



# UOWD

University of Wollongong in Dubai

## Bachelor of Computer Science in Digital Systems Security

Digital Information systems security is considered nowadays the first line of defence for government, individuals and businesses against all kind of dangers. The goals of the Bachelor of Computer Science in Digital Security Systems program are to:

- Create proficient information security professionals capable of protecting information assets from all types of threats associated with the modern usage of information.
- Provide students with practical knowledge and skills necessary to understand analyse and design information security solutions for the protection of the information assets of an organization.
- Equip students with knowledge and expertise to assess and mitigate security risks, related to threats and vulnerabilities of assets, in today's business information systems.

### Program Objectives

- Create proficient information security professionals capable of protecting information assets from all types of threats associated with the modern usage of information.
- Provide students with practical knowledge and skills necessary to understand analyse and design information security solutions for the protection of the information assets of an organization.
- Equip students with knowledge and expertise to assess and mitigate security risks, related to threats and vulnerabilities of assets, in today's business information systems.
- Develop a strong understanding of the core fundamentals of digital security and their applicability.
- Develop the skill to assess digital security problems and vulnerabilities in software, computers and networks and select appropriate security measures.
- Develop the ability to apply concepts, models and methods of information security management and analyse and manage security risks in organizations.

### Program Outcomes

The curriculum is structured to incorporate some key components which are critical for the careers of a computer security professional; it builds upon strong core knowledge of computer science. Upon successful completion of the program, students should be able to:

- Demonstrate a strong understanding of the core fundamentals of digital security and their applicability.
- Assess digital security problems and vulnerabilities in software, computers and networks and select appropriate security measures.
- Apply concepts, models and methods of information security management.
- Analyse and manage security risks in organizations.

### Program Requirements

Students who enrol in Bachelor of Computer Science in Digital Systems Security are required to complete thirty three (33) subjects or at least 204 credit points (cp) by satisfactory completion of:

1. No more than 60 cp will count towards General Education (GED).
2. In addition, at least 144 cp chosen from the approved academic degree planner
3. At least 36 cp CSCI at 300-level chosen from the approved subject list in the degree planner including CSCI321.
4. At least 24 cp of CSCI 300-level subjects, including CSCI321, must be at 'Pass' grade or better.
5. No more than a total of 24 credit points of subjects at 100 level or higher (i.e. 200 level and 300 level) should be at 'PC' grade.

## Degree Planner for Bachelor of Computer Science (Digital Systems Security)

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 1 Semester 1 Autumn	ARTS015	6	Introduction to University Life	NA	General Education
	ARTS017	6	Islamic Culture	NA	General Education
	MATH015	6	Foundation Mathematics A	NA	General Education
	CSCI015	6	Computer Applications	NA	General Education
	STAT015	6	Introduction to Statistics	NA	General Education

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 1 Semester 2 Spring	CSCI114	6	Procedural Programming	CSCI015	BCS Core
	CSCI103	6	Algorithms and Problem Solving	CSCI015	BCS Core
	ARTS035 or MATH020	6	Introduction to Philosophy Foundation Mathematics B	ARTS015 MATH015	General Education
	PSYC 015	6	Introduction to Psychology	ARTS015	General Education
	ENVI030	6	Environmental Science	ARTS015	General Education

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 2 Semester 1 Autumn	CSCI124	6	Applied Programming	CSCI103 & CSCI114	BCS Core
	CSCI102/ISIT102	6	Systems	CSCI015	BCS Core
	MATH121	6	Discrete Mathematics	MATH015	BCS Core
	LAW 101	6	Law, Business and Society		General Education

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 2 Semester 2 Spring	IACT201	6	Information Technology and Citizens Rights	24 credit points at 100 level	General Education
	CSCI131	6	Introduction to Computer Systems	CSCI103 & CSCI114	BCS Core
	CSCI235	6	Databases	CSCI124	BCS Core
	STAT131	6	Understanding Variation and Uncertainty	STAT015	BCS Core

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 3 Semester 1 Autumn	CSCI204	6	Object Programming & Frameworks	CSCI124	BSC Core
	CSCI214/CSCI319	6	Distributed Systems	CSCI124	DSS Major
	CSCI212	6	Interacting Systems	CSCI124	DSS Major
	CSCI262	6	System Security	CSCI124	DSS Major

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 3 Semester 2 Spring	CSCI203	6	Algorithms & Data Structures	CSCI124	BCS Core
	CSCI361	6	Computer Security	CSCI204 & 6CP of 200 Level Subjects	DSS Major
	IACT301	6	Information & Communication Security Issues	IACT201	DSS Major
	CSCI222	6	Systems Development	CSCI204	BCS Core

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 4 Semester 1 Autumn	CSCI321*	12	Project (2 Semesters – 1 <sup>st</sup> Semester)	CSCI222 & CSCI204 & 12CP of 200 level subjects	BCS Core
	CSCI371	6	Special Topics in Computer Security	CSCI214 & CSCI262 & CSCI361	DSS Major
	Elective	6	(See options below)		Elective
	Elective	6	(See options below)		Elective

YEAR/ Semester	Subject Code	CP	Subject	Pre-Requisite	Requirement
Year 4 Semester 2 Spring	CSCI321*	12	Project (2 <sup>nd</sup> Semester)	CSCI222 & CSCI204 & 12CP of 200 level subjects	BCS Core
	CSCI368	6	Network Security	CSCI361	DSS Major
	CSCI399	6	Server Technology	CSCI124	DSS Major
	Elective	6	(See options below)		Elective

**ELECTIVES – (choose any 3)**

Code	Title	CP	Pre-requisites
ECTE 182	Internet Technology 1	6	NA
BUSS312	Business Data Communications	6	6 CP of 200 level CSCI subjects
CSCI205	Development Methods & Tools	6	CSCI124
CSCI213	Java Programming & Object Oriented Design	6	CSCI124
CSCI315	Database Design and Implementation	6	CSCI235
CSCI325	Software Engineering Formal Methods	6	CSCI204
IACT303	World Wide Networking	6	CSCI102
CSCIXXX	Internship	6	24cp @200 Level in CSCI subjects

\*\*If Internship is taken as one of the Electives it must be completed during the Summer Session at either the end of the 3<sup>rd</sup> Year or at the end of the 4<sup>th</sup> Year of studies provided the pre-requisites have also been successfully completed