

VERSION A, REVISION 0

MSU-F-QA-011



**MASENO UNIVERSITY
COURSE OUTLINE**

COURSE CODE: CCS 215

ACADEMIC YEAR: 2024/2025

COURSE TITLE: WEB DESIGN AND DEVELOPMENT

PROGRAMME: BSC. COMPUTER SCIENCE

DEPARTMENT: COMPUTER SCIENCE

FACULTY / SCHOOL: COMPUTING AND ONFORMATICS

Lecturer's Name: Michael Ondeja Adongo

Lecturer's Contacts:

Telephone No. 0716194067

Email Address: michaelondeja@gmail.com

No. of Units / Contact Hours: 42 Hours

Signed by Course Lecturer:

Confirmed by Head of Department:

COURSE CODE: CCS 215		COURSE TITLE: WEB DESIGN AND DEVELOPMENT
Pre-requisite:		Contact Hours: 42
Year of Study: 2024/2025		Semester: 1
Purpose of the course: The course is meant to enable a student to develop a simple website and know how a website can be hosted.		
Expected Learning Outcomes: By the end of the course, the student should be able to: 1. Understand how data is transmitted over the internet 2. The importance of internet as a research tool 3. Know the guidelines and the process used to design and develop a website 4. Develop a simple website and know how it can be hosted		
Week	Topics:	Sub-Topics
1	Introduction and definitions	<ul style="list-style-type: none">Internet, Packets and Routing,TCP/IP and Domain Names.The World Web (WWW): URLs and Client-Server Model
2	Browsing	<ul style="list-style-type: none">browsers and types, searching techniques;Search engines: functions, how they work, examples of search engines;The internet as a research tool;
3	Web design and development	<ul style="list-style-type: none">web design guidelines, web design and development process;Web hosting: web server, web host, features of a web hosting plan
4	Introduction to Hypertext Markup Language (HTML)	<ul style="list-style-type: none">Creating a basic web page with HTMLDefining and explaining the basic elements of a basic web pageTags, Elements & Attributes,HEAD & BODY, Title & Paragraphs, Heading Tags & Whitespace,
5	Formatting web a page document	<ul style="list-style-type: none">unordered & Ordered Lists, Definition list Tags attributes, Bold & Italics,Images: Image Formats & Production Considerations, Optimizing Images for the Web, The IMG Tag, Relative vs. Absolute URLs, Fine-Tuning with Alt, Width & Height Attributes.Anchors & Hyperlinks (Hyperlinks, Linking to Emails, Linking to a Specific Part of a Webpage, Linking Images)
CAT 1		
6	Adding tables to a web page	<ul style="list-style-type: none">Tables & Table AttributesAdding & Formatting Rows & ColumnsSpanning Rows & Columns
7	Adding forms to a web page	<ul style="list-style-type: none">Forms and Form attributesElements of a form
8	Cascading style sheets (CSS)	<ul style="list-style-type: none">Definition, Internal Style Sheets, Selectors, Properties & ValuesBuilding & Applying Class Selectors, Grouping SelectorsCreating Comments in Your Code,Using Div Tags & IDs to Format Layout,Understanding the Cascade & Avoiding Conflicts
9	More CSS	<ul style="list-style-type: none">External Style Sheets; Hyperlinks with Pseudo-ClassesCSS Box Model: Padding, Borders & Margins; Styling UL and OL with CSSOverriding the Inheritance of Attributes
10	Creating Layouts	<ul style="list-style-type: none">Side Content Div, Absolute & Relative PositioningFloat & Clear PropertiesOverflow, Auto-Centering Content; Using Fixed Positioning
11	Intro to JavaScript	<ul style="list-style-type: none">Client-Side JavaScript, Advantages and Limitations of JavaScriptJavaScript Code placement, Comments in JavaScript

CAT 2

12	JavaScript Language Elements	<ul style="list-style-type: none">• Variables, Operators, Expressions, Statements,• Data types and Control structures• Arrays, Functions, methods, Objects
13	JavaScript Events	<ul style="list-style-type: none">• Form validation: text fields, drop-downs, radio buttons,
14	FINAL EXAMINATION	
15	FINAL EXAMINATION	
16	FINAL EXAMINATION	

Mode of Delivery:

Lectures, lecture notes, Lab Manual, Lab Practice, class discussions and group discussions

Instructional Materials and Equipment:

Audio visual equipment, white board and white board markers Web development Tools

Course Assessment:

Continuous Assessment Tests – 30%

End of Semester Examination – 70%

Core References:

- Jon Duckett, HTML & CSS, Design and Build Websites
- Chris Minnick and Eva Holland, Coding for JavaScript for Dummies

Recommended Reference Materials:

