Course Title:	**Highly Secure Systems**
Course Code:	**COMP716**
Descriptor Start Date:	**31/01/2025**
POINTS:	**15.00**
LEVEL:	**7**
PREREQUISITE/S:	**BCIS: COMP611** **BE(Hons): ENGE501 and COMP610**
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

Provides an in-depth understanding of LAN, WAN and Wireless security focusing on the functionality available and configuration of network and link layers.

LEARNING OUTCOMES

1. Explain and apply the mathematical concepts used in modern cryptographic systems (a,b,l)
2. Employ one from a range of security strategies (a,b,c,f)
3. Explain and analyse modern cryptographic algorithms (a,b,j)
4. Apply cryptographic tools for security of data and computer systems (c,e,h,i)
5. Analyse security of computer and information systems (b,d,e)
6. Apply asymmetric key cryptography (c,e,h,l)

CONTENT

The course covers the following topics:
- Number theory for cryptography
- Symmetric and asymmetric key algorithms
- Protection for integrity
- Authentication mechanism and protocols
- Public key infrastructure and protocols
- Network and computer security

Key to Graduate Capabilities Profile (applicable for BEHON graduate use only):
a. Engineering knowledge
b. Problem analysis
c. Design/development of solutions
d. Investigation
e. Modern tool usage
f. The engineer and society
g. Environment and sustainability
h. Ethics
i. Individual and team work
j. Communication
k. Project management and finance
l. Lifelong learning

LEARNING & TEACHING STRATEGIES

Will include lectures, laboratory sessions and class discussion.

ASSESSMENT PLAN

Assessment Event	Weighting %	Learning Outcomes
Assignment	30.00	1-6
Mid semester Assessment	20.00	1-5
Final Assessment	50.00	1-6

Grade Map **MAP1**

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

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:	**AK3751** **AK3698** **AK1041** **AK3001** **AK3003** **AK3756** **AK3706** **DJ1041**

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