupal ▪ Introduce WordPress ▪ Explain effective use of Joomla/ Drupal/ WordPress ▪ Applied CMS (Content Management System) 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Joomla ▪ Drupal ▪ WordPress ▪ Content Management System (CMS) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	7.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 7.2.1 ▪ Self-Check Quiz 7.2.1 ▪ Answer Key 7.2.1 https://www.siteground.com/tutorials/joomla/articles/#	225 226 234
	7.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 7.2.2 ▪ Self-Check Quiz 7.2.2 ▪ Answer Key 7.2.2 https://drupalize.me/tutorials https://drupalize.me/guides https://www.youtube.com/watch?v=q0IkEebw_bw	226 227 234
	7.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 7.2.3 ▪ Self-Check Quiz 7.2.3 ▪ Answer Key 7.2.3 https://wordpress.com/create/?sgmt=gb&utm_source=adwords&utm_campaign=Google_WPcom_Search_Brand_Desktop_RoW_en&utm_medium=cpc&keyword=%2Bword%20%2Bpress&creative=288247141196&campaignid=655562327&adgroupid=55312602707&matchtype=b&device=c&network=g&cpn=655562327&device=c&pl=&targetid=kwd-302016650075&locationid=9069450&gclid=Cj0KCQjw5s3cBRCAARIsAB8ZjU2OXGgL3X0wIFH72LYfrBrhfV5-f-CuYQaD5vO33-Pq0pzXykfFazgaAquZEALw_wcB https://www.youtube.com/watch?v=u3KEwBhuEfU	227 229 234
	7.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 7.2.4 ▪ Self-Check Quiz 7.2.4 ▪ Answer Key 7.2.4 	229 231 234

		https://support.rackspace.com/how-to/cms-comparison-drupal-joomla-and-wordpress/	
	7.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 7.2.5 ▪ Self-Check Quiz 7.2.5 ▪ Answer Key 7.2.5 https://fitsmallbusiness.com/what-is-a-content-management-system-cms/	231 232 235
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Joomla is introduced ▪ Drupal is introduced ▪ Wordpress is Introduced ▪ Effective use of Joomla/Drupal/WordPress is explained ▪ CMS (Content Management System) is applied 		

Module 8: Work with bootstrap framework

Module Descriptor:	This module contains information and activities to work with bootstrap framework. It specifically guides with the tasks of understanding responsive website, and working with bootstrap components to develop a responsive website.	
Nominal Duration:	48 hours	
Learning Outcomes:	8.1.	Understand responsive website
	8.2.	Work with bootstrap components to develop a responsive website
Performance Criteria:	8.1.	Responsive website is understood.
	8.2.	Advantages of responsive website is described.
	8.3.	Advantages of bootstrap in responsive website is described.
	8.4.	Bootstrap is installed.
	8.5.	Bootstrap basic is described.
	8.6.	Thumbnail gallery and tabs are created and activated.
	8.7.	Bootstrap components is used to develop a responsive website.
	8.8.	Mockup is created and presented.



Learning Outcome 8.1 - Understand responsive website

Contents:	<ul style="list-style-type: none"> ▪ Understand responsive website ▪ Describe advantages of responsive website ▪ Describe advantages of bootstrap in responsive website 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Operating software ▪ Local web server ▪ Internet ▪ Notepad application ▪ MS FrontPage ▪ Macromedia DreamWeaver ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	8.1.1	<ul style="list-style-type: none"> ▪ Information Sheet 8.1.1 ▪ Self-Check Quiz 8.1.1 ▪ Answer Key 8.1.1 https://www.w3schools.com/css/css_rwd_intro.asp	238 239 254
	8.1.2	<ul style="list-style-type: none"> ▪ Information Sheet 8.1.2 ▪ Self-Check Quiz 8.1.2 ▪ Answer Key 8.1.2 https://business.tutsplus.com/articles/advantages-of-responsive-web-design--cms-30703	239 239 254
	8.1.3	<ul style="list-style-type: none"> ▪ Information Sheet 8.1.3 ▪ Self-Check Quiz 8.1.3 ▪ Answer Key 8.1.3 https://getbootstrap.com/	240 242 254
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Responsive website is understood ▪ Advantages of responsive website is described ▪ Advantages of bootstrap in responsive website is described 		



Learning Outcome 8.2 - Work with bootstrap components to develop a responsive website

Contents:	<ul style="list-style-type: none"> ▪ Install bootstrap ▪ Describe bootstrap basic ▪ Create and activate thumbnail gallery and tabs ▪ Use bootstrap components to develop a responsive website ▪ Create and present mock-up 		
Resources Required:	<ul style="list-style-type: none"> ▪ Workplace (simulated or actual) ▪ Personal computer and peripherals ▪ Software (system & application) ▪ Joomla ▪ Drupal ▪ WordPress ▪ Content Management System (CMS) ▪ Internet ▪ Stationery ▪ Instruction sheet/manual 		
Learning Activities:	Activity	Resource	Student Guide Page
	8.2.1	<ul style="list-style-type: none"> ▪ Information Sheet 8.2.1 ▪ Self-Check 8.2.1 ▪ Answer Key 8.2.1 ▪ https://getbootstrap.com/docs/3.3/getting-started/ 	244 245 254
	8.2.2	<ul style="list-style-type: none"> ▪ Information Sheet 8.2.2 ▪ Self-Check 8.2.2 ▪ Answer Key 8.2.2 <p>https://www.toptal.com/front-end/what-is-bootstrap-a-short-tutorial-on-the-what-why-and-how</p> <p>https://www.w3schools.com/bootstrap/default.asp</p>	246 247 254
	8.2.3	<ul style="list-style-type: none"> ▪ Information Sheet 8.2.3 ▪ Self-Check 8.2.3 ▪ Answer Key 8.2.3 <p>https://www.youtube.com/watch?v=xvtS1t6Kpts</p> <p>https://www.w3schools.com/howto/howto_js_tab_img_gallery.asp</p>	247 248 254
	8.2.4	<ul style="list-style-type: none"> ▪ Information Sheet 8.2.4 <p>https://github.com/aichbauer/styled-bootstrap-components</p> <p>https://www.w3schools.com/bootstrap/bootstrap_quiz.asp</p>	248
	8.2.5	<ul style="list-style-type: none"> ▪ Information Sheet 8.2.5 ▪ Self-Check 8.2.5 ▪ Answer Key 8.2.5 <p>https://www.cleveroad.com/blog/step-by-step-tutorial-how-to-create-a-website-mockup-avoiding-common-mistakes-and-pitfalls</p>	250 252 254

		<ul style="list-style-type: none"> ▪ https://designshack.net/articles/inspiration/best-website-psd-perspective-mockups/ 	
Assessment Criteria:	<ul style="list-style-type: none"> ▪ Bootstrap is installed ▪ Bootstrap basic is described ▪ Thumbnail gallery and tabs are created and activated ▪ Bootstrap components is used to develop a responsive website ▪ Mockup is created and presented 		