MONASH University | MONASH College

Unit Guide

Diploma of Information Technology

Monash College

Effective 15 May 2026 for T2 2026 programs

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Overview

The Diploma of IT provides a pathway into the second year of a Monash University Bachelor of IT or Bachelor of Computer Science. Core subjects introduce students to the fundamentals of computers and programming, with later units specialising in advanced programming, web development and 3D design. After completing the Diploma of IT, students will be prepared to enter into their second year at Monash University.

There are two entry points into the Diploma of IT - Part One and Part Two - with the entry point for each applicant determined by their academic background and English language level.

Diploma of IT Course Outcomes

On completion of the Diploma of IT, students should be able to demonstrate the following skills and knowledge and their application:

1. Demonstrate knowledge of technical and theoretical issues in a variety of IT theory and technical and language skills with depth in some areas.
2. Identify and communicate advice in a variety of IT disciplines to address technical problems in accord with management requirements.
3. Utilise technical skills to demonstrate understanding and problem solving in relation to IT issues involving diverse stakeholders.
4. With depth in some areas, critically apply theoretical and technical skills to solve problems in relation to a range of IT disciplines.
5. Manage work priorities and coordinate the work of others in accord with parameters set by management in a number of IT contexts.

Monash College Diplomas Graduate Attributes

All Monash College courses will develop the following graduate attributes:

- Communication - demonstrated by effective communication in a variety of contexts
- Collaboration - demonstrated by working positively with others to achieve common goals
- Social and Cultural Engagement - demonstrated by respect for diversity and recognition of ethical responsibilities, including towards knowledge creation and academic integrity
- Critical Thinking and Problem Solving - demonstrated by the ability to analyse, evaluate and synthesise information to solve problems and innovate
- Independent Learning - demonstrated by the initiative, reflective practice and resilience necessary for self directed learning, and possession of the foundational discipline knowledge and skills appropriate to commence their destination studies
- Academic Skills - demonstrated by understanding and appropriate application of scholarly practices and standards.

DIPLOMA PART I			
Unit Code	**Unit Name**	**Unit EFTSL[1]**	**Credit Point[2]**
MCD1160	Introductory Engineering Computing	0.125	6
MCD1470	Engineering Practices	0.125	6
MCD1520	Introduction to Academic Communication	0.125	6
MCD1540	Intercultural Business Communication	0.125	6
MCD1550	Introductory Mathematics for Business	0.125	6
MCD1730	Foundations of 3D	0.125	6
**Choose two Electives from below:*			
MCD1350	Media Studies A: Australian Screen Culture	0.125	6
MCD1360	Media Studies B: Mass Communication and the Modern World	0.125	6
MCD1460	Visual Arts	0.125	6
MCD1490	Principles of Design	0.125	6
MCD1590	The Modern World	0.125	6
MCD1690	Introductory Economics	0.125	6
DIPLOMA PART 2 – IT STREAM			
Unit Code	**Unit Name**	**Unit EFTSL[1]**	**Credit Point[2]**
MCD2130	Functions and Their Applications	0.125	6
MCD4700	Introduction to Computer Systems, Networks and Security	0.125	6
MCD4710	Introduction to Programming	0.125	6
MCD4730	Foundations of 3D	0.125	6
MCD4740	Web Fundamentals	0.125	6
MCD4750	Introduction to Cybersecurity	0.125	6
MCD4770	Professional Practice	0.125	6
**Choose three Electives from below:*			
MCD2040	Managing People and Organisations	0.125	6
MCD2080	Business Statistics	0.125	6
MCD4760	Foundations of Computing	0.125	6
MCD6150	Media Challenges	0.125	6

DIPLOMA PART 2 - COMPUTER STREAM			
Unit Code	**Unit Name**	**Unit EFTSL[1]**	**Credit Point[2]**
MCD2130	Functions and Their Applications	0.125	6
MCD4700	Introduction to Computer Systems, Networks and Security	0.125	6
MCD4710	Introduction to Programming	0.125	6
MCD4730	Foundations of 3D	0.125	6
MCD4740	Web Fundamentals	0.125	6
MCD4750	Introduction to Cybersecurity	0.125	6
MCD4760	Foundations of Computing	0.125	6
MCD4770	Professional Practice	0.125	6
**Choose two Electives from below:*			
MCD2040	Managing People and Organisations	0.125	6
MCD2080	Business Statistics	0.125	6
MCD6150	Media Challenges	0.125	6

