Diploma in Computing and Information Technology

Description

The DCIT has been designed to provide students with a solid foundation in the essential aspects of IT, including computer systems, programming, networking, cybersecurity, mobile communications, and web development. The programme will also equip students with the practical skills and theoretical knowledge necessary to pursue further studies and/or employment into entry-level positions in the IT industry. The curriculum has been structured to ensure students develop both practical skills and a deep understanding of the technological environment, preparing them for a wide range of IT roles.

Job roles

Job roles and titles vary across different sectors. Possible job titles relevant to this qualification include, but are not limited to: IT Support Technician, Network Support Assistant, Junior Web Developer, IT Security Support, IT Administrator, Computer Systems Assistant.

Employability Skills – Qualification Summary	
The following table contains a summary of the employability skills for this qualification. The employability skills facets described here are broad industry requirements	
Employability skill	Industry/enterprise requirements for this qualification include:
Communication	▸ consulting, questioning, clarifying and evaluating information ▸ interpreting customer needs ▸ negotiating budgets and plans and then re-developing as required to meet organisational needs ▸ negotiating with internal and external stakeholders ▸ utilising excellent interpersonal skills, and producing a wide range of reports and making presentations as required
Teamwork	▸ briefing various personnel on their roles and responsibilities regarding the implementation of the marketing plan ▸ coordinating resources and developing systems to manage team and individual performance ▸ defining performance measures and working collaboratively with team members ▸ identifying performance gaps and taking remedial action for underperformance

Problem-solving	▸ assessing financial viability of new opportunities and matching organisational capability with market needs ▸ collecting and analysing data ▸ comparing and contrasting data ▸ conducting situational analyses ▸ developing and managing risk and contingency plans ▸ developing strategies for improvement ▸ performing cost benefit analyses, budgeting, assessing and managing risk
Initiative and enterprise	▸ evaluating and improving market performance ▸ identifying strengths and opportunities within organisation's projected capabilities and resources
Planning and organising	▸ collecting, collating and analysing information using appropriate workplace business systems ▸ developing customer acquisition and retention strategies ▸ developing systems that are flexible and responsive to changing circumstances ▸ evaluating processes and making changes as required ▸ planning and managing resource acquisition and deployment within budgetary constraints ▸ planning for contingencies
Self-management	▸ applying discretion and judgement within complex environments ▸ managing own time and performance ▸ using judgement in planning and in the selection and allocation of resources ▸ working within organisational policies and procedures and legislative requirements
Learning	▸ coaching and mentoring others to acquire new knowledge and skills ▸ providing learning and development opportunities
Technology	▸ creating presentations using a range of media ▸ using computerised systems, software and telecommunication devices ▸ using technology to assist with the management of information and to assist the planning process ▸ using technology to record and generate ideas

Duration: 6 months

Qualification Entry Requirements

Academic

- GCE O-level pass in any 1 subject (Grades 1-7) (or)
- 10 years of formal education (or)
- Any other equivalent qualification

(Matured students aged 30 years and above with at least 8 years of work experience will be considered for admission.)

English Proficiency

- IELTS 5.0, or
- AAC EFL Level 4 or equivalent.

Students without formal English qualifications will be given a placement test to determine their level of proficiency.

Minimum age: 16 years old

Qualification Modules

Full Time

#	Code	Module Name	Face-to-Face Contact Hours	Guided Learning Hours	Assessment Preparation Hours	Self-Directed Study Hours
1	DIT001	Introduction to Computer Systems	30	15	40	40
2	DIT002	Foundations of Programming	30	15	40	40
3	DIT003	Computer network Fundamentals	30	15	40	40
4	DIT004	Mobile Communication	30	15	40	40
5	DIT005	Cybersecurity Basics	30	15	40	40
6	DIT006	Website Development	30	15	40	40
TOTAL LEARNING HOURS			**180**	**90**	**240**	**240**
			750 HOURS			

Part Time

#	Code	Module Name	Face-to-Face Contact Hours	Assessment Preparation Hours	Self-Directed Study Hours
1	DIT001	Introduction to Computer Systems	30	40	55
2	DIT002	Foundations of Programming	30	40	55
3	DIT003	Computer network Fundamentals	30	40	55
4	DIT004	Mobile Communication	30	40	55
5	DIT005	Cybersecurity Basics	30	40	55
6	DIT006	Website Development	30	40	55
TOTAL LEARNING HOURS			**180**	**240**	**330**
			750 HOURS		

