COLLEGE OF SCIENCE TECHNOLOGY AND APPLIED

ARTS OF TRINIDAD AND TOBAGO

ITEC 240 Course Outline

COLLEGE OF SCIENCE TECHNOLOGY AND APPLIED ARTS OF TRINIDAD AND TOBAGO

1 GENERAL INFORMATION SUMMARY

Course title:	Web Page Design
Course code	ITEC 240
Course proposer:	Nicole A. Alexander
Course type	Core
Level	Year 2
Semester in which course will be offered:	1 and 2
Credits	3
Pre/Co-requisites	N/A
Teaching Methods (list only):	• Online Lectures • Practical • Demonstrations • Brainstorming • Tutorials
Estimated Study Hours	Hours/week: Students should dedicate no less than **seven (7)** hours a week towards their learning activities. • Online Lectures: 2 hours • Labs / Tutorial: 1 hour • Independent Study: 4 hours
Total no. of assessments (9)	• Online Quizzes: **3** • Assignments: **1** • Individual Project: **1** • Lab activities: **4**

Instructor information	Nicole A. Alexander Lecturer – Department of Information Science and Technology COSTAATT 9-11 Melville Lane, Port of Spain

2 COURSE OVERVIEW

2.1 Course Description

The course provides students with the knowledge of how to design, create and host a simple website. Students will gain an appreciation of how websites are used to facilitate content delivery but ultimately focuses on building functional websites with the use of HTML and CSS to appropriately implement an effective design. At the conclusion of this course, students will be able to:

- Understand and identify the fundamental issues affecting web page development
- Select and utilize proper web design principles to produce a website.
- Utilize HTML and CSS to construct websites.

The course will be delivered in three modules focused on:

- Web Concepts
- Creating a Web Page (Design and HTML)
- Styles – Cascading Style Sheets (CSS)

The course is delivered online and will use an andragogical approach in delivery. There will be at least three (3) synchronous lectures followed by lab activities / tutorials. Students will have the opportunity to engage with each other as the technique of pair programming will be utilized.

Assessment will be based on the College's grading scheme. Students are required to complete all assessments and ensure a minimum of 70% in all assessments to ensure successful completion of the course.

The three (3) credits for this course will be spread over 45 hours of instruction delivered synchronously, asynchronously and face-to-face. An additional thirty (30) to sixty (60) hours of individual work and activities are also required for successful completion of course.

ITEC 240 fits in where it will provide the learner with the practical skills required to design, create and host functional websites and will provide the foundation for other advanced courses within the web development programme.

2.2 Rationale

The world is forever changing; the way we conduct our lives, the way we work, interact, educate and most importantly communicate, most of which heavily depends on websites and applications. ITEC 240 will introduce students to the fundamental principles of web development and the languages required to design and create functional websites which is now necessary for us to adapt to our ever changing environment. The need now is even more compelling to have professionals trained in not only utilizing online services but producing such services hence one of the reasons for this course. The course gives the student the necessary competencies for them to fully undertake all subsequent web development programming courses. It was designed for those with no prior programming experience as well as those who are pursing the Associate of Science in Information Technology. It may also benefit other non-IT majors as well by providing a solid foundation in the world of HTML and CSS allowing them to confidently and efficiently design, create and host their own websites.

2.3 Aims/Goals

To prepare students with the tools, techniques and fundamentals necessary to design, create, host and maintain simple websites.

2.4 Learning Outcomes/Objectives

At the end of this course, the students will be able to:

1. Explain fundamental web concepts.
2. Describe the structure of the World Wide Web as interconnected hypertext documents.
3. Use basic web elements and structure to create a simple web page.
4. Implement an effective design to a web page using Cascading Style Sheets (CSS).
5. Build a simple website using HTML 5 and Cascading Style Sheets that organizes information effectively.

2.5 Learning Outcomes Guide

Upon successful completion of ITEC 240, students will be able to:	Cognitive Domain	Psychomotor Domain	Affective Domain
1. Explain fundamental web concepts.	Understanding	Articulation Valuing	
2. Describe the structure of the World Wide Web as interconnected hypertext documents.	Understanding		
3. Use basic web elements and structure to create a simple webpage.	Application	Manipulation	
4. Implement an effective design to a web page using Cascading Style Sheets (CSS).	Application	Manipulation	

5. Build a simple website using HTML 5 and Cascading Style Sheets that organizes information effectively.	Application	Precision	