1. *EFTSL: Effective Full-time Student Load. Each part of the Diploma is equivalent to one year of full-time study. Monash College Diplomas are delivered in an accelerated mode, so you can study more than a standard full-time load in a year.*

2. *Most Monash units are 6 credit points. To complete a full Monash College Diploma, you must pass 96 credit points; if you start in Part 2 you must pass 48 credit points. Credit points in Part 2 units count towards the first year of your Monash University degree.*

MCD1160 – Introductory Engineering Computing

Description

Today's engineers rely heavily on the use of computers. To solve problems of practical significance, you need to apply scientific and technical knowledge, common sense, and experience. This unit will provide you with an understanding of basic computer software and programming concepts, and how it is used within the engineering environment. You will learn how to effectively communicate technical information using modern document editing, spreadsheet and presentation applications, and execute professional oral presentations to share your findings. Further, you will develop skills to solve real-world problems using microcontrollers with a programming language.

Prerequisites

Nil

Learning Outcomes

When you have completed this unit, you are expected to be able to:

1. Use the formatting features of a word processor.
2. Use utilities and advanced features provided with a word processor.
3. Create professional technical reports using word processors.
4. Demonstrate competency in academic writing and referencing.
5. Create and format a spreadsheet.
6. Use formulas to perform calculations in a spreadsheet.
7. Use graphics in a spreadsheet to aid data analysis and visualisation.
8. Designing professional presentation slides, incorporating text and graphics.
9. Communicate technical content in effective oral presentations.
10. Construct and test simple microcontroller programs.
11. Apply programming concepts and debug programs.
12. Use prototyping theory to create technical drawings and 3D designed models optimised for 3D printing.
13. Recognise the importance of good practices in programming.
14. Decompose problems into simpler problems.
15. Implement problem solving strategies and understand how real-word problems can be addressed by the digital world
16. Work collaboratively within group project settings.

MCD1160 – Introductory Engineering Computing *CONTINUED*

Assessments

Assessment Task	Weight
A1: Test 1	10%
A2: Assignment 1	20%
A3: Assignment 1 Oral Presentation	5%
A4: Test 2	10%
A5: Assignment 2 Project	28%
A6: Assignment 2 Oral Presentation	7%
A7: Lab Participation	10%
A8: Weekly Quizzes	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1350 – Media Studies A: Australian Screen Culture

Description

How is Australian identity and nationality constructed through the film and television industry? Has Australian cinema asserted a specific and identifiable national industry? What are the characteristics of Australian screen culture? What are some of the national myths and archetypes that define Australia in terms of race and gender? What texts feature most prominently in the Australian screen landscape? How does the Australian film and television industry operate in relation to other national and global cinema practices? These are the major questions that will be explored as we take a fascinating journey through some iconic Australian screen productions.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students are expected to be able to:

1. Employ techniques to generate ideas, research a topic and structure argumentation in an academic essay format.
2. Have developed techniques of argumentation and providing supporting evidence and examples.
3. Demonstrate an understanding of the impact that practices of representation on the Australian screen has on the ways we perceive ourselves individually and as a nation.
4. Demonstrate an understanding of the ways in which industrial factors can influence film content.
5. Demonstrate an understanding of a variety of film elements and how they convey or construct meaning.
6. Demonstrate an understanding of how Australian screen practices operate in relation to other global screen based industries.

Assessments

Assessment Task	Weight
A1: Weekly Quizzes	10%
A2: Communication & Collaboration	10%
A3: Textual Analysis	20%
A4: Film Festival Strategy	20%
A5: Student Led Seminar	10%
A6: Research Essay	30%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1360 – Media Studies B: Mass Communication and the Modern World

Description

The aim of this course is for students to learn how information and communication media have developed over time.

This unit analyses the key components of mass communication studies theory, and examines how information and communications media have developed over time. The unit explores barriers to communication, as well as the ways in which different communication media and messages have impacted on different social and cultural groups. Through the completion of prescribed readings, class discussion, oral presentations and written essays, students will acquire the knowledge, concepts, and analytical skills which will prepare them for further study in the area of Media, Communication Studies and Journalism in Part Two of the Diploma of Arts.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students are expected to be able to:

1. Understand how mass communication has developed throughout history and the important events each form of mass media has shaped
2. Understand the concept of 'audience' related to the developing communication technologies
3. Examine the notion of power in the media, and the ways in which communication tactics and tools have been used historically both by the media, and by those in power, to influence public opinion
4. Analyse the practical tools of media production, such as television
5. Analyse the importance of new and emerging communication technologies in society such as digital media.

