



MODULE SPECIFICATION

Part 1: Information			
Module Title	Web Application Development Tools [TSI]		
Module Code	UFCFNX-6-3	Level	Level 6
For implementation from	2023-24		
UWE Credit Rating	6	ECTS Credit Rating	3
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module Type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co-requisites	None		
Module Entry Requirements	None		
PSRB Requirements	None		

Part 2: Description
<p>Educational Aims: The aim of this module is to teach students to create 3-tier architecture-based web applications. Discuss complex web application design and implementation principles.</p> <p>Outline Syllabus: Course overview: Java & JVM; JSP & Servlets, simple web application using standard Java libraries. Version control systems; Presentation layer. Java Servlet, JSP, JSF technologies. Wicket framework; Enterprise web application architecture. Domain-driven design; Use of PHP programming language; Data access and persistence; Clean code, unit and functional testing automation; Web application security; Browser-based application technologies; Challenges of high load web applications</p> <p>Teaching and Learning Methods: Learning and teaching will be provided to students in two forms: lectures and labs. During lectures, theoretical aspects of the course will be provided to students by the teaching staff. Lectures will be supported by presentation published and available</p>

STUDENT AND ACADEMIC SERVICES

to the students on e.tsi.lv under the module section. Also, additional materials, like code examples, text books, publications on the internet, videos etc will be presented in e.tsi.lv. During labs, each student receives an individual task to perform. PHP and JAVA are considered as high-level programming languages used in the module. In addition to learning activities during taught sessions, students are expected to spend time outside of class on independent learning activities.

Part 3: Assessment

This module assessment is split into two components (A – Exam, B – Labs):

A1 - final examination which will assess the students understanding of taught material that forms part of the learning outcomes but cannot easily be assessed through practical tasks.

B1 – A series of labs exploring basic principles of web application development using PHP and JAVA programming languages and HTML. An application and its source code should be provided to the teaching staff in form of the report

B2 - Two tests with theoretical questions provided in TSI LMS

First Sit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	50 %	Written Examination
Portfolio - Component B		45 %	A series of labs, exploring basic principles of exploring basic principles of web application development using PHP and JAVA programming languages.
In-class test - Component B		5 %	Two tests with theoretical questions
Resit Components	Final Assessment	Element weighting	Description
Examination - Component A		50 %	Examination
Portfolio - Component B		45 %	A series of labs, exploring basic principles of exploring basic principles of web application development using PHP and JAVA programming languages.
In-class test - Component B		5 %	Two tests with theoretical questions

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:	
	Module Learning Outcomes	Reference
	Know constraints that the web puts on developers, complex web application design patterns; data fragmentation, replication and weak consistency models; concept of web sessions, secure communication channels, authentication and authorisation	MO1
	Use web application test automation tools	MO2
	Know and use common types of vulnerabilities and attacks in web applications and defenses against them	MO3

STUDENT AND ACADEMIC SERVICES

	Apply web application design and implementation using applicable design paradigm and patterns; database transaction execution by embedding SQL into an application program	MO4
	Compare and contrast web programming with general purpose programming	MO5
	Review and select an existing web application against best architecture and security practices	MO6
	Identify the relative strengths and weaknesses among multiple possible designs for a web application	MO7
Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	48
	Total Independent Study Hours:	48
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	32
	Total Scheduled Learning and Teaching Hours:	32
	Hours to be allocated	60
	Allocated Hours	80
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://rl.talis.com/3/uwe/lists/10DD178F-4C6E-2C0F-0334-98A209ADF1E4.html?lang=en-gb&login=1</p>	

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Computer Science and Software Development {Double Degree} [Oct][FT][TSI][4yrs] BSc (Hons) 2020-21

Computer Science and Software Development {Double Degree} [Feb][FT][TSI][4yrs] BSc (Hons) 2020-21