2.6 [1]Course-to-Programme Learning Outcomes Checklist

Programme Level Learning Outcomes **At the end of the programme students will be able to:**	**LOs applicable to Course ITEC 240**
Knowledge Level	
1. Display knowledge of the broad context of Information Technology environment.	
2. Display knowledge of tools, processes and computation appropriate to Information Technology.	
3. Display knowledge of tools, processes and techniques to develop solutions to IT cases.	
4. Understand professional, ethical, legal, security, and social issues and responsibilities.	
5. Understand the local and global impact of computing on individuals, organizations, and society.	
6. Recognize the need for continuing professional development.	√
7. Display knowledge of current technical concepts and practices in the core information technologies.	√
8. Display general knowledge of the professional roles in the IT field.	
9. Display the knowledge necessary for the creation of an effect project plan.	
Skill/Competence Level	
1. Design, implement and evaluate a computer-based system, process, component, or program to meet desired needs.	√
2. Analyze and integrate user needs into the selection, creation, evaluation and administration of computer-based systems.	√
3. Use current techniques, skills and tools necessary for computing practice.	√
4. Deploy an IT based solution into the user environment.	√
5. Analyze a problem, differentiate between viable competing solutions and select the most appropriate one for a given client's circumstance.	

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Programme Level Learning Outcomes **At the end of the programme students will be able to:**	**LOs applicable to Course ITEC 240**
6. Select, use and manage all appropriate technologies for storing data, representing, communicating, organizing, retrieving and disseminating information.	
7. Develop systems and interfaces that adhere to recognized usability and accessibility guidelines.	
8. Assist with the creation of an effective project plan.	
Professional Competence/Attitude/Personal Characteristics	
1. Function effectively on teams to accomplish a common goal.	
2. Practice professional, ethical, legal, security best practices.	√
3. Engage in continued professional development.	
4. Communicate effectively (oral, written, presentation, interpersonal and listening.	√
5. Display a mastery of social skills necessary to network and influence customers.	
6. Actively involved in advocacy as part of the community and community centred.	
3 COURSE ASSESSMENT	

LINKAGE OF ASSESSMENT METHODS TO LEARNING OUTCOMES

Assessment Method	Learning Outcomes (Refer to 2.4)										Weighting %	Assessment Description
	LO 1	LO 2	LO 3	LO 4	LO 5							
Quizzes Quiz 1 Quiz 2 Quiz 3	√	√	√ √	 √							(45 %) 15% 15% 15%	Online quizzes that take on the format of multiply choice, opened ended questions and coding for quiz 2 and 3. Quiz 1 covers module 1, quiz 2, module 2 & 3 and quiz 3, modules 3 and 4.
Assignment		√	√								10 %	This assignment will be distributed at the end of week 4. You will be required to design a simple webpage, create it using HTML, validate and use a free hosting site to host your page.
Lab Activities (4)	√	√	√	√	√						20 %	Four lab activities will be given to allow students to practice the current topics of the modules.

Individual Final Project	√	√	√	√	√						25%	A case study requiring a solution via construction of a web site is assigned to each student. Students are to present a well- structured report in addition to the completed web site, which reflects the comprehensive contents of the course as well as evidence of further research into these areas. Students are to be creative but realistic in their solution. The project will assess the student at a synthesis level. A presentation is required for this assessment.

4. TEACHING METHODS

Method	Description
Live Sessions	Live sessions via Zoom will be used to deliver content in asynchronous manner. Recordings will be made available for asynchronous access.
Videos and Readings	Each module will be supported by video, tutorials and reading resources.
Lab and Practical activities	At the end of each lesson, problems would be given for students to practice new knowledge.
Demonstrations	The instructor will teach both synchronous and asynchronous (with the use of screen capture software) by performing operations and/or write programs which will show students what to do, how to do it and through explanations bring out why, where and when it is done.

5. COURSE CALENDAR

Week	Topics	Readings/Resources	[2]Activities including Assessments
MODULE 1: Web Concepts (2 weeks)			
1	**Introduction to the Course** • How to navigate the online environment. • Review of Course Outline • Expectations • **Key Terms** • World Wide Web, File Transfer, Email, Instant Messaging • Client / Server • Domain, Uniform Resource Locator (URL), Hyperlink, web hosting, search engine • Protocols – TCP/IP, HTTP, FTP	• Course Outline • Web Design Handbook: **Chapter 1: Web Concepts. 1.1 – Key Terms** • Synchronous class via Zoom	**Activities** • **Attend** synchronous class • **Update** profile on e-classroom with photograph. • **Read** Chapter 1; 1.1 Key Terms in Web Design Handbook.
1,2	. **Web Publishing** • Advantages of having a website • Search engine optimization techniques • Factors that impact	PowerPoint Web Design Handbook: Chapter 1: Web Concepts. 1.2 – Web Publishing	**Activities** **Read** Chapter 1; 1.2 Web Publishing in Web Design Handbook.