SYNOPSIS			
Module Name	**Module Overview**	**Learning Outcomes**	**Indicative Content**
Introduction to Computer Systems	This module introduces the fundamental components of computer systems, including hardware, software, and the essential processes involved in data handling, storage, and processing. It also explores the basic concepts of operating systems, computer architecture, and the principles of how computers function.	At the end of this module, students will be able to: • Understand the basic components of a computer system. • Describe the role and function of operating systems. • Identify key aspects of computer architecture. • Understand data representation, storage, and processing. • Analyze how hardware and software interact within a system.	1. Introduction to hardware components (CPU, RAM, hard drives, input/output devices). 2. Basic software concepts (applications, system software). 3. Operating system functions and management. 4. Data representation (binary, hexadecimal). 5. Introduction to computer architecture and the role of the CPU. 6. Storage devices and file management. 7. Overview of peripheral devices.
Foundations of Programming	This module introduces programming, focusing on the basic concepts and techniques necessary to solve computational problems. It introduces a programming language (C++) and teaches students how to write, test, and debug code effectively.	At the end of this module, students will be able to: • Understand the fundamentals of programming concepts. • Write and debug programs in a selected programming language. • Apply logic and algorithms to solve computational problems. • Use basic data structures like arrays and lists. • Understand the importance of programming style and documentation.	1. Introduction to a programming language (C++). 2. Syntax and semantics of the language. 3. Variables, data types, and operators. 4. Control structures (loops, conditionals). 5. Functions and procedures. 6. Introduction to object-oriented programming (if relevant). 7. Basic data structures (arrays, lists). 8. Debugging techniques and program testing.

Computer network Fundamentals	This module covers the basics of computer networks, providing an understanding of how data is transferred over different types of networks. It focuses on the architecture, protocols, and standards involved in networking, especially within a beginner's context.	At the end of this module, students will be able to: • Understand the basics of networking, including the purpose and components. • Learn about different types of networks (LAN, WAN, PAN). • Describe key networking concepts like IP addressing, protocols, and data transmission. • Understand the OSI model and the role of each layer. • Gain a basic understanding of network security principles.	1. Introduction to networking concepts. 2. Types of networks (LAN, WAN, MAN). 3. Basic networking devices (routers, switches, hubs). 4. Network topology and architecture. 5. Introduction to IP addressing and subnetting. 6. OSI model layers. 7. Network protocols (TCP/IP, HTTP, FTP). 8. Basic network security principles (firewalls, encryption).
Mobile Communication	This module introduces students to the core concepts, technologies, and principles of mobile communication systems. It aims to provide a foundational understanding of how mobile networks operate, the evolution of communication technologies, and the key elements that make modern mobile communication possible. Through this module, students will explore wireless communication principles, network architecture, data transmission methods, and the role of mobile communication in today's interconnected world.	At the end of this module, students will be able to: • Understand the Basic Concepts of Mobile Communication • Explain the Evolution of Mobile Communication Technologies • Understand Wireless Communication Fundamentals • Identify the Key Components of Mobile Networks • Understand Mobile Communication Protocols and Standards • Explain Mobile Data Transmission and Services • Recognize the Importance of Frequency Spectrum Identify Emerging Trends in Mobile Communication	1. Introduction to Mobile Communication Systems 2. Evolution of Mobile Communication Technologies 3. Wireless Communication Fundamentals 4. Mobile Network Architecture 5. Mobile Communication Standards and Protocols 6. Frequency Spectrum and Mobile Communication 7. Mobile Data Transmission and Services 8. Security in Mobile Communication 9. Emerging Trends in Mobile Communication 10. Basic Troubleshooting of Mobile Communication Issues

Cybersecurity Basics	The module introduces the fundamental concepts of cybersecurity, covering essential topics such as types of cyber threats, security principles, and basic protection mechanisms. It aims to build a foundational understanding of how to protect systems, networks, and data from cyber-attacks and other security risks. The course emphasizes the importance of security best practices, awareness of common vulnerabilities, and how individuals and organizations can safeguard themselves in an increasingly digital world.	At the end of this module, students will be able to: • Understand Key Concepts in Cybersecurity • Identify Common Cyber Threats • Understand Basic Cybersecurity Principles • Understand the Basics of Cryptography • Identify Common Security Vulnerabilities • Understand Basic Network Security Concepts • Recognize the Importance of Personal Cybersecurity • Understand Incident Response and Basic Forensics • Discuss the Legal and Ethical Aspects of Cybersecurity	1. Introduction to Cybersecurity 2. Types of Cyber Threats 3. Core Cybersecurity Principles 4. Basic Cryptography 5. Common Vulnerabilities and Attack Vectors 6. Network Security Fundamentals 7. Personal Cybersecurity Best Practices 8. Incident Response Basics 9. Legal and Ethical Considerations in Cybersecurity 10. Emerging Trends in Cybersecurity
Website Development	The module introduces students to the essential concepts and tools required to build functional and user-friendly websites. It covers the fundamental languages and frameworks involved in front-end and back-end web development, including HTML, CSS, and JavaScript, while providing an overview of website architecture, design principles, and basic server-side technologies. This course is designed to give students the skills needed to create static and dynamic websites, with an emphasis on usability, responsiveness, and best practices in web development.	At the end of this module, students will be able to: • Understand the Basics of Web Development • Create and Structure Web Pages Using HTML • Style Web Pages Using CSS • Implement Basic Interactivity Using JavaScript • Understand the Concepts of Responsive Web Design • Understand Web Development Tools and Workflow • Understand the Basics of Web	1. Introduction to Web Development 2. HTML: Structure of Web Pages 3. CSS: Styling Web Pages 4. Introduction to JavaScript 5. Responsive Web Design 6. Web Development Tools and Workflow 7. Web Hosting and Deployment 8. Introduction to Server-Side Technologies (Optional) 9. Web Development Best Practices

