UOW COLLEGE AUSTRALIA

PATHWAYS TO UNIVERSITY OF WOLLONGONG

Diploma of Information Technology (2 Session)

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Contents

Diploma of Information Technology (2 Session) Course Outline

1 Course Description

The UOW College Australia (UOWCA) Diploma of Information Technology provides students with knowledge, technical skills and capabilities to prepare them for further studies and for employment in the Information Technology industry. Tertiary skills development classes are embedded in all subjects in the Diploma of Information Technology, supporting students for successful participation in the second year of a UOW degree.

The Diploma provides pathways for entry into the Bachelor of Business Information Systems (BBIS), the Bachelor of Computer Science (BCompSc) or the Bachelor of Information Technology (BIT) at the University of Wollongong (UOW) with specified credit of up to 48 credit points for subjects in the compulsory core component of these degrees.

Diploma qualifications are located at level 5 of the Australian Qualifications Framework. The purpose of the Diploma qualification type is to qualify individuals who apply integrated technical and theoretical concepts in a broad range of contexts to undertake advanced skilled or paraprofessional work and as a pathway for further learning.

2 Graduate Qualities

The Diploma of Information Technology (2 Session) course is designed to assist students in developing the UOW College Australia Graduate Qualities. It helps students become:

1. **Informed:** Have a basic knowledge of an area of study and understand its issues. Know how to apply this knowledge.

2. **Independent Learners:** Begin to engage with new ideas and ways of thinking and critically analyse issues. Seek to extend knowledge through ongoing enquiry and active learning. Find and evaluate information, using a variety of sources and technologies. Acknowledge the work and ideas of others.

3. **Problem Solvers:** Demonstrate introductory levels of creative, logical and critical thinking skills to respond effectively to problems. Be flexible and thorough.

4. **Effective Communicators**: Articulate and convey ideas effectively using a range of media. Work collaboratively and engage with people in different settings.

5. **Responsible:** Understand how decisions can affect others and make ethically informed choices. Appreciate and respect diversity and act with integrity. Take responsibility for one's own learning and completion of assessment tasks.

3 Course Learning Outcomes

Graduates will be able to:

1. Apply theoretical and technical knowledge of information technologies to solve practical problems.
2. Perform analysis and design of systems to solve a range of problems.
3. Acquire, synthesise and integrate information relevant to a professional setting.
4. Think critically and creatively to identify better system solutions within business contexts.
5. Work collaboratively with others to solve information technology problems.

4 Course Learning Outcomes Mapped to Graduate Qualities

The table below shows how the graduate qualities are integrated into the course learning outcomes:

Course Learning Outcomes/Graduate Qualities	1. Informed	2. Independent Learners	3. Problem Solvers	4. Effective Communicators	5. Responsible
1. Apply theoretical and technical knowledge of information technologies to solve practical problems.	✓		✓	✓	
2. Perform analysis and design of systems to solve a range of problems.	✓		✓	✓	
3. Acquire, synthesise and integrate information relevant to a professional setting.	✓		✓		
4. Think critically and creatively to identify better system solutions within business contexts.		✓	✓	✓	
5. Work collaboratively with others to solve information technology problems.			✓	✓	✓

5 Course Structure and Subjects by Campus

TWO SESSION DIPLOMA OF INFORMATION TECHNOLOGY – AUTUMN, SPRING, SUMMER INTAKES (WOLLONGONG)

SESSION 1: UOW College Session Dates

Subject Code	Subject Name *(UOW Equivalent Subject Code)*	Credit Points	Contact Hours a Week
DPIT111	Programming Fundamentals *(CSIT111)*	6	5
DPIT113	Problem Solving *(CSIT113)*	6	6
DPIT114	System Analysis *(CSIT114)*	6	5
WUCB130	Introduction to Management *(MGNT110)*	6	5
Total Session 1		**24**	**21**

SESSION 2: UOW College Session Dates

Subject Code	Subject Name *(UOW Equivalent Subject Code)*	Credit Points	Contact Hours a Week
DPIT115	Data Management and Security *(CSIT115)*	6	5
DPIT121	Object Oriented Design and Programming *(CSIT121)*	6	5
DPIT127	Networks and Communications *(CSIT127)*	6	5
DPIT128	Introduction to Web Technology *(CSIT128)*	6	5
Total Session 2		**24**	**20**