Assessments

Assessment Task	Weighting
A1: Shortform Video	15%
A2: Mid-trimester Quiz	35%
A3: Documentary Film Pitch	15%
A4: Documentary Project	35%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1460 – Visual Arts

Description

Students are introduced to the basic elements and principles of firstly 2D followed by 3D visual art; exploring these in specialized art studios via a range of media and techniques. Students learn observational and analytical strategies to develop and refine their visual art practice. Through excursions to art gallery spaces, students reflect on and strengthen their visual ideas across diverse forms, exhibiting their final work in a way that engages with both site and spectators.

Prerequisites

Nil

Learning outcomes

On successful completion of this subject, students are expected to be able to:

1. To demonstrate an understanding of the basic elements and principles of 2D and 3D Visual Art using a range of media and techniques.
2. Use Visual Art tools and strategies to critique one's own visual projects and identify constructive ways to rework them.
3. Effectively rework visual projects in response to critique.
4. Communicate ideas related to Visual Art clearly and effectively through verbal, written, and visual means.

Assessments

Assessment Task	Weight
A1: 2D Folio + EAT	25%
A2: 3D Folio	15%
A3: Art Exhibit + OAT	35%
A4: Final Folio	25%

Requirements to Pass the Unit

1. In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1470 – Professional Practice

Description

The practice of engineering involves applying scientific and technical knowledge, common sense and experience to solving problems of practical significance for people. During this unit, you will learn about engineering practices by studying important engineering skills that are not covered in traditional mathematics, chemistry and physics courses, and will apply these skills to projects. Through the study of this unit, you will improve your knowledge of the IT and engineering professions, design and analysis, communication, ethics and economics.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Undertake a simple design and build project in a competitive team-based environment.
2. Develop conceptual understanding and problem-solving abilities by applying engineering principles.
3. Develop proficiency with technologies for information gathering analysis, simulation, theoretical prediction, access to information, and report preparation.
4. Describe the importance and relevance of engineering and its interdisciplinary ties to other fields and society, in order to become a scientifically literate and ethical citizen.
5. Identify professional issues relevant to a contemporary engineering challenge and appropriate responses.
6. To present and discuss engineering issues and concepts in a range of writing formats, including essay and technical report.
7. Demonstrate proper and ethical scientific and engineering practices, including safety, environment, and record keeping.
8. Interpret scientific and engineering results and draw reasonable conclusions.
9. Work with a small team to plan and manage an engineering project and report on team performance.
10. Communicate effectively through written and oral reports.

Assessments

Assessment Task	Weight
A1: Online Portfolio	10%
A2: Literature Review	10%
A3: Theory Test	20%
A4: Project Presentations	30%
A5: Project Documentation	30%

Requirement to Pass this Unit:

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1490 – Principles of Design

Description

Students will explore both two-dimensional and three-dimensional design principles through a series of practical and theoretical exercises, fostering a comprehensive understanding of design elements, art and design techniques, and applications. This course aims to develop students' creative and technical skills, preparing them to tackle complex design challenges with confidence and proficiency.

Prerequisites

Nil

Learning Outcomes

On successful completion of this subject, students are expected to be able to:

1. Demonstrate an understanding of key design terminology and fundamental design
2. principles and elements to create cohesive and aesthetically pleasing designs.
3. Research and analyse historical and contemporary design practices to inform the design
4. process.
5. Develop both 2D and 3D design projects using sustainable materials, art and design
6. techniques, including sketching and model making, along with industry-standard software.
7. Explore and apply ethical research methods, sustainable practices, and social responsibility
8. in design projects.
1. Present and communicate design ideas clearly and persuasively through verbal, written,
9. and visual means.
2. Collaborate effectively in a group design project by communicating and sharing
10. responsibilities to achieve common goals.

Assessments

Assessment Task	Weight
A1: Monochromatic Identity	15%
A2: Early Assessment Task	5%
A3: This is Me	25%
A4: Sculptural Expressions	25%
A5: Ponte di Pasta	30%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1520 – Introduction to Academic Communication

Description

This course develops students' English language proficiency and academic communication skills to support their adaptation to university expectations and conventions. It scaffolds students to build foundations in three focus areas: academic skills, behaviours, and values, while developing academic language skills and knowledge. The unit introduces the language, texts, and conventions specific to Humanities, Business, and Science programs, and emphasises the value of diverse perspectives offered by different disciplines and their contributions to solving contemporary societal issues. Learning and assessment activities are designed to foster both independent and collaborative learning approaches, guiding students to enhance their abilities in reading, listening, writing and speaking as well as critical thinking, and researching in technologically-advancing academic contexts.

