Pearson Institute of Higher Education

Module Guide

Faculty	Applied Science		
Module code	ITEC301	**Module name**	Internet Programming and E-commerce
NQF level	7	**Credit value**	15
Semester	1/2018	**Year**	2018
Module lead	Dale Sibanda	**Internal moderator**	Patricia Lubisi
Lecturing hours	26 (02 hours a week)	**Tutorial hours**	N/A
Notional hours	150	**Copy-editor**	TBA
Pre-requisites	N/A	**Co-requisites:**	N/A
Post-requisites:	N/A		

The module guide must be read in conjunction with the prescribed textbook (if applicable). This document will be the first port of call to understanding what will be assessed and which assessments form part of the module.

The purpose of the module guide is to highlight:

- The learning outcomes and assessment criteria that need to be met to pass the module.
- The assessment required to be completed for the module.
- The additional resources required for the module.
- The topics that will be focused on for the module.

Module aim

The objective of this module is to develop core skills in internet programming and E-commerce. First, the learner is exposed to the underlying technology that supports the World Wide Web, which includes HTML, CSS, JavaScript and PHP. Thus the primary goal is for the learner to have skills that will assist him/her in the second phase. Secondly, the student is prepared as current and future executives, managers and strategists to create value in the networked economy – in other words, to gain understanding and insight on how new technology and media forms have created unprecedented challenges and opportunities for business, thus the use of e-commerce.

Module description

Technologies, including the internet and the World Wide Web and, more specifically, their use in electronic-commerce, are reshaping the way that business leaders think about management, strategy and business design. This module represents a combination and application of the skills and knowledge that managers encounter in their online activities.

Students will have to develop, implement and maintain a complete interactive e-commerce website using appropriate design techniques. In addition, students will be prepared as current and future executives, managers and strategists to create value in the networked economy.

Learning outcomes

By the end of this module, students will be able to:

Learning outcomes	Assessment criteria
1. Be able to examine the information architecture underlying e-commerce such as TCP/IP, packet-switching, clients- servers, firewalls and proxy servers.	1.1 Understand web servers and web browsers. 1.2 Be able to select e-commerce servers, e-commerce infrastructure, e-commerce infrastructure components, 1.3 Understand the Internet technology, intranets, extranets, firewalls, wireless internet access standards, wireless access devices, web accessibility, and packet switching.

2. Be able to perform client side programming using JavaScript and server-side programming using PHP.	2.1 Understand JavaScript Programming Basics, JavaScript Objects, Document Object Model (DOM), Browser Object Model (BOM) and JavaScript Cookies. 2.2 Perform Form Validation. 2.3 Create Dynamic Web pages. 2.4 Understand PHP programming basics. 2.5 Work with PHP and HTML Forms.
3. Have an informed understanding of server-side technologies and database driven websites.	3.1 Understand Relational Database Models. 3.2 Be able to work with phpMyAdmin and MySQL Database System. 3.3 Understand and be able to work with Structured Query Language (SQL) and Command-Line Interface of MySQL. 3.4 Importing and Exporting Tables and Databases on MySQL Database.
4. Understand and apply skills to create web pages using (X)HTML, CSS, JavaScript, PHP and MySQL.	4.1 Create web pages with Hypertext Markup Language, eXtensible Hypertext Language and HTML 5 4.2 Validate HTML documents 4.3 Create and Work with HTML forms. 4.4 Understand CSS Basics and CSS Box Model. 4.5 Validate CSS. 4.6 Perform Client-Side Programming and Data Validation. 4.7 Manage Client Side Content Behaviour. 4.8 Connect to MySQL Database with PHP Scripts and Issue Queries with PHP Scripts. 4.9 Understand PHP Sessions. 4.10 Understand PHP file handling
5. Understand the e-commerce business models and concepts	5.1 Define e-commerce.

