

Diploma of Information Technology - Course Guide

Information Technology Stream - ITEC

Fast Track (Completing In 8 months/2 trimesters)					
YEAR 1 (DIPLOMA)	COMPULSORY ONLINE SUBJECT (must be completed in the first trimester) LTM1AIM - Academic Integrity Module				
	Trimester 1	TCSE1IIT (Core)	TCSE1PE (Core)	SSTA1DCT (Core)	ELECTIVE
		Inside Information Technology	Programming Environment	Data Based Critical Thinking	
	Trimester 2	TCSE1ICB (Core)	TCSE2NEF (Core)	ELECTIVE	ELECTIVE
		Introduction to Cybersecurity	Network Engineering Fundamentals		

Normal Track (Completing course in 12 months/ 3 Trimesters)					
YEAR 1 (DIPLOMA)	COMPULSORY ONLINE SUBJECT (must be completed in the first trimester) LTM1AIM - Academic Integrity Module				
	Trimester 1	TCSE1IIT (Core)	TCSE1PE (Core)	SSTA1DCT (Core)	
		Inside Information Technology	Programming Environment	Data Based Critical Thinking	
	Trimester 2	TCSE1ICB (Core)	TCSE2NEF (Core)	ELECTIVE	
		Introduction to Cybersecurity	Network Engineering Fundamentals		
	Trimester 3	ELECTIVE	ELECTIVE		

Elective is a subject from any other diploma course, for example:

BBUS1001 – Data Analytics Concepts	EEMS1CAD - Computer Aided Design
BBUS1IEI - Investigating Economic Issues	ECSE1CES - Programming for Engineers and Scientists
BMGT1OBE - Working with Others	TCSE1ACF - Cyber Algorithms
BMKT1MSD - Marketing: Stand and Deliver	TCSE1IS- Introduction to Cybersecurity

After completing diploma students gain entry into second year of:

- Bachelor of Information Technology, WAM 50

Weighted Average Mark (WAM) is calculated from all attempts at passing a subject, including fails.

Cybersecurity Stream - ICYB

		Fast Track (Completing In 8 months/2 trimesters)			
		COMPULSORY ONLINE SUBJECT (must be completed in the first trimester) LTM1AIM - Academic Integrity Module			
YEAR 1 (DIPLOMA)	Trimester 1	TCSE1IIT (Core)	TCSE1PE (Core)	SSTA1DCT (Core)	ELECTIVE
		Inside Information Technology	Programming Environment	Data Based Critical Thinking	
	Trimester 2	TCSE1ICB (Core)	TCSE2NEF (Core)	ELECTIVE	ELECTIVE
		Introduction to Cybersecurity	Network Engineering Fundamentals		

		Normal Track (Completing course in 12 months/ 3 Trimesters)		
		COMPULSORY ONLINE SUBJECT (must be completed in the first trimester) LTM1AIM - Academic Integrity Module		
YEAR 1 (DIPLOMA)	Trimester 1	TCSE1IIT (Core)	TCSE1PE (Core)	SSTA1DCT (Core)
		Inside Information Technology	Programming Environment	Data Based Critical Thinking
	Trimester 2	TCSE1ICB (Core)	TCSE2NEF (Core)	ELECTIVE
		Introduction to Cybersecurity	Network Engineering Fundamentals	
	Trimester 3	ELECTIVE	ELECTIVE	

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BBUS1001 – Data Analytics Concepts	EEMS1CAD - Computer Aided Design
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BMGT1OBE - Working with Others	TCSE1ACF - Cyber Algorithms
BMKT1MSD - Marketing: Stand and Deliver	TCSE1IS- Introduction to Cybersecurity

After completing diploma students gain entry into second year of:

- Bachelor of Cybersecurity, WAM 60

Weighted Average Mark (WAM) is calculated from all attempts at passing a subject, including fails.