This unit will support students in building effective learning strategies using a range of thinking skills, learning approaches and assessment responses.

This is a core unit in the Monash College Diplomas Part 1.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students are expected to be able to:

1. Critically analyse academic texts to identify key arguments, evidence, and methodologies
2. Accurately interpret and critically evaluate spoken academic content and verbal instructions in academic settings
3. Participate in academic discussions, demonstrating active listening, critical thinking, intercultural understanding and the ability to articulate and sustain viewpoints
4. Deliver a clear, well-organised presentation on an academic topic, presenting and justifying arguments using supporting evidence and examples
5. Write a clear, well-structured academic text, following academic conventions, including structure, register, signposting and discipline-specific referencing conventions
6. Demonstrate critical, analytical and evaluative skills via selecting, synthesising and critically analysing a range of academic sources
7. Employ discipline-specific vocabulary and discourse to convey ideas effectively
8. Use digital and generative AI tools critically and responsibly to support academic production and communication
9. Collaborate effectively in academic and group settings by communicating respectfully, actively listening, and contributing relevant ideas to achieve shared academic goals.

MCD1520 – Introduction to Academic Communication *CONTINUED*

Assessments

Assessment Task	Weight
A1: Socratic Seminar	25%
A2: Research Task Draft	10%
A3: Research Task Final	25%
A4: 3 Minute Thesis	20%
A5: Collaboration & Communication	20%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1540 – Intercultural Business Communication

Description

This unit aims to assist you in developing strategies for effectively communicating and negotiating with individuals from other cultures. Businesses today operate in a culturally diverse environment. This unit has been designed to develop your understanding of culture and its impact on business. We will examine the impact of culture on values, norms, attitudes and behaviours, including patterns of communication. In this unit, you will learn effective ways to research cultures and communication styles in order to prepare for intercultural encounters as a student and in work. This unit will provide an opportunity to apply understanding of cultural and ethical issues to realistic business situations.

This is a core unit in the Monash College Diploma of Business, Part 1B.

Prerequisites

Nil

Learning Outcomes

1. Demonstrate understanding of culture, communication and the issues involved in intercultural communication.
2. Understand the important relationship between language and culture.
3. Define, describe and analyse the cultural values, norms, attitudes and behaviours that influence and impact on business in a globalised world.
4. Apply intercultural communication skills and understanding of cultural issues involved in dealing with individuals from diverse cultures.
5. Conduct independent research related to intercultural theories and intercultural business.
6. Understand the need to think critically and assess the credibility of sources when conducting academic and business research.
7. Learn to work in groups effectively in research, sharing of ideas and completing tasks.
8. Demonstrate ability to plan, prepare and present ideas in a manner appropriate to the academic and business worlds.

Assessments

Assessment Task	Weight
A1: Tutorial Activities and Participation	20%
A2: Movie Analysis and Reflection	10%
A3: Cultural Video Interview and Presentation	20%
A4: Cultural Case Analysis	20%
A5: Cross-Cultural Training Program	20%
A6: End-of-term Test	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1540 – Intercultural Business Communication *CONTINUED*

Mode of study

This unit is taught face-to-face. Several tools are involved in the learning process, such as Google Suite tools, Peer-evaluation tools (*ITP Metrics, etc.*), Zoom, Moodle and responsible use of AI.

MCD1550 – Introductory Mathematics for Business

Description

This unit is taken by part 1 Diploma of Business (Business stream) students. The aim of this unit is to provide students with the knowledge and skills to make effective use of mathematical ideas, techniques and processes in both business and everyday life.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Demonstrate knowledge of key features of straight line and line segment graphs and the form of related tables of values.
2. Prove knowledge of the concept of break-even analysis and its relation to graphic and tabular representation of relations.
3. Show knowledge of non-linear relations in terms of a constant of proportionality and key features.
4. Demonstrate knowledge of linear inequalities, systems of linear inequalities and their properties.
5. Show an understanding of sequences and recurrence relations for growth and decay and illustrate knowledge of terms, concepts and definitions associated with simple interest, compound interest, depreciation methods, annuities and reducing balance loans, and formulas and calculations associated with these.
6. Confirm knowledge of matrix properties. Solve data array problems. Solve simultaneous linear equations in two variables using matrix formulations

Assessments

Assessment Task	Weight
A1: Weekly Exercises	25%
A2: Test 1	10%
A3: Test 2	20%
A4: Test 3	20%
A5: Oral Presentation	25%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

Mode of study

This unit is taught face-to-face.