	5.2 Identify and describe the unique features of e-commerce technology. 5.3 Describe the major types of e-commerce. 5.4 Identify the key components of e-commerce business models. 5.5 Describe the major B2C business models. 5.6 Explain the key business concepts and strategies applicable to e-commerce.
6. Building an e-commerce presence	6.1 Identify and explain the questions you must ask and answer, and steps you should take, in developing an e-commerce presence. 6.2 Explain the process that should be followed in building an e-commerce Website. 6.3 Describe the major issues surrounding the decision to outsource site development and/or hosting. 6.4 Explain the important considerations involved in developing a mobile Web site and building mobile applications. 6.5 Identify and explain the major considerations involved in choosing software and hardware for an e-commerce site. 6.6 Identify additional tools that can improve Web site performance.
7. Understand e-commerce security and payment systems	7.1 Understand the scope of e-commerce crime and security problems. 7.2 Describe the key dimensions of e-commerce security. 7.3 Identify the key security threats in the e-commerce environment. 7.4 Describe how technology helps protect the security of messages sent over the internet.

	7.5 Identify the tools used to establish secure internet communications channels and protect networks, servers and clients. 7.6 Identify the major e-commerce payment systems in use today.
8. Understand e-commerce marketing and advertising concepts	8.1 Identify the key features of the Internet audience. 8.2 Discuss the basic concepts of consumer behaviour and purchasing decisions. 8.3 Explain how consumers behave online. 8.4 Identify and describe basic digital commerce marketing and advertising strategies and tools. 8.5 Explain the costs and benefits of online marketing communications.
9. Understand the ethical, social, and political issues in e-commerce	9.1 Explain why e-commerce raises ethical, social, and political issues. 9.2 Identify the main ethical, social, and political issues raised by e-commerce. 9.3 Explain basic concepts related to privacy. 9.4 Identify the practices of e-commerce companies that threaten privacy. 9.5 Describe the different methods used to protect online privacy. 9.6 Explain the various forms of intellectual property and the challenges involved in protecting it. 9.7 Explain how the governance of the Internet has evolved over time. 9.8 Explain why taxation of e-commerce raises governance and jurisdiction issues. 9.9 Identify major public safety and welfare issues raised by e-commerce.

Prescribed resources

Textbook/e-book

Welling, L and Thomson, L. 2017. *PHP and MySQL Web Development.* [Publication place] : Addison-Wesley Professional.
ISBN: 9780321833891

Laudon, K and Travor, C. 2014. *E-Commerce Essentials.* [Publication place] : Pearson.
ISBN: 9780133544985

The following resources will be made available on *my*LMS:
Project specification
Assignment specification
Module guide

Students are expected to check *my*LMS regularly.

Recommended resources

Take note, that Information Technology is a fast-developing discipline and textbooks are frequently updated; students should, therefore, use the latest editions, where available. Recommended resources should be used for reference purposes when conducting research for assignments. There is a range of general resources related to this module, including the following:

Textbook(s) or e-book(s)

Afuah, A. & Tucci, C.L. 2000. Internet business models and strategies. 2nd edition. Pretoria: University of Pretoria.

Andersson, E.A.; Greenspun, P. & Grumet, A. 2006. Software engineering for internet applications. Cambridge: MIT Press.

Campbell, B. & Darnell, R. 1997. Teach yourself dynamic HTML in a week. Indianapolis: SAMS.
Chaffey, D. 2002. E-business and e-commerce management: strategy implementation and practice. 3rd edition. England: Pearson Education.

Deitel, H.M.; Deitel, P.J. & Nieto, T.R. 2001. E-business and e-commerce: how to program. New Jersey: Prentice Hall.

Laudon, K.C. & Traver, C.G. 2013. E-commerce 2014. New York: Prentice Hall.

Turban, E.; King, D.R. & Lang, J. 2009. Introduction to e-commerce. New Jersey: Prentice Hall.

Ullman, L. 2014. PHP and MySQL for dynamic websites: Visual QuickPro Guide. Berkeley: Peachpit Press.

Website(s)

Web pages provide access to a further range of Internet information sources.
Lecturers may download the web-related material for students to access offline.
Students must use this resource with care, justifying the use of information gathered.

http://www.w3schools.com/html/

Supporting documents

Dietrichsen, P. & Bester, R. 2017. *Academic Skills.* Johannesburg: CTI Education Group.

