Course Title:	**Operating Systems**
Course Code:	**COMP604**
Descriptor Start Date:	**28/02/2025**
Descriptor End Date:	**31/12/2025**
POINTS:	**15.00**
LEVEL:	**6**
PREREQUISITE/S:	**COMP503 or COMP504 or ENSE602**
COREQUISITE/S:	**None**
RESTRICTION/S:	**None**

LEARNING HOURS

Hours may include lectures, tutorials, online forums, laboratories. Refer to your timetable and course information in Canvas for detailed information.

Total learning hours: 150

PRESCRIPTOR

A comprehensive coverage of modern computer systems and operating systems from a programming perspective. Develops an understanding of fundamental computer science concepts, algorithms and core operating system concepts.

LEARNING OUTCOMES

1. Analyse and discuss operating system concepts and components. (a,b)
2. Develop an understanding of operating system to optimize user application development. (a, b, c)
3. Design and perform programming at operating system level. (c,e)
4. Schematise mechanisms involved in compiling and linking high level languages into machine code. (a)
5. Use sample operating system services via a programming language interface. (c, e)
6. Use sample operating system services via a scripting language. (c, e)

CONTENT

Topics include:
- Operating System Structures
- Interacting with OS using scripts
- Virtual machines
- Interrupt, Exception and Trap Control Flow
- Process Management
- Memory Management
- I/O Systems Management
- Mass Storage Management
- File Systems Organisation

Key to Graduate Capabilities Profile
a. Engineering knowledge
b. Problem analysis
c. Design/development of solutions
d. Investigation
e. Tool usage
f. The engineer and the world
g. Ethics
h. Individual and collaborative team-work
i. Communication
j. Project management and finance
k. Lifelong learning

LEARNING & TEACHING STRATEGIES

May include:
- Readings, Exercises
- Online and recorded lectures
- Class discussion
- Laboratory sessions
- Online tutorial(s)

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Lab Assignment 1: Shell scripting, process and memory management	30.00	4, 5, 6
Lab Assignment 2: Process scheduling, locks and semaphores, file system and I/O management	30.00	4, 5, 6
Final Exam	40.00	1,2,3,4

Grade Map **MAP1**

A+ A A- Pass with Distinction
B+ B B- Pass with Merit
C+ C C- Pass
D Fail

Disclaimer: Course descriptors may be amended between teaching periods/semesters

Overall requirement/s to pass the course:

To pass this course, students must achieve a minimum overall grade of C-.

LEARNING RESOURCES

A recommended reading list will be provided.

For further information, contact: Te Ara Auaha - Faculty of Design & Creative Technologies

Principal Programme:	**AK3697, Bachelor of Computer and Information Sciences**
Related Programme/s:	**AK1271** **AK1301** **AK1302** **AK2040** **AK3001** **AK3698** **AK3751** **AK3756** **HA1042** **HA1043** **ICE1** **INEXCH1** **SABRD1**