MCD1590 – The Modern World

Description

In this unit you will examine the relationships between historic and contemporary political, cultural and social forces. You will also engage in thinking about the myriad of problems confronting the modern world and how we can make sense of these problems in terms of conflicts between ideas. Through the study of this unit, you will develop effective critical thinking skills about how the modern world 'works' and about your own place, as individuals, in the modern world.

This is a core unit in the Monash College Diploma of Arts, Part 1.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students are expected to be able to:

1. Explain key political, economic, religious and philosophical ideas or events and evaluate their influence on the development of the modern world, using relevant historical and contemporary examples.
2. Analyse how at least two key ideas or events from the past have either endured or evolved over time, and explain their impact on modern society to their peers.
3. Reflect critically on their position in the modern world by applying course concepts to analyse how culture, technology, or society influences and shapes their values and actions.
4. Communicate effectively in academic settings by presenting clear ideas supported by relevant evidence or examples and participating actively in discussions.
5. Write clear and well structured academic texts that apply academic conventions including appropriate organisation and language, use of evidence to support arguments, and acknowledgment of others' ideas through accurate referencing.

Assessments

Assessment Task	Weight
A1: Weekly Reading Quiz	15%
A2: Current Issues in Modernity Presentation	20%
A3: Reflective Writing Task	15%
A4: Socratic Seminar	25%
A5: Extended Response	25%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD1690 – Introductory Economics

Description

The purpose of this unit is to identify and explain the basic concepts of GDP, business cycles, inflation, unemployment, supply, demand and markets, thereby acquainting students with the basic vocabulary of economics. The roles played by the government, consumers, producers and the cost of production will be explained. A particular emphasis in this unit is to provide students with an introduction of basic issues of both introductory Micro and Macroeconomics.

This unit is taken by part 1 Diploma of Business students.

Prerequisites

Nil

Learning Outcomes

Upon successful completion of this unit, students will be able to:

2. Define Economics and understand the economic problem of scarcity
3. Understand and apply the theory of the macro economy, with emphasis on GDP, inflation and unemployment
4. Understand the concepts of demand and supply and the application of this theory
5. Explain the concepts of costs and revenues in the case of a single firm

Assessments

Students will be assessed on: An understanding of the body of Micro and Macroeconomic knowledge

The application of the skills of: Critical assessment, interpretation, analysis, evaluation

Assessment Task	**Weight**
A1: Assessment (Group and Individual)	30%
A2: Individual Assessment (Part A and B)	30%
A3: Individual Assessment	10%
A4: Homework, Quiz, and In-class Activities	15%
A5: Tests	15%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

Mode of study

This unit is taught face-to-face. All assessments will be submitted through Turnitin. There is an online multiple-choice test which is a component in Task 2. The class tests will also be submitted via Turnitin.

MCD1730 – Foundations of 3D

Description

This unit is an introduction to the techniques, frameworks and processes comprising 3D modelling and 3D imaging. Foundations of 3D aims to give students an understanding of 3D modelling by developing skills in 3D model creation for a variety of contexts, including 3D prototyping, 3D visualisation and 3D modelling for games and animation. Students will communicate their knowledge of 3D theory through the production of designs that demonstrate geometrical modelling, texture mapping, virtual lighting techniques, camera positioning and rendering procedures.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

5. Evaluate and assess techniques used in the 3D creation process.
6. Research, evaluate and implement 3D geometry, 3D texturing and 3D rendering techniques.
7. Develop and modify 3D models and 3D environments.
8. Design, create and detail 3D models and 3D scenes for diverse media.

Assessments

Assessment Task	Weight
A1: Assignment 1	20%
A2: Assignment 2	20%
A3: Assignment 3	30%
A4: Test 1	10%
A5: Test 2	10%
A6: Test 3	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD2040 – Management 1: Managing People and Organisations

Description

This unit is designed to develop an understanding of how organisations are managed and to enable the application of analytical skills to a range of managerial and organisational issues.

Prerequisites

Nil

Learning Outcomes

When you have completed this unit, you are expected to be able to:

1. Demonstrate a contextual appreciation of management as an evolving set of contested ideas for how managers may influence people, organisations, and their environments to achieve organisational goals
2. Identify what managers do in practice, and analyse how the various activities that comprise managing both shape and are shaped by individual and group behaviour and diversity in organisational settings
3. Critically evaluate the impact of contemporary management practices on employee experiences of being managed
4. Explain the concepts of stakeholder interests and socially responsible management, assessing their implications for individuals and organisations in a global context
5. Apply research, analytical and communication skills required of the management discipline to address business challenges.