Subject Descriptions

LTM1AIM Academic Integrity Module

(online, zero credit point unit, all students must complete this unit in their first trimester)

This subject introduces students to the principals of academic integrity in the context of La Trobe University's values and policy. Students learn what their responsibilities are in relation to maintaining ethical standards in all aspects of academic work and the potential ramifications for academic misconduct according to the Academic Integrity Policy. Activities and quizzes are provided, which are designed to develop and understanding of the concepts of cheating, plagiarism and collusion. Topics include an explaining of how the text-matching tool 'Turnitin' is used at La Trobe, and where to get help and where to go to develop referencing skills.

Assessment: Final Quiz (must achieve 8/10 to pass), Statement of Student responsibility (must achieve 10/10 to pass)

TCSE1IS Information Systems

This subject provides an introduction to Information Systems Analysis and Design. Topics include analysing the business case, requirements modelling, data and process modelling, and development strategies, with an increased focus on object modelling and project management. Student also learn about output and user interface design, data design, system architecture and implementation, and systems operations, support and security.

Assessment: Class tests (40%), DB evaluation (10%), Final written exam (50%)

TCSE1IIT Inside Information Technology

In this subject, students will be provided with a general and practical introduction to information technology for students in a range of disciplines. This subject will guide students to implement the IT skills to their field of study. It covers: fundamental principles of computer operation, the main hardware components of the computer, data storage and retrieval, introduction to system software, introduction to data communications, computer networks, the Internet; operating systems, file management systems, security, introduction to information systems; application software modules: spreadsheets, database packages, the World Wide Web.

Assessment: Class tests (40%), Final written exam (60%)

TCSE1PE Programming Environment

This subject introduces students to analysing, designing, constructing and documenting solutions to programming problems. The students are also introduced to commonly used operating systems and tools used in program development in the Java programming language.

Assessment: Quizzes (5%), Progress and programming tests (20%), Programming assignment (5%), Final written exam (70%)

TCSE2NEF Network Engineering Fundamentals

In this subject we introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. We also look at OSI and TCP/IP layer models to examine the

nature and roles of protocols and services at the application, network, data link, and physical layers. The fundamentals of IP addressing and basic concepts of Ethernet will also be studied.

Assessment: Class tests (30%), Final lab test (20%), Final written exam (50%)

SSTA1DCT Data Based Critical Thinking

This subject helps the student evaluate data-based evidence encountered in everyday life. It provides the fundamental numeracy skills required by business people, lawyers, nurses, journalists, social scientists, teachers and other professionals who need to evaluate data-based arguments, whether found in newspapers, television or on-line websites. This is achieved by a combination of studying newsworthy topics introduced in lectures, computer laboratory classes which encourage engagement with others and on-line quizzes that assess numeracy skills. The four themes covered in this subject are gathering useful data, turning data into information, probability and from data to decision making. These themes are designed for students who do not have any background in mathematics, statistics or probability.

Assessment: Class tests (30%), Final lab test (20%), Final written exam (50%)

TCSE1ICB Introduction to Cybersecurity

In the modern Internet era, industries and organizations need to be prepared to defend against cyber threats and attacks. Stakeholders should be familiar with basic principles and best practices of cybersecurity to protect their businesses and personal information. In this subject, these principles and strategies for future cyber security are explored. Key topics include information security, ethical and legal practices, mitigating cyber vulnerabilities, and the process of incident response and analysis. The subject introduces the broad discipline of cybersecurity and outlines how to ensure the privacy, reliability, confidentiality and integrity of information systems and mitigate against cyber threats and risks.

Assessment: Test (20%), Quiz (10%), Assignment (20%), Final written exam (50%)

TCSE1ACF Cyber Algorithms That Changed the Future

This subject introduces core algorithms in cybersecurity that support confidentiality, integrity and availability in information systems. Students will be exposed to the conception, design and implementation processes for new algorithms as they relate to cybersecurity. Real-world case studies from intelligence analysis, fraud, databases, networks and firewalls will be used to illustrate how algorithms can be applied to solve problems. This subject does not require prior knowledge of computer programming.

Assessment: Test (20%), Quiz (10%), Assignment (20%), Final written exam (50%)

Subject descriptions for elective subjects can be found in their diploma study plan guides.