MODULE SPECIFICATION

Part 1: Information			
Module Title	Operating Systems [TSI]		
Module Code	UFCFXW-12-1	Level	Level 4
For implementation from	2021-22		
UWE Credit Rating	12	ECTS Credit Rating	6
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 goal of this course is to provide an introduction to the internal operation of modern operating systems. In particular, the course will cover processes and threads, mutual exclusion, CPU scheduling, deadlock, memory management, and file systems.

Outline Syllabus: Introduction to modern OS;
Processes and Threads;
Memory Management;
Input/Output;
File Systems;
Particularities of the UNIX based systems. Shell commands;
Particularities of the Microsoft Windows. Command prompts & PowerShell commands

Teaching and Learning Methods: Learning and teaching will be provided to students in two forms: lectures and practical classes. 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 publications on the internet, videos etc will be presented in e.tsi.lv.

During practical classes students are receiving practical training on different OS aspects in labs. These classes are not part of the assessment, but they provide a vivid output to the homework which should be completed by each student individually. A home task Is presented in form of report and code and by the end of the module should be delivered to the teaching staff using TSI LMS. It is up to student which OS will be selected for home task execution - Unix like or Windows. The main goal of home task is to develop practical skills on using shell (Unix like OS) or PowerShell (Windows) commands on preparing own system and user scripts.

In addition to learning activities during taught sessions, students are expected to spend time outside of class on independent learning activities. These might include completing assignment tasks, independent reading, practising new skills on personal projects and watching informative videos, completing self-assessment test etc.

Part 3: Assessment

This module assessment is split into two components (A – Exam, B – Home taks):
A - final 3-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.

B – home task prepared during the module by each student individually. Home task is presented as report and programming code.

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Written Assignment - Component B		40 %	A report and a copy of any programming code.
Examination - Component A		60 %	Examination
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Written Assignment - Component B		40 %	home task presented as report and programming code.
Examination - Component A		60 %	Examination

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 and define key terms related to operating systems	MO1
Know and define key terms related to the Linux shell	MO2
Know basic concepts related to concurrency and control of concurrent programs	MO3
Understands the concepts of system calls and software interaction with the operating system	MO4
Have practical skills in working with the Unix/Windows operating system	MO5
Write and use moderately complex regular expressions	MO6
Write shell scripts in Linux and Windows to execute some tasks	MO7
Write and apply for tasks complex regular expressions	MO8
Consider resource management tools in operating systems	MO9

Contact Hours	**Independent Study Hours:**	
	Independent study/self-guided study	96
	Total Independent Study Hours:	96
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	68
	Total Scheduled Learning and Teaching Hours:	68
	Hours to be allocated	120
	Allocated Hours	164
Reading List	*The reading list for this module can be accessed via the following link:* https://rl.talis.com/3/uwe/lists/035A6784-DA70-D368-7583-13CC389C4F2C.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