Assessments

Assessment Task	Weight
A1: Pre Tutorial Assessments	10%
A2: PERUSALL Annotations	10%
A3: Class Engagement Activities	10%
A4: Tutorial Test (In-class Tests)	15%
A5: Management Consulting Project (MCP): MCP1 Annotations	5%
A6: Management Consulting Project (MCP): MCP2 Problem-based Group Report	20%
A7: Management Consulting Project (MCP): MCP3 Group Presentations	10%
A8: "My Future Self" – Reflective Journal and Poster Presentation	20%

MCD2040 – Management 1: Managing People and Organisations *CONTINUED*

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

Mode of study

MCD2040 uses a flipped classroom approach which requires students to be independent learners. This unit is taught face-to-face. Students are required to review lecture materials and readings at home as “pre- class activities” prior to coming to the tutorials.

MCD2080 – Business Statistics

Description

This unit is designed to provide skills in data analysis and statistical processes as applied to business and basic business computations and techniques.

Prerequisites

MCD1550 Introduction Mathematics for Business or equivalent (For Business stream only. For

Part 2 students, Part 1 pre-requisites are not applicable)

Learning Outcomes

In this unit you will learn to use basic statistical techniques and apply them to problems across a range of areas in business.

On completion of this unit, students should be able to:

1. Interpret business data using descriptive statistics techniques, including the use of Excel spreadsheet functions
2. Apply simple concepts of probability and probability distributions to problems in business decision-making
3. Describe the role of statistical inference and apply inference methods to single population means and proportions
4. Interpret and evaluate the relationships between variables for business decision-making, using the concepts of correlation and multiple linear regression
5. Develop skills in spreadsheet modelling and understand how simulation is used to address business problems.

These outcomes are important to a successful career in Business.

MCD2080 – Business Statistics *CONTINUED*

Assessments

Assessment Task	Weight
A1: Practical Lecture Activities	15%
A2: Group Assignment	25%
A3: Workshop Activities including FATs	30%
A4: Final Examination	30%

*Approved calculators will be allowed for tests and the final exam. Assignment should be done using Excel.

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

Mode of study

This unit is taught face-to-face.There are no work placement components.

MCD2130 – Functions and Their Applications

Description

The focus of this unit will be on the behaviour of functions and examining some of their applications to the real world. The way that functions will be introduced is by individually describing the characteristics of families of different function types (linear, polynomial, rational, exponential, logarithmic and trigonometric). The composition of functions through possible combinations of different types of functions will also be investigated. Other operations on functions, such as transformations via shifting, scaling and reflection, will be presented, along with the existence and meaning of inverse functions.

This initial part of the course will then be used to provide a foundation for examining the rate of change of a function. Principally, this involves defining the elementary principles of differential calculus and then utilising these with respect to the types of functions mentioned above. As a final topic, an introduction to integral calculus is presented.

Prerequisites

It is assumed that students have studied mathematics to at least Year 11 or equivalent level.

Learning Outcomes

On completion of this unit, students will have acquired knowledge of:

1. The notion of functions and their representation as tables, graphs or mathematical expressions;
2. The basic characteristics of polynomial, rational, exponential, logarithmic and trigonometric functions;
3. The algebra of functions;
4. The concepts of composition functions and inverse functions;
5. The transformation of functions, algebraically and graphically;
6. The concepts of rate of change of a function and derivative of a function
7. The concept of anti-differentiation of a function and its main application: The Fundamental Theorem of Calculus.

And will have developed skills in:

1. Identifying different types of functions behaviour by means of neat sketch-graphs; determining basic properties and behaviour of functions by analytic and by means of neat sketch graphs.
2. Using function algebra.
3. Calculating composition functions and inverse functions; using functions as models of real-life behaviour; calculating simple derivatives and integrals; communicating and interpreting mathematical results.

Assessments

Assessment Task	Weight
A1: In-class Engagement	40%
A2: Knowledge Booster	10%
A3: Test 1	10%
A4: Test 2	20%
A5: Test 3	20%

MCD2130 – Functions and Their Applications *CONTINUED*

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

Mode of study

This unit is taught face-to-face. There is no work placement component.

