

COURSE SPECIFICATION DOCUMENT

Academic School / Department: School of Liberal Arts

Programme: Computer Science

FHEQ Level: 4

Course Title: Systems Architecture

Course Code: DGT 4102

Student Engagement Hours: 120

Lectures: 30

Lab: 15

Independent / Guided Learning: 75

Credits: 12 UK CATS credits

6 ECTS credits

3 US credits

Course Description:

This course provides students with an understanding of key structures and mechanisms of operating systems: Linux, UNIX, Android and Windows for corporate, personal and mobile systems. The course focusses on both the design issues and fundamental principles.

Prerequisites:

None

Aims and Objectives:

By the end of this course, students will have an understanding of how operating systems are designed and the fundamental principles behind them. Students will explore operating systems including Linux, UNIX, Android and Windows systems with a view to understanding and programming for them.

Programme Outcomes:

COMPSC: A3, A4, A5, B2, C1 and C7

A detailed list of the programme outcomes are found in the Programme Specification.

This is located at the archive maintained by Registry and found at:

<https://www.richmond.ac.uk/programme-and-course-specifications/>

Learning Outcomes:

By the end of this course, successful students should be able to:

- Understand how the variety of computer systems in corporate, personal, and mobile settings impact on how operating systems are designed and built.
- Demonstrate how the various parts and aspects of an operating system work
- Analyse the constraints of any operating system within the context of developing new programmes.
- Plan programmes for the strengths and trade-offs of different operating systems and platforms

Indicative Content:

- Understanding computer systems
- Operating systems and their trade-offs
- Processes and control
- Memory Management
- Scheduling
- Input, output and files
- OS security
- Virtual machines
- Independent, less used OS eg. Ubuntu, Solaris

Assessment:

This course conforms to the University Assessment Norms approved at Academic Board and located at: <https://www.richmond.ac.uk/university-policies/>

Teaching Methodology:

- Lectures, practical demonstrations and step-by-step software tutorials, class workshops, one-to-one tutorials.

Indicative Text(s):

“Operating Systems: Internals and Design Principles” by William Stallings, Pearson, Global (9th) Edition, 2017

Journals/Additional Texts

McHoes, A. and Flynn, I., 2017. *Understanding Operating Systems*. 8th ed. Boston: Cengage.

Web Sites

See syllabus for complete reading list

Change Log for this CSD:

Nature of Change	Date Approved & Approval Body (School or AB)	Change Actioned by Registry Services
Course title change, per validation panel conditions.	19/05/2022SLA	19/05/2022
Revision – annual update	May 2023	