

Diploma of Cybersecurity - Course Outline

Course Overview

Diploma of Cybersecurity provides an introduction to information security, ethical and legal issues and process of incident response and analysis of cyber vulnerabilities.

Course Structure and Rules

Students have to complete eight diploma subjects to gain an entry into the second year of a bachelor's degree.

For a guaranteed entry into a degree diploma has to be completed in a maximum of three trimesters.

For students who have taken longer than three trimesters to complete a degree entry may be granted at discretion of La Trobe University.

Total of 120 credit points are required to complete diploma, each diploma subject equals to 15 credit points.

A student can enrol in the maximum of 60 credit points per trimester, that is no more than four subjects per trimester.

Course Duration

La Trobe College Australia has three trimesters each year beginning February/March, June, and October.

Each trimester is 12 weeks long, followed by an exam period.

Students may study over two trimesters (8 months) or three trimesters (12 months).

All subjects are offered across all three trimesters.

Bachelor Course Pathway Options

Upon completion of Diploma of Cybersecurity with a WAM* of 60 and above, you will progress to the second year of Bachelor of Cybersecurity at La Trobe University.

Upon completion of Diploma of Cybersecurity with a WAM* of below 60, you can progress to the second year of Bachelor of IT at La Trobe University.

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

Study Plans

All diploma students enrol into an online module, LTM1AIM Academic Integrity Module. This module is compulsory, and in addition to your eight required subjects.

An elective is a subject from any other diploma course.

Recommended study plan to complete your diploma in two trimesters:

Year 1 (Diploma)	LTM1AIM Academic Integrity Module Compulsory online module that must be completed in the first trimester.			
	First Trimester	SSTA1DCT Data Based Critical Thinking	TCSE1ICB Introduction to Cybersecurity	ELECTIVE
	Second Trimester 2	TCSE1IIT Inside Information Technology t	TCSE2NEF Network Engineering Fundamentals	ELECTIVE
	Third Trimester	TCSE1CPR Cybersecurity in Practice	TCSE1PE Programming Environment	

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	Second Trimester	TCSE1CPR Cybersecurity in Practice	TCSE1PE Programming Environment	ELECTIVE	ELECTIVE

Example electives, recommended for cybersecurity diploma.

BBUS1001 – Data Analytics Concepts	BBUS1SBY – Sustainability
BBUS1IEI - Investigating Economic Issues	BMGT1OBE - Organisational Behaviour

Subject Overviews

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.

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

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 professionals who need to evaluate data-based arguments. This is achieved by a combination of studying 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.

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

TCSE1IIT Inside Information Technology

In this subject, students will be provided with a practical introduction to information technology. Students are encouraged to implement IT skills to their field of study. Topics include 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

In this subject students learn and apply fundamental programming concepts. Solutions to simple programming problems are analysed, designed, constructed and documented. Python programs are developed using online based programming tools.

Assessment: Quizzes (20%), Programming tests (20%), Programming assignment (10%), Final written exam (60%)

TCSE1CPR Cybersecurity in Practice

Every organization and business that intends to protect itself from threats of cyber-attacks needs to know current practices in cyber defence. This subject will introduce common technologies used to identify and mitigate threats including firewalls, intrusion detection systems, intrusion protection systems and honeypots. This subject also introduces incident response processes and simple ways to incorporate secure programming practices to make computer programs less vulnerable to attacks.

Assessment: Class reports and submissions (40%), Final written exam (60%)

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%)

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%)

BBUS1001 Data Analytics Concepts

Any modern business today will utilise some form of spreadsheet tool to review, manipulate and visualise data (in the form of charts for reporting). In this subject, you will learn how to use two technological tools to undertake data analysis. The first tool is Structure Query Language (SQL), which we will use to pull relevant data into Excel and facilitate further analysis. Next, various advanced Excel analyses including pivot tables, statistical analysis, and creation of basic forecasting models will be covered. Upon successful completion of this subject, you will be proficient in basic data analysis using Excel and SQL, setting you up to become an analytical and data driven problem solver. With these skills, you will also be ready to identify insights allowing you to disrupt typical business operations systematically and with a higher chance of success.

Assessment: Online quiz (50%), Assignment 1 (25%), Assignment 2 (20%), Final written exam (50%)

BBUS1IEI Economic Issues & Public Policy

Economics is the study of human behaviour and in particular the choices that individuals, businesses, and governments make to deal with scarcity and the incentives that guide those choices. In Investigating Economic Issues, you will learn how the forces of demand and supply coordinate the behaviour of individuals and businesses in the market and how government policy affects those market outcomes. You will study the decisions that businesses make in determining how much to produce and at what cost. Further you will investigate how the market structure affects firms' choices. At the macro level, you will explain how to measure economic activity, including levels of inflation and unemployment, and you will examine some of the factors that influence these variables and the impact they have on business.

Assessment: In class exercises (20%), Mid semester test (10%), Assignment (20%), Final exam (50%)

BMGT1OBE Organisational Behaviour

Organisational Behaviour will introduce individual characteristics, interpersonal relationships, and group processes, as they relate to individual behaviour and outcomes in organisations. Organisational behaviour theory and concepts will be applied to current organisational problems relating to motivation,

decision-making, teamwork, leadership, and diversity. In the workshops students will develop the capabilities to work effectively in teams and lead teams to achieve their goals.

Assessment: In class exercises (10%), Individual Assignment (20%), Group Assignment (20%), Final exam (40%)

BBUS1SBY Sustainability

This subject introduces you to the concept of sustainability, and a systems approach to understanding the complex interactions between the environmental, economic, and social dimensions of sustainability. The subject attracts students from a range of fields, bringing a multidisciplinary team perspective to the researching, analysis, and problem-solving aspects of creating positive change for sustainability. In teams, you are required to critique, design, and present an action plan aimed at resolving a sustainability issue that impacts current and future generations. This subject provides you with the opportunity to enhance, demonstrate and document work-ready skills appropriate to your chosen career path.

Assessment: In class exercises (30%), Individual Assignment (40%), Group Assignment (30%)

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