MCD4700 – Introduction to Computer Systems, Networks and Security

Description

The unit introduces students to fundamentals of computer systems, networks and security. It provides basic knowledge of computer organisation and architecture, operating systems, networking architecture, technology and operation. It introduces the concepts of security goals for protecting common modern computer systems and communication networks from adversaries and the deployment of suitable countermeasures to achieve these goals.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Analyse simple logic circuits.
2. Explain and analyse key computer structure and its operations.
3. Analyse and evaluate various strategies used by an operating system in managing the system resources and running applications efficiently.
4. Describe the operation of communication and networking models and develop simple solutions to network problems.
5. Critically assess the security threats and risks to an organisation's information assets and propose suitable security control technologies that can be applied to reduce the security risks or in making procurement decisions.

Assessments

Assessment Task	Weight
A1: Practical Class Work	15%
A2: Assignment 1	15%
A3: Assignment 2	20%
A4: Assignment 3	30%
A5: Quiz 1	10%
A6: Quiz 2	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4710 – Introduction to Programming

Description

This unit introduces programming fundamentals using the Python language. It will present fundamental programming control structures, built-in and complex datatypes, mechanisms for modularity, and the use of basic libraries. Students will also be introduced to good programming practices and programming in teams.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Effectively use variables, conditionals and loops in computer programs.
2. Design, construct and test simple programs that include user-defined functions and data structures.
3. Write programs efficiently by discovering and leveraging libraries.
4. Implement good programming practices in a team, including unit testing, basic documentation and readability.

Assessments

Assessment Task	Weight
A1: Practical Work	11%
A2: Test 1	5%
A3: Assignment 1	20%
A4: Test 2	12%
A5: Assignment 2	25%
A6: Test 3	12%
A7: Code Demonstration	15%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4730 – Foundations of 3D

Description

This unit is an introduction to the techniques, frameworks and processes comprising 3D modelling and 3D imaging. Foundations of 3D aims to give students an understanding of 3D modelling by developing skills in 3D model creation for a variety of contexts, including 3D prototyping, 3D visualisation and 3D modelling for games and animation. Students will communicate their knowledge of 3D theory through the production of designs that demonstrate geometrical modelling, texture mapping, virtual lighting techniques, camera positioning and rendering procedures.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

9. Evaluate and assess techniques used in the 3D creation process.
10. Research, evaluate and implement 3D geometry, 3D texturing and 3D rendering techniques.
11. Develop and modify 3D models and 3D environments.
12. Design, create and detail 3D models and 3D scenes for diverse media.

Assessments

Assessment Task	Weight
A1: Assignment 1	20%
A2: Assignment 2	20%
A3: Assignment 3	30%
A4: Test 1	10%
A5: Test 2	10%
A6: Test 3	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4740 – Web Fundamentals

Description

This unit aims to give students a sound basic knowledge of the web and a range of issues which may be involved in the design and development of web sites and applications. It will take a strongly practical focus in examining the technology, design and implementation problems a designer or developer needs to address in real-world systems. The diversity of web applications means that there are a wide range of issues which may be relevant to the development of any given project. The unit will aim to give breadth of coverage of these issues, rather than focusing in depth on any particular development task or any specific type of web technology.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Critically analyse how fundamental web technologies work from a technical perspective and their impact on society.
2. Create media assets to integrate into a website, with a focus on optimisation, compatibility and accessibility.
3. Apply design principles as part of pre-production processes to create website designs.
4. Develop and test websites using front-end technologies including HTML, CSS and JavaScript.
5. Apply collaborative design techniques for planning the design of web content and web sites.

Assessments

Assessment Task	Weight
A1: Weekly Tasks	20%
A2: Assignment 1	10%
A3: Assignment 2	30%
A4: Assignment 3	30%
A5: Assignment 4	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4750 – Introduction to Cybersecurity

Description

This unit provides an introductory overview of cybersecurity, covering fundamental concepts, principles, and practices. You will explore the cyber environment, understand cyber risks, examine cyber policy, and examine the ethics around implementing policy to detect, prevent, and deter cyber threats.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Gain an understanding of the cyber environment and its components.
2. Identify and assess common cyber risks, harms and threats.
3. Examine how to develop and evaluate cybersecurity policies and procedures.
4. Explore the ethical considerations and professional conduct in cybersecurity.
5. Stay informed about emerging trends and technologies in the field.

Assessments

Assessment Task	Weight
A1: Presentation	5%
A2: Three Minute Thesis	25%
A3: Case Study and Ethical Analysis	20%
A4: Case Study CARAF	25%
A5: Test	25%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark.If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4760 – Foundations of Computing

Description

This unit lays the theoretical foundations for working with the most fundamental abstract models used in computer science, including relations, sequences, trees and graphs. It will develop skills in abstract modelling, logical reasoning, rigorous proof, formal analysis, enumeration and probability. These concepts and skills will be taught in a variety of contexts from across computer science.