TWO SESSION DIPLOMA OF INFORMATION TECHNOLOGY – AUTUMN, SPRING INTAKES (SOUTH WESTERN SYDNEY)

SESSION 1: UOW College Session Dates

Subject Code	Subject Name *(UOW Equivalent Subject Code)*	Credit Points	Contact Hours a Week
DPIT111	Programming Fundamentals *(CSIT111)*	6	5
DPIT113	Problem Solving *(CSIT113)*	6	6
DPIT114	System Analysis *(CSIT114)*	6	5
WUCB130	Introduction to Management *(MGNT110)*	6	5
Total Session 1		**24**	**21**

SESSION 2: UOW College Session Dates

Subject Code	Subject Name *(UOW Equivalent Subject Code)*	Credit Points	Contact Hours a Week
DPIT115	Data Management and Security *(CSIT115)*	6	5
DPIT121	Object Oriented Design and Programming *(CSIT121)*	6	5
DPIT127	Networks and Communications *(CSIT127)*	6	5
DPIT128	Introduction to Web Technology *(CSIT128)*	6	5
Total Session 2		**24**	**20**

6 Subjects Mapped to Course Learning Outcomes

Subject/Course Learning Outcomes	1. Apply theoretical and technical knowledge of information technologies to solve practical problems.	2. Perform analysis and design of systems to solve a range of problems.	3. Acquire, synthesise and integrate information relevant to a professional setting.	4. Think critically and creatively to identify better system solutions within business contexts.	5. Work collaboratively with others to solve information technology problems.
DPIT111 Programming Fundamentals	✓	✓	✓		
DPIT113 Problem Solving	✓		✓	✓	
DPIT114 System Analysis	✓	✓	✓	✓	✓
DPIT115 Data Management and Security	✓	✓	✓	✓	
DPIT121 Object Oriented Design and Programming	✓	✓	✓	✓	
DPIT127 Networks and Communications	✓		✓	✓	✓
DPIT128 Introduction to Web Technology	✓		✓	✓	
WUCB130 Introduction to Management			✓	✓	✓

7 Progression Guidelines

Course Progression Requirements

1. To qualify for the award of the Diploma of Information Technology, students must achieve a minimum result of 50% for each subject in the Diploma.
2. Students who meet the requirements for the award of the Diploma can progress to the second year of the Bachelor of Business Information Systems or the Bachelor of Computer Science or the Bachelor of Information Technology in the Faculty of Engineering and Information Sciences Faculty at UOW's Wollongong or South Western Sydney Campuses with 48 points of UOW credit transfer.
3. DPIT111 Programming Fundamentals is a pre-requisite for DPIT121 Object Oriented Design and Programming. Students cannot enrol in DPIT121 unless they pass DPIT111 with a minimum result of 50%.
4. Students may fast track to the Bachelor of Business Information Systems or the Bachelor of Computer Science or the Bachelor of Information Technology in the Faculty with 36 or 42 points of UOW credit transfer, with the following conditions:
    a. WUCB130 Introduction to Management does not count toward the 36 or 42 points of UOW credit required to exit the Diploma.
    b. Students must be on Active Status. Students on a Status of Referral or Restricted cannot exit the Diploma; they must finish their remaining subject or subjects within the Diploma.

8 Entry Requirements / Admissions Guidelines

Entry requirements for this course can be viewed online at:

https://coursefinder.uow.edu.au/information/index.html?course=diploma-of-it-two-sessions-uow-college

9 Assessment

Students are required to complete a number and variety of assessment tasks related to their streams of study.

Each subject has a subject outline that is issued to students. Subject outlines contain an overview of subject objectives, an assessment schedule, a list of learning resources and a weekly topic outline. Subject outlines also contain an explanation of assessment components.

All assessment tasks with a weighting of 10% or greater have marking criteria and an answer/marking guide.

All aspects of assessment are governed by the Assessment Guidelines, which can be viewed at: Assessment & Examination Guidelines for Students and Assessment Guidelines.