[2]

Week	Topics	Readings/Resources	Activities including Assessments
	web page download speed. • Legal Issues • Copyright and its implication for text, images, audio, and video available on websites.		
MODULE 2: Creating a Web Page (Design and HTML) (6 weeks)			
3,4	**HTML Basics** • The term Hypertext-Mark-up Language • The role of W3C in making HTML recommendations • Using HTML • Using browser to view HTML code • Using Mark-up tags to develop the layout of a webpage (HTML semantics, headers, etc.)	• Lesson 3: Synchronous class via Zoom. • Week 4: Face-to-face • Chapter 2: HTML Basics in the Web Design Handbook**.**	**Activities** • **Attend** synchronous and face-to-face class • Chapter 2: HTML Basics in the Web Design Handbook. • View videos about W3C and on web accessibility and W3c Standards: https://www.w3.org/WAI/videos/standards-and benefits/ https:// www.w3.org /2011/11/ w3c_video.html **Assessment** • **Quiz 1: 15% -**

Week	Topics	Readings/Resources	Activities including Assessments
			On Module 1 • Distribution of Assignment. - **10%**
5	**Planning a Website** • Theories and Techniques • Storyboard	• Chapter 3: Creating a Webpage – 3.1 Designing in the Web Design Handbook. • Storyboard example on e-classroom.	**Activities** • **Read** Chapter 3: Creating a Webpage – 3.1 Designing in the Web Design Handbook. • **View** storyboard example. **Assessment** • **Lab Activity 1 - 5%:** Design a storyboard for a 3-page website.
6	• **HTML List** • Unordered Lists • Ordered Lists • Definition **Lists** • **HTML Hyperlinks** • Linking to external web sites • Links to pages within your website • Special types of Links	• Synchronous class via Zoom. • Lecture 5 on e-classroom. • HTML List: https://www.w3schools.com/html/html_lists.asp • HTML Links: https://www.w3schools.com/html/html_links.asp	**Activities** • **Attend** synchronous class • **Read** Lecture 5: HTML Lists and Links. • **Exercise**: Lists and Links

	Lesson 6 (2 weeks)	Lecture 6: Power	**Activities**

Week	Topics	Readings/Resources	Activities including Assessments
7 - 8	• **Images** • Alt attribute • Image size • Images in another folder • Images on another server • Animated Images • Using images as a link • **Data Table** • Defining an HTML table • Adding a border • Collapse border • Adding cell padding • Border spacing • Table Caption	Point presentation on Images on e-classroom. • Lecture 7: Power Point Presentation on Tables in e-classroom • https:// www.w3schools.com/html/ html_images.asp • https:// www.w3schools.com/html/ html_tables.asp	• **Read** Lectures 6 and 7. • Final Project distribution • **Exercise:** Images and Tables

9	**Lesson 7** • **HTML Forms** • **HTML IFrames**	• Lecture 8: PowerPoint Presentation on Forms and IFrames in e-classroom. • Forms – beginning from: https://www.w3schools.com/html/html_forms.asp	**Activities** • **Read** Lecture 8. • Complete tutorial on w3schools.com. **Assessments** **Lab Activity 2:** Forms **(5 %)** • Quiz 2: 15% on Module 2

Week	Topics	Readings/Resources	Activities including Assessments
MODULE 3: Styles: Cascading Style Sheets (5 weeks)			

10-11	**Lesson 8 (2 weeks)** • **Introduction to Cascading Style Sheets** • Anatomy of a style • Applying Styles	• Synchronous class via Zoom. (Session will be recorded for persons who were unable to attend live session. • Lecture 9: PowerPoint Presentation on Introduction to CSS in e-classroom • Tutorial from w3schools.com https://www.w3schools.com/css/css_intro.asp	**Activities** • **Attend** synchronous class • **View** video at: https://www.youtube.com/watch?v=Qo0WLVy4YLY • **Exercise**: Applying Styles
12	**Lesson 9** • **Page Layout Techniques** The box model	• Lecture 10: PowerPoint Presentation on The Box Model in e-classroom. • Tutorial from w3schools: https://www.w3schools.com/css/css_boxmodel.asp • Embedded video link in e-classroom to view from LinkedIn Learning.	**Activities** • **Read** presentation • **Complete** tutorial on https://www.w3schools.com/css/css_boxmodel.asp • **View** The Box Model in eclassroom from LinkedIn Learning. **Lab Activity 3** • Semantics and Using The Box Model **(5%)**

