MODULE SPECIFICATION

Part 1: Information			
Module Title	Application Development with Java [TSI]		
Module Code	UFCFYW-6-1	Level	Level 4
For implementation from	2021-22		
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

Educational Aims: The aim of this module is to acquaint with Java programming language, with Java enterprise-application building framework such as Spring, skills and practical use of building distributed applications based on microservice architecture.

Outline Syllabus: Introduction to Java Programming Language;
Java syntax;
Object-Oriented Programming in Java;
Memory management in Java;
Java Generics;
Basic I/O operations;
JDBC Database Access;
MVC design pattern;
Dependency injection with Spring Framework;
Evolution of distributed applications;
Microservice architecture;
12 Factor App principles;

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 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.

Part 3: Assessment

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

A1 - final 2-hour 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. This component represents 40% of final module mark.

The practical assignment component should be completed individually (i.e. this is not group work) and represents 40% of the final module mark. The practical assignment has two elements, as follows.

B1 – series of labs exploring principles of application development using JAVA programming language.

B2 – series of tests in TSI LMS

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Examination - Component A	✓	40 %	Examination
Portfolio - Component B		36 %	series of labs, exploring basic principles of application development using JAVA programming language and Spring Tools Suite. An application and its source code should be provided to the teaching staff.
In-class test - Component B		24 %	Series of in-class tests with theoretical questions about Spring, Spring Tools Suite, distributed systems and micro service architecture
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Examination - Component A		40 %	Examination
Portfolio - Component B		36 %	series of labs, exploring basic principles of application development using JAVA programming language and Spring Tools Suite. An application and its source code should be provided to the teaching staff.
In-class test - Component B		24 %	Series of tests with theoretical questions about Spring, Spring Tools Suite, distributed systems and micro service architecture

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 JAVA programming language syntax, dependency injection with Spring, evolution of distributed systems, microservice architecture concept, 12 factor application principles	MO1
Work with Spring Tools Suite	MO2
Apply MVC design pattern in practice, build distributed applications with microservice architecture	MO3

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

The reading list for this module can be accessed via the following link:

https://rl.talis.com/3/uwe/lists/EA6D4915-6284-FB76-6C08-63FA85E529BD.html?lang=en-gb&login=1

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

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

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