10 Quality Assurance

The College applies formal quality assurance processes to its design of courses, subjects and their assessments. These processes include:

- Clear subject outlines that align with the objectives of the course and support consistent delivery of content;
- Mandatory inclusion of clear and appropriate marking criteria in assessment tasks;
- Moderation of marking of student assessment tasks, ensuring that the assessment criteria have been applied consistently and there is equity across individual markers;
- A regular schedule of audits on student assessment tasks using randomly-selected samples of student work; and
- The use of feedback from students and teachers to inform continuous improvement of curriculum, delivery, policies and procedures.

Details of the College's approach to quality assurance can be viewed at the following link: https://www.uowcollege.edu.au/about/policies-procedures/index.html.

11 Subject Descriptions

DPIT111 Programming Fundamentals

The broad aim of this subject is to develop in students an understanding of the fundamental principles of programming. The subject focuses on the object-oriented view of problem analysis and solving. It enables students to develop skills in the design and implementation of well-structured programs in a range of domains.

DPIT113 Problem Solving

This subject introduces the analysis of problems and the strategies used to manage them, primarily in the context of computing. Problem classification is introduced, as are formal and informal approaches to problem solving. Students explore alternate problem representations and examine how a problem's representation may affect its solution. The importance of a methodical approach is highlighted. Students are encouraged to classify problems and consider which strategies are appropriate for solving particular classes of problem. The need to compare and analyse strategies is justified. Introductory tools for the analysis of strategies are covered.

DPIT114 System Analysis

This subject provides an introduction to different techniques and technologies for understanding and specifying what a computer-based information system should accomplish. It examines the complementary roles of systems analysts, clients and users in a system development life cycle. Students will learn different fact-finding techniques to elicit system requirements and how to develop business models, data and process models, and object models representing a system. Students will also make use of a Computer Aided Software Engineering (CASE) tool to build those models that capture the specifications of a system.

DPIT115 Data Management and Security

The subject investigates three major areas of modern data management systems: data modelling, data processing, and data security. The goal of the subject is to learn the fundamental concepts in data management, including conceptual modelling, the relational data model, processing of relational data with Structured Query Language (SQL), enforcing the concepts of data confidentiality, integrity, and availability data management systems. The subject develops skills in the design, implementation, processing, and security of data management systems. The subject covers the following topics in data security: discretionary access control, user management, enforcing data security and integrity. The subject also explains the important ethical issues associated with responsible disclosure, responsibility, liability, security weaknesses, and privacy in data management systems.

DPIT121 Object Oriented Design and Programming

The aims of this subject are to consolidate and extend students' knowledge and skills in structured programming and to develop their understanding and practice of object-oriented programming. To achieve this aim, the subject will provide students with an opportunity to develop further programming skills and good coding style; develop skills in using the object-oriented concepts of encapsulation, inheritance, polymorphism, access control, overloading and messaging; and develop and display competency in the design and implementation of object-oriented programs to solve business problems.

DPIT127 Networks and Communications

The subject will introduce students to the fundamentals of data communications and computer networks. Topics covered include: different types of data and the history of data communications; signals, modulation and multiplexing; switching technologies and routing; network architectures: LANS, WANs and the Internet; Internet services, multimedia services, broadband services and Internet protocols; and emerging technologies: optical and wireless networks. The subject explains computer networking models that interconnect diverse communication systems, including the ISO reference model and the TCP/IP Suite.

DPIT128 Introduction to Web Technology

This subject will introduce students to the fundamental technologies of the World Wide Web and its many commercial applications. The topics for this subject include HTML5, CSS3, Web Forms, XML and its definition languages, XSLT, JavaScript, AJAX and JSON. Within the scope of these topics, students will build working websites that utilise dynamic and event-driven content along with contemporary CSS styling. This subject will also explore the methods available for integrating server-side resources into client-side HTML interfaces.

WUCB130 Introduction to Management

This subject will introduce students to key management theories and concepts including organisational culture, social responsibility, ethics, managing groups, motivating employees, planning, managing human resources and employment relations, strategic management, decision-making, managing operations, leadership and foundations of management control. The course is designed to provide an opportunity for students to acquire understanding through a series of lectures supported by student participation in simulation activities. The subject is presented from the point of view of managers, but students will learn how the different interests between organisational stakeholders affect various management processes.

12 Version Control Table

Version Control	Date Effective	Approved By	Amendment
1	12/09/2019	UOWCA Academic Board	Initial release – 2020 delivery