



UOW
MALAYSIA
KDU PENANG
UNIVERSITY COLLEGE

—
PART OF THE UNIVERSITY
OF WOLLONGONG AUSTRALIA
GLOBAL NETWORK

UOW MALAYSIA KDU PENANG UNIVERSITY COLLEGE

Student Handbook

Diploma in Information Technology

Department of Computing
School of Engineering, Computing and Built
Environment

1. ACADEMIC AND SUPPORT STAFF

Head of School

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Head of Department

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2. ACADEMIC CALENDAR

Diploma in Information Technology

January 2021 Semester

- Briefing and Registration
- Class Commencement
- Final Exam Weeks

April 2021 Semester

- Briefing and Registration
- Class Commencement
- Final Exam Weeks

May 2021 Semester

- Briefing and Registration
- Class Commencement
- Final Exam Weeks

July 2021 Semester

- Briefing and Registration
- Class Commencement
- Final Exam Weeks

September 2021 Semester

- Briefing and Registration
- Class Commencement
- Final Exam Weeks

18 January 2021 – 30 May 2021

- 15 January 2021
- 18 January – 16 April 2021
- 26 April – 7 May 2021

1 April 2021 – 31 May 2021

- 1 April 2021
- 1 April – 9 May 2021
- 10 May – 14 May 2021

28 May 2021- 12 September 2021

- 28 May 2021
- 31 May 2021 – 15 August 2021
- 16 August 2021 – 29 August 2021

12 July 2021- 12 September 2021

- 12 July 2021
- 12 July 2021 – 15 August 2021
- 16 August 2021 – 29 August 2021

13 September 2021 – 31 December 2021

- 10 September 2021
- 13 September – 4 December 2021
- 13 December – 26 December 2021

*Public Holidays 2021

1st January
 28th January
 12th February – 13th February
 29th April
 13th May – 14th May
 26th May
 7th June
 7th July
 10th July
 20th July
 10th August
 31st August
 16th September
 19th October
 4th November
 25th December

- New Year's 2021
- Thaipusam
- Chinese New Year
- Nuzul Al-quran
- Hari Raya Aidilfitri
- Wesak Day
- Agong's Birthday
- Georgetown World Heritage
- Penang Governor's Birthday
- Hari Raya Haji
- Awal Muharram
- National Day
- Malaysia Day
- Prophet Muhammad's Birthday
- Deepavali
- Christmas Day

**Subject to change*

3. DEPARTMENT GENERAL INFORMATION

3.1 About the Department

The Department of Computing was set up in line with the nation's desire to achieve developed nation status by 2020. As one of the early departments of UOW Malaysia KDU Penang University College, Department of Computing was planned to enable students to take advantage of the constantly increasing demand for top caliber professionals in the IT industry, thereby meeting the manpower needs for skilled IT personnel in the industry.

UOW Malaysia KDU Penang University College's Department of Computing endeavors to address the need for skilled IT graduates by offering higher degree courses, backed by highly skilled and dedicated teaching staff and comprehensive computing facilities.

The computing programmes are designed to develop students in a broad and deep knowledge of their chosen discipline and the development of competencies necessary for their personal advancement in their scholarly, professional or creative careers.

The study of computing opens up a wide variety of challenging and interesting career opportunities. Computing plays an important role in most areas of commerce, industry and government where an extensive range of computer applications are found. Graduates of UOW Malaysia KDU Penang University College usually enter the industry as software engineers, IT consultants, computer marketing personnel, IT personnel, programmers and system analysts.

Through the steady flow of its graduates into the community, the department strives to assist the society to meet its need for educated individuals willing to be of service to others. The department will continue to expand with the demand for graduates who can face not just today's challenges, but who can tackle an unimagined future with confidence and innovation

3.2 External moderator

Industry professionals and academics will be appointed as external moderators to the Diploma in Information Technology.

3.3 School's facilities

The School prides itself in the many advanced cutting-edge computer technology facilities. With the latest state-of-the-art and well-equipped laboratories, the school aims to produce knowledgeable, creative and innovative information technologists.

- ☐ Research Centre
- ☐ Computer Labs, more than 300 Computers
- ☐ PCs, iMacs, Notebook Computers
- ☐ Unlimited Internet access
- ☐ Wireless environment
- ☐ Up-to-date software
- ☐ Overhead Projectors