Geyer, L, Makati, P, Potter, M, Levin, A, Pierce, R & Wheeler, A. 2017. *PIHE Guide to Referencing*. Unpublished document. Pearson Institute of Higher Education.

Essential requirements

- Access to a resource centre or a library with a wide range of relevant resources, including textbooks and e-books, newspaper articles, journal articles, organisational publications, databases, etc.
- Access to a range of academic journals in electronic format via PROQUEST or other databases

ICT requirements

ICT required	Reason	Lecture week(s)
Computer access with XAMPP, Notepad/Notepad++, Web browser	Lab work	1 - 12
Computer access with XAMPP, Notepad/Notepad++,	Research in class time	1 - 12
Web browser	Assignment in class time	1 - 12
Computer access with XAMPP, Notepad/Notepad++,	Parallel Projects	1 - 12

All lab work must be completed on desktop computers.

Assessment

Formative Assessments

Continual formative assessment is conducted so that students are given feedback on their progress in the achievement of specific learning outcomes. The formative assessment tasks occur every fortnight and can be in the form of one of the following:

- A 5-item multiple choice test
- A short questions test
- Construction of concept maps
- Take home tests with long questions.
- Short practical tasks
- Short class presentations.

For each of these activities, students will be supplied with the model answers and they will be required to mark their own work or the work of someone else in the class. The marks for these activities will be recorded by the lecturer for feedback purposes. The purpose of formative assessment is to improve the learning of individual students and to improve the lecturing.

Summative Assessments

Summative assessment is concerned with the judgement of the learning in relation to the exit-level outcomes of the qualification. Such judgement includes integrated assessment(s) which test the students' ability to integrate the larger body of Internet Programming and E-commerce knowledge, skills and attitudes that are represented by the exit-level outcomes as a whole.

Assessment details

Tests

There will be one test in the first semester which will be both practical and theory and contributes **10%** towards your final mark. There will also be lecturer based tests (Continuous assessments) which will contribute **10%** towards your final mark.

If a class test is missed because of illness, a doctor's note must be presented within 48 hours of the missed test to the Academic Manager/Administrator/Coordinator.

If you miss a scheduled semester test for whatever reason, you will be missing one assessment for your DP. To make up for this missing assessment, you may be able to write a deferred test. In order to gain entry to this test, however, you will have to follow various procedures and meet certain criteria. You must complete a *Deferred Test Application Form* available on *my*LMS. You will be required to pay a non-refundable fee per application, and each test missed requires a separate application. The deferred test covers the syllabus covered to date and is written at the end of the semester. This will be your one and only opportunity to make up for a missed test, therefore think carefully before missing a test.

Assignments

There is only one assignment for this module. This assignment will be completed individually and will be based on applying your theory and practical topics covered in class. In order for students to achieve a 50% (pass) on the assignment, they should spend approximately 10 – 15 hours working on the whole assignment. This assignment will count **30%** towards the final mark. Assignments must be submitted on or before the due date to the lecturer in class or as per arrangement. Five percent (5%) will be deducted for every day that the assignment is late. Assignments that are more than a week late will be awarded a zero and students may still retain their due performance (DP). Late submissions must be accompanied by a medical certificate.