Prerequisites

MCD2130

Learning Outcomes

On completion of this unit, students should be able to:

1. Define discrete structures and key concepts commonly found in set theory, logic and proof, number theory, probability, combinatorics, graph theory, and related fields underlying computer science.
2. Solve problems in computer science using a variety of objects and structures, including sets, functions, relations, graphs, matrices and random variables.
3. Analyse complex formal statements, formally define discrete structures, and prove properties about them using a wide range of techniques, including proof by constructions, by cases, by contradiction and by induction.
4. Use the language of propositional and predicate logic to formally model and reason about problems in computer science and its applications.
5. Apply precise counting principles and the tools of probability, number theory, and combinatorics to problems in computer science.
6. Relate areas of computer science to appropriate discrete structures and methods.

Assessments

Assessment Task	Weight
A1: Post-Class Quizzes	10%
A2: Workshop Activities	20%
A3: Test	25%
A4: Assignment 1: Introduction to Computational Thinking	10%
A5: Assignment 2: Formal Methods and Logical Reasoning	25%
A6: Assignment 3: Viva Voce	10%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD4770 – Professional Practice

Description

The practice of engineering involves applying scientific and technical knowledge, common sense and experience to solving problems of practical significance for people. During this unit, you will learn about engineering practices by studying important engineering skills that are not covered in traditional mathematics, chemistry and physics courses, and will apply these skills to projects. Through the study of this unit, you will improve your knowledge of the IT and engineering professions, design and analysis, communication, ethics and economics.

Prerequisites

Nil

Learning Outcomes

On completion of this unit, students should be able to:

1. Undertake a simple design and build project in a competitive team-based environment.
2. Develop conceptual understanding and problem-solving abilities by applying engineering principles.
3. Develop proficiency with technologies for information gathering analysis, simulation, theoretical prediction, access to information, and report preparation.
4. Describe the importance and relevance of engineering and its interdisciplinary ties to other fields and society, in order to become a scientifically literate and ethical citizen.
5. Identify professional issues relevant to a contemporary engineering challenge and appropriate responses.
6. To present and discuss engineering issues and concepts in a range of writing formats, including essay and technical report.
7. Demonstrate proper and ethical scientific and engineering practices, including safety, environment, and record keeping.
8. Interpret scientific and engineering results and draw reasonable conclusions.
9. Work with a small team to plan and manage an engineering project and report on team performance.
10. Communicate effectively through written and oral reports.

Assessments

Assessment Task	Weight
A1: Online Portfolio	10%
A2: Literature Review	10%
A3: Theory Test	20%
A4: Project Presentations	30%
A5: Project Documentation	30%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.

MCD6150 – Media Challenges

Description

This unit will introduce the key components of contemporary media challenges. We will address a range of questions to help us interrogate the nature of these challenges and the potential repercussions for cultural practices, social interactions, and political and/or economic circumstances. The aim here is to map out and analyse some key media challenges.

Some of the questions we will consider are: What do we mean by the term's "media' and "challenges"? What are the greatest media challenges of our time that we face globally? How and where do we get our news? Which media are used as crucial news sources? And what does it all mean? How do we articulate or describe these challenges? What theories and studies can assist us in understanding their dynamics? How do these challenges impact our everyday media communications? What are some of the ways that these challenges may be overcome?

This course aims to map out and analyse the very challenging circumstances that define a new age and era of media communications.

Prerequisites

Nil

Learning outcomes

On completion of this unit, students are expected to be able to:

1. Explain a contemporary global media challenge using interdisciplinary approaches
2. Manage, evaluate and interpret sources of information relevant to issues in the media
3. Communicate coherent and persuasive arguments both orally and in professional presentation formats
4. Utilise strategic and interdisciplinary thinking to analyse media challenges
5. Work independently and collaboratively with peers to investigate, analyse and report on a 'real-world' contemporary media challenge.

Assessments

Assessment Task	Weight
A1: Online Activities	20%
A2: Student Led Seminar	10%
A3: Social Impact Presentation	20%
A4: Fact Checking Exercise	25%
A5: Poster Presentation: Analysis of Media Challenge	25%

Requirements to Pass the Unit

- In order to achieve a pass in this unit, you must achieve 50% or higher for your overall mark. If you receive a 49N grade, you will automatically be awarded a 48N result.