Week	Topics	Readings/Resources	Activities including Assessments

13	**Lesson 10** **Page Layout Techniques** Navigation bar	• Lecture 10: PowerPoint Presentation on The Navigation in e-classroom. • Tutorial from w3schools: https://www.w3schools.com/css/css_navbar.asp	**Activities** • **Read** presentation in e-classroom • **View** embedded video **Assessment** • **Lab Activity 4:** Creating a Navigation Menu **(5 %)**
14	**Lesson 11** • CSS Combinators • descendant selector (space) • child selector (>) • adjacent sibling selector (+) • general sibling selector (~) • CSS Pseudo-classes Pseudo-elements	• Synchronous class via Zoom (Session will be recorded for persons who were unable to attend live session. • Lecture 11: PowerPoint Presentation on CSS combinators in e-classroom.	**Activities** • **Attend** synchronous class • **Read** presentation in e-classroom
15-16	Project Demonstrations		**Assessment** Quiz 3: 15% - on Module 3

4 READINGS/RESOURCES

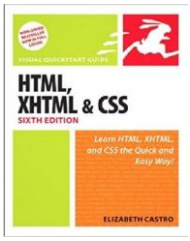
4.1 Itdesk.info – Project of computer e-education with open access – Handbook for Digital Literacy. Web Design.

Publisher: Open Society for Idea Exchange

Provided on the e-classroom as a. pdf.

4.2 Recommended

a) **Title:** HTML, XHTML, and CSS, Sixth Edition
Author: Elizabeth Castro
ISBN#: 0-3214-3084-0



4.3 Online References

a) https://www.w3.org/
b) w3schools.com https://www.w3schools.com/java/default.asp

5 POLICIES

7.1 Statement on Academic Honesty

Acts which seek to violate the code of academic honesty are serious offences which undermine the college's educational mission and the student's personal and intellectual growth. As such perpetrators of these offenses will meet with sanctions as laid out in the Section 3.0 of the *Policies Manual: Division of Academic Affairs.* Section 2.1 of this policy:

"Violations of academic integrity include but are not limited to the following actions:

2.1.1 Cheating – the use of any unauthorized materials or engagement in prohibited activity during an examination, test or quiz. Cheating includes:

2.1.1.1. copying answers

2.1.1.2. changing answers on a graded examination

2.1.1.3. using cheat sheets

2.1.1.4. using prohibited materials such as textbooks or notebooks, and

2.1.1.5. storing or receiving information via electronic devices or graphing calculator.

2.1.2. Fabrication – submission of falsified information or data. This includes making up results on a lab report, using falsified and/or fake sources, or citing interviews that did not actually occur.

2.1.3. Plagiarism – using someone else's words and ideas and presenting as your own without giving credit to the actual author or proper citation.

2.1.4. Denying others access to information or material – obstructing another person from receiving materials or information, or tampering with, defacing or destroying another's work in order to gain an unfair academic advantage. It is a violation of academic integrity to give other students false or misleading information, deliberately misplace, deface or destroy library and reserve materials, and alter someone else's computer files.

2.1.5. Facilitating violations of academic integrity – assisting another with a violation of academic integrity. A person who facilitates an act of academic dishonesty can face the same penalty as the person who actually commits the offense." (COSTAATT Policy Manual p. 53-54)

The use of AI and other similar resources in assessments / activities, if detected, will result in an automatic score of zero (0).

7.2 Grading System

The course is graded in accordance with the standard grading scale of the college. A copy of this scale is provided below.

Letter Grade	Grade Description	Grade Value	Numerical Points
A	Excellent	90-100	4.00 grade points per credit hour
B+	Very Good	85-89.9	3.5
B	Good	80-84.9	3.00 grade points per credit hour
C+	Satisfactory	75-79.9	2.5
C	Average	70-74.9	2.00 grade points per credit hour
D+	Below Average	65-69.9	1.5
D	Minimum Passing Grade	60-64.9	1.00 grade point per credit hour
F	Failure	0.0-59.9	0 grade points per credit hour

7.3 How to Study for this Course

7.3.1 Read

This course introduces the student to a number of fairly abstract concepts. To fully understand these concepts, the recommended readings must be completed in a timely manner and students are well advised to read beyond the recommended material.

7.3.2 Practice Code

It is almost impossible to pass this course without practice, practice and more practice. As such many exercises will be given in addition to your readings and video content. You are encouraged to devote as many hours as possible to writing and debugging for this course.

7.3.3 Collaborate

Your peers are one of your best (and often most underutilized) resources. Talk to each other. Go over the course material in pairs or groups and study together. While collaboration is absolutely forbidden for graded assignments you are **encouraged** to work together and support each other as you journey through the semester.