Details of assessments

Methods of assessment	Weighting[1]	Dates
Assignment	10%	Due date: 30/04/2018 – 04/05/2018
		Defined submission date will be stipulated by the module lecturer.
		Scope of coverage: Weeks 1 – 9
Project	30%	Due date: 26/02/2018 – 02/03/2018 **Deliverable 1 (30%)** **Project Proposal** Due date: 06/08/2018 – 10/08/2018 **Deliverable 2 (40%)** **Documentation + Complete Project** Due date: 10/09/2018 – 14/09/2018 **Deliverable 3 (30%)** **Presentation + User Manual**
		Defined submission date will be stipulated by the module lecturer.
		Project resubmission: 15/10/2018 – 19/10/2018
		Scope of coverage: Weeks 1 – 12
Semester test	10%	Scheduled week: 03/04/2018 – 06/04/2018
		Scope of coverage: Weeks 1 – 7
Deferred test	10%	Scheduled week: 23/04/2018 – 30/04/2018
		Scope of coverage: Weeks 1 – 7
Continuous assessment	10%	Scheduled week: 23/04/2018 – 30/04/2018 Scope of coverage: Weeks 1 – 7
		Scheduled week: 24/09/2018 – 28/09/2018 Scope of coverage: Weeks 1 – 11
Marks captured		14/05/2018
Initial examination	50%	12/11/2018 – 16/11/2018
Supplementary examination	50%	January 2019

[1] Refer to the **Conditions of Enrolment**, available on *my*LMS.

Due Performance (DP)

Students are required to meet a DP minimum in order to qualify to write their examinations. The DP requirement for all modules is a minimum mark of 40% for their coursework, which includes assignments and tests.

This means that a student will only be allowed to attempt an examination if the final coursework average is 40% or higher. If the student does not meet the DP requirement, he/she will not be allowed to attempt the examination and will have to repeat the module.

The DP requirement is calculated as follows:

[(Continuous assessment mark x 0.10) + (Semester test mark x 0.10) + (Assignment mark x 0.10) + (Project x 0.3)] x 0.6

In order to pass the module, a sub-minimum mark of 40% or higher is required for the examination and a final average of 50% or higher is required for the entire module.

Duration of Qualification

Full-time students registering for:

- A three (3) year undergraduate degree programme, have a maximum of five years within which to complete the qualification. Failure to do so will result in exclusion from the programme.

Students have a maximum of three opportunities to pass this module.

Putting together a portfolio of evidence

Students must demonstrate, through the presentation of evidence, that they have met all module requirements within the qualification being undertaken. To do this, they must organise their evidence into what is known as a ‘portfolio’.

A portfolio will take time and effort to complete; it is also a means of focusing and demonstrating student strengths and achievements to others. A portfolio is thus an important resource that many students may find useful to retain once they have achieved their qualification, particularly when applying for future positions.

Students are encouraged to read more about building their portfolio and to begin populating their evidence to illustrate their full skill-set to future employers.

Consultations

Consultation times will be pinned onto the lecturer's office door/notice board. Students need to give lecturers 24 hours' notice for appointments.

Module content – Semester 1

Students are required to attend all classes; in addition, exercises and activities, which are supplied by lecturers, are compulsory.

Continuous assessments may run throughout the semester.

Lecture weeks	Topics and assessment criteria covered	Textbook references
1 05/02/2018 – 09/02/2018	• Structure of the project proposal (Lecturer's discretion) • Internet and the World Wide Web (WWW) AC: 1.1, 1.2, 1.3	• Unit 1 • Page 11 - 28
2 12/02/2018 – 16/02/2018	• Hypertext Markup Language (HTML) Basics AC: 4.1, 4.2	• Unit 2 • Page 29 - 65
3 19/02/2018 – 23/02/2018	• Hypertext Markup Language (HTML) Basics AC: 4.1, 4.2	• Unit 2 • Page 29 - 65
4 26/02/2018 – 02/03/2018	• HTML Forms AC: 4.3	• Unit 3 • Page 69 - 80
5 05/03/2018 – 09/03/2018	• Migration from HTML 4 to XHTML and HTML 5 AC: 4.1	• Unit 4 • Page 81 - 89
6 12/03/2018 – 16/03/2018	• Cascading Style Sheets (CSS) for Content Presentation. AC: 4.4, 4.5, 4.7	• Unit 5 • Page 93 - 116
7 19/03/2018 – 23/03/2018	• JavaScript for Client-Side Programming AC: 2.1, 2.3, 4.6, 4.7	• Unit 6 • Page 119 - 152
Semester test 26/03/2018 – 06/04/2018	**No lectures**	

