THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD AND TOBAGO

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FACULTY OF SCIENCE AND TECHNOLOGY

INFO 3602 WEB PROGRAMMING AND TECHNOLOGIES II

Semester 1, Undergraduate, Year 3, Level 3

Pre/Co-requisites: **INFO 2602**
Course Type: **Core**
Credits: **3**
Mode of Delivery: **Face-to-Face**
Estimated Study Hours:

Two 1-hour lectures, One 2-hour lab, 6 hours per week independent study

1. Course description

This course focuses on the development of web services and the evaluation and utilization of software tools to provide solutions to common business problems within the market place. Students are exposed to technologies involved in the development of web services and using industry relevant tools for designing, developing and managing web systems. The course will be delivered using a combination of interactive lectures, eLearning, case studies and online resources. Assignments will take the form of lab examinations, group projects and presentations.

2. Rationale

This course provides students with the tools and techniques needed to operate effectively within the ICT and wider industry. The course provides an environment to develop practical skills and techniques used in the development and maintenance of web systems within enterprise environments.

3. Course Aims

INFO3602 aims to develop practical web programming skills in undergraduate students while promoting an understanding of the theoretical concepts and design considerations behind these systems. The course also aims to expose students to the development tools and programming APIs commonly used in the field.

4. UWI Graduate Outcomes

This course concentrates on the following qualities of the distinctive UWI graduate:

1. A critical and creative thinker
2. An effective communicator with good interpersonal skills
3. IT-skilled and information literate

5. Course Learning Outcomes

Upon the successful completion of this course, the student will be able to:

1. Assess the quality, accuracy, and timeliness of data or meta-data and its utility for creating information.
2. Evaluate the requirements for data retention and processing for an application.
3. Apply appropriate backup and retention policies for an application.
4. Compare consumer and enterprise content management systems.
5. Adapt Content Management System (CMS) software to common enterprise problems.
6. Setup a web system environment, and configure for reliability and security.
7. Implement Web Services using Open Source languages and packages or Proprietary languages and packages
8. Demonstrate inter-personal skills, teamwork, and effective use of appropriate presentation technologies.

6. Program Goals and Course Learning Outcomes Matrix

Programme Level Learning Outcomes **At the end of the programme, students will be able to:**	**Course Learning Outcomes** **At the end of the course, students will be able to**							
	1	2	3	4	5	6	7	8
Advise an organization on the utility of new technologies through anticipation of changes and trends.	x	x	x					
Recommend evaluated information technology systems, software and hardware to address an organization's specific goals and objectives.		x	x	x				
Adapt successfully to new work-place challenges and environments.					x	x	x	x
Implement an IT-based system, component, process or solution designed for a specific environment					x	x	x	x
Create a systems or technology project plan to address a specific information technology problem.			x	x				

Programme Level Learning Outcomes At the end of the programme, students will be able to:	Course Learning Outcomes At the end of the course, students will be able to							
	1	2	3	4	5	6	7	8
Articulate the impact of technology on individuals, organizations and society including ethical, legal and policy issues when making IT related decisions	x	x	x					
Apply current technical concepts and practices during the design and implementation of systems, processes or components.			x	x	x	x	x	x
Manage processes, systems, and human resources in alignment with an organization's structure (or needs).					x	x		
Conduct research necessary to successfully complete an assigned project.			x	x				
Demonstrate effective written and oral communication techniques when completing reports and presentations.	x	x	x					
Demonstrate inter-personal skills, teamwork, and efficient use of appropriate programme-specific technology.	x		x	x				

7. Course Assessment Descriptions

In this course, assessments are designed to test student knowledge and practical skills through a combination of examinations, practical assignments and project work.

There are six coursework assessments in this course: 2 individual assignments, 2 lab exams based on theoretical and practical concepts, a group project and a presentation.

Assessment	Learning Outcomes								Weighting %	Assessment Description	Duration
	1	2	3	4	5	6	7	8			
Assignment 1	X	X		X					10%	Short answer, problems and case studies	Take home
Assignment 2					X	X					
Lab Exam 1	X	X	X	X	X				50%		90 minutes
Lab Exam 2					X	X	X				90 minutes
Project	X	X	X	X	X	X	X	X	40%		7 weeks
Project Presentation								X			15 mins
TOTAL %									100%		

8. University Grading Scheme (Undergraduate Level)

Grades	Ranges
A-to A+	*(A- : 75 to 79; A: 80 to 89; A+: 90 to 100)*
B-to B+	*(B-: 60 to 64; B: 65 to 69; B+: 70 to 74)*
C-to C+	*(C-: 50 to 54; C+: 55 to 59)*
F1 to F3	*(F1 40 to 49; F2: 30 to 39; F3: 0 to 29)*

9. Teaching Strategies

Method	Description
Interactive Lectures	Face to face lectures twice weekly
Directed Discussions	Online and during lectures and lab sessions
Inquiry-based Learning	Practical lab sessions and activities
Problem-based Learning	Exercises/activities from lectures, labs

10. Learning Resources/ Reading

Recommended

- O'Reilly Media, Robin Nixon 2021 - Learning PHP, MySQL, JavaScript CSS, & HTML5: A Step-by-Step Guide to Creating Dynamic Websites. 6th edition

PHP 8 Programming Tips, Tricks and Best Practices: A practical guide to PHP 8 features, usage changes, and advanced programming techniques , Doug Bierer and Cal Evans. (2021). Packt Publishing

WordPress 5 Complete: Build beautiful and feature-rich websites from scratch, 7th Edition
Karol Krol (2019); Packt Publishing

Lecture notes, Articles, E-Books: Available on myElearning. See course website.

11. Course Calendar (Approximate)

Week	Topic
1	Course Introduction, Web System Administration, PHP
2	Content Management Systems - WordPress
3	Installing and Configuring Themes, Pages, Blogs
4	Workflow and Automation
5	User Management Plugins, Roles, Permissions
6	Live Search
7	Introduction to Web Services
8	WordPress REST API
9	Combining Front end & Backend
10	Backup, Restoring and Going Live
11	Security, Auditing, and Monitoring
12	General Data Protection, Data Management Policies
13	Group Presentations

12. University Policies and Expectations

a. Academic Integrity

You are required to submit your own work for all assessments in this course. Plagiarism or copying of any form will not be tolerated. Offenses will be reported to the Department Head and legal action or expulsion may be taken. Cite sources fully when preparing presentations and reports. For all practical exams, you are expected to do your own work without the assistance of the internet or personal notes. In the case of multiple streams weekly for lab exams (if applicable), you are expected to maintain the confidentiality of these exams.

b. Accommodations for students with disabilities

Students should refer to the University of the West Indies St Augustine Campus, Student Disability policy https://sta.uwi.edu/resources/policies/Student_Disability.pdf