		Hosting and Deployment • Understand the Basics of Server-Side Technologies • Apply Best Practices in Web Development	

Assessment Arrangements

#	Code	Module Name	Assignment	Practical	Case Study	Project Report	Demonstration
1	**DIT001**	Introduction to Computer Systems	50%	-	-	50%	-
2	**DIT002**	Foundations of Programming	-	50%	-	50%	-
3	**DIT003**	Computer network Fundamentals	-	50%	-	50%	-
4	**DIT004**	Mobile Communication	50%	-	50%	-	-
5	**DIT005**	Cybersecurity Basics	50%	-	50%		-
6	**DIT006**	Website Development	-	50%	-	-	50%

The assessment objectives tested in these modules are broadly categorised in the following hierarchical order:

1. **Knowledge:** Exhibit memory of previously learned materials by recalling facts, terms, basic concepts and answers
2. **Comprehension:** Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating the main ideas

3. **Application:** Using new knowledge. Solve problems in new situations by applying acquired knowledge, facts, techniques and rules in a different way
4. **Analysis:** Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations
5. **Evaluation:** Present and defend opinions by making judgments about information, validity of ideas or quality of work based on a set of criteria
6. **Synthesis:** Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions

Specification Grid

The relationship between the assessment objectives and components of the scheme of assessment is as follows

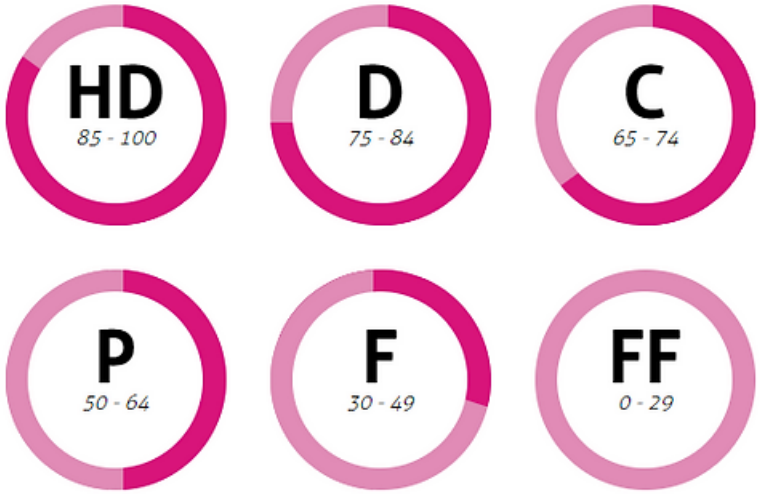
Knowledge	Comprehension	Application	Analysis	Evaluation	Synthesis
10%	20%	20%	20%	20%	10%

The assessment objectives are weighted to give an indication of their relative importance.
They are not intended to provide a precise statement of the number of marks in particular skills.

Code	Name of the module	Assessment 1	Assessment 2
DIT001	Introduction to Computer Systems	50%	50%
DIT002	Foundations of Programming	50%	50%
DIT003	Computer network Fundamentals	50%	50%
DIT004	Mobile Communication	50%	50%
DIT005	Cybersecurity Basics	50%	50%
DIT006	Website Development	50%	50%

Marks and Grades

The infographic below shows the academic grading of this course with the breakdown of marks.



Graduation Requirement:

In order to be awarded the Diploma in Computing and Information Technology, a student must obtain at least a **Pass Grade** in all the modules within the eligibility period of 2 years from the original completion date.

Certificate will be awarded by Academies Australasia College.