Semester break 09/04/2018 – 13/04/2018	**No lectures**	
8 16/04/2018 – 20/04/2018	• JavaScript for Client-Side Programming • Browser Object Model (BOM) and Document Object Model (DOM) AC: 2.1, 2.3, 4.6, 4.7	• Unit 6, 7 • Page 119 - 163
9 **Sick test** 23/04/2018 – 26/04/2018	• JavaScript and HTML Forms • JavaScript and Cookies AC: 2.1, 2.3, 4.6, .7	• Unit 8, 9 • Page 169 - 190
10 **Sick test** 30/04/2018 – 04/05/2018	• PHP for Server-Side Processing AC: 2.3, 3.1	• Unit 10 • Page 195 - 228
11 07/05/2018 – 11/05/2018	• PHP for Server-Side Processing AC: 2.3, 3.1	• Unit 10 • Page 195 - 228
12 14/05/2018 – 18/05/2018	• PHP and HTML Forms AC: 2.3, 2.5, 3.1 4.9, 4.10	• Unit 11 • Page 234 - 256

Module content – Semester 2

Students are required to attend all classes; in addition, exercises and activities, which are supplied by lecturers, are compulsory.

Continuous assessments may run throughout the semester.

Lecture weeks	Topics and assessment criteria covered	Textbook references
1 23/07/2018 – 27/07/2018	• MySQL for Server-Side Data Storage AC: 3.1, 3.2, 3.3, 3.4	• Unit 11, 1, 2 • Page 14 - 28
2 30/07/2018 – 03/08/2018	• MySQL for Server-Side Data Storage AC: 3.1, 3.2, 3.3, 3.4	• Unit 11, 1, 2 • Page 14 - 28
3 06/08/2018 – 10/08/2018	• PHP and MySQL for Client-Server Database Interaction AC: 2.5, 4.8	• Unit 11, 1, 2 • Page 34 - 52
4 13/08/2018 – 17/08/2018	• PHP and MySQL for Client-Server Database Interaction AC: 2.5, 4.8	• Unit 11, 1, 2 • Page 34 - 52
5 20/08/2018 – 24/08/2018	• Understand the E-Commerce Business Models and Concepts AC: 5.1, 5.2, 5.3, 5.4	• Unit 3 • Chapter 1 and 2 • Page 56 - 59
6 27/08/2018 – 31/08/2018	• Building an E-Commerce Presence AC: 6.1, 6.2, 6.3, 6.4, 6.5, 6.6	• Unit 4 • Chapter 4 • Page 62 - 65
7 03/09/2018 – 07/09/2018	• Understand E-Commerce Security and Payment Systems AC: 7.1, 7.2, 7.3, 7.4, 7.5, 7.6	• Unit 5 • Chapter 5 • Page 68 - 71
Semester test 10/09/2018 – 14/09/2018	**No lectures**	

Semester break 17/09/2018 – 21/09/2018	**No lectures**	
8 24/09/2018 – 28/09/2018	• Understand E-Commerce Security and Payment Systems AC: 7.1, 7.2, 7.3, 7.4, 7.5, 7.6	• Unit 5 • Chapter 5 • Page 68 - 71
9 **Sick test** 01/10/2018 – 05/10/2018	• Understand E-commerce Marketing and Advertising Concepts AC: 8.1, 8.2, 8.3, 8.4, 8.5	• Unit 6 • Chapter 6 • Page 74 - 77
10 **Sick test** 08/10/2018 – 12/10/2018	• Understand E-commerce Marketing and Advertising Concepts AC: 8.1, 8.2, 8.3, 8.4, 8.5	• Unit 6 • Chapter 6 • Page 74 - 77
11 15/10/2018 – 19/10/2018	• Understand the Ethical, Social, and Political Issues in E-commerce AC: 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9	• Unit 7 • Chapter 7 • Page 80 - 84
12 22/10/2018 – 26/10/2018	• Understand the Ethical, Social, and Political Issues in E-commerce AC: 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8, 9.9	• Unit 7 • Chapter 7 • Page 80 – 84