- Thomas A. Powell, HTML and CSS: The Complete Reference, Fifth Edition, McGraw Hill
- Duckett, Jon(2005), Accessible XHTML and CSS Web Sites Problem Design Solution, Wrox
- David Flanagan, JavaScript: The Definitive Guide, 6th Edition
- D.Goodman, JavaScript & DHTML Cookbook Solutions and Example for Web Programmers, O'Reilly and Associates Inc

2.0 LECTURE SCHEDULE (HRS)

WEEK ONE TOPIC: Introduction and definitions

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none">Internet, Packets and Routing,TCP/IP and Domain Names.The World Web (WWW): URLs and Client-Server Model	3	Jon Duckett, HTML & CSS , Design and Build Websites	Introduction		Group Project	

WEEK TWO TOPIC: Browsing

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none">browsers and types, searching techniques;Search engines: functions, how they work, examples of search engines;The internet as a research tool	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapter 19		Group Project	

WEEK THREE TOPIC: Web design and development

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> web design guidelines, web design and development process; Web hosting: web server, web host, features of a web hosting plan 	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapter 18, 19	LAB 1A	Group Project	

WEEK FOUR TOPIC: Introduction to Hypertext Markup Language (HTML)

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> Creating a basic web page with HTML Defining and explaining the basic elements of a basic web page Tags, Elements & Attributes, HEAD & BODY, Title & Paragraphs, Heading Tags & Whitespace, 	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapters 1, 2, 15, 17	LAB 1B, 1C	Group Project	

WEEK FIVE TOPIC: Formatting web a page document

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> • unordered & Ordered Lists, Definition list Tags attributes, Bold & Italics, • Images: Image Formats & Production Considerations, Optimizing Images for the Web, The IMG Tag, Relative vs. Absolute URLs, Fine-Tuning with Alt, Width & Height Attributes. • Anchors & Hyperlinks (Hyperlinks, Linking to Emails, Linking to a Specific Part of a Webpage, Linking Images) 	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapters 3, 4, 5, 14	LAB 2A	Group Project	

WEEK SIX TOPIC: Adding tables to a web page

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> • Tables & Table Attributes • Adding & Formatting Rows & Columns • Spanning Rows & Columns 	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapter 6, 14	LAB 2B	CAT 1	

WEEK SEVEN TOPIC: Adding forms to a web page

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> • Forms and Form attributes • Elements of a form 	3	Jon Duckett, HTML & CSS , Design and Build Websites	Chapter 7, 14	LAB 3A	Group Project	

WEEK EIGHT TOPIC: Cascading style sheets (CSS)

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> • Definition, Internal Style Sheets, Selectors, Properties & Values • Building & Applying Class Selectors, Grouping Selectors • Creating Comments in Your Code, • Using Div Tags & IDs to Format Layout, • Understanding the Cascade & Avoiding Conflicts 	3	Jon Duckett, HTML & CSS, Design and Build Websites	Chapter 10, 11, 12, 13	LAB 3B	Group Project	

WEEK NINE TOPIC: More CSS

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> • External Style Sheets; Hyperlinks with Pseudo-Classes • CSS Box Model: Padding, Borders & Margins; Styling UL and OL with CSS • Overriding the Inheritance of Attributes 	3	Jon Duckett, HTML & CSS, Design and Build Websites	Chapter 13	LAB 3C	Group Project	

WEEK TEN TOPIC: Creating Layouts

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> Side Content Div, Absolute & Relative Positioning Float & Clear Properties Overflow, Auto-Centering Content; Using Fixed Positioning 	3	Jon Duckett, HTML & CSS, Design and Build Websites	Chapters 15, 16, 17	LAB 4	Group Project	

WEEK ELEVEN TOPIC: Introduction to JavaScript

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> Client-Side JavaScript, Advantages and Limitations of JavaScript JavaScript Code placement, Comments in JavaScript 	3	Chris Minnick and Eva Holland, Coding for JavaScript for Dummies	Chapter 1, 2	LAB 5	Group Project	

WEEK TWELVE TOPIC: JavaScript Language Elements

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> Variables, Operators, Expressions, Statements, Data types and Control structures Arrays, Functions, methods, Objects 	3	Chris Minnick and Eva Holland, Coding for JavaScript for Dummies	Chapter 3, 4, 5, 7	LAB 6	CAT 2	

WEEK THIRTEEN TOPIC: JavaScript Events

Sub Topic	Hrs	Course Text	Readings	Practicum / Lab Practicals	Assignment(s)	Comments (By Lecturer)
<ul style="list-style-type: none"> Form validation: text fields, drop-downs, radio buttons 	3	Chris Minnick and Eva Holland, Coding for JavaScript for Dummies	Chapter 8, 10, 11,12			

End of Course Remarks / Signatures:

Course Lecturer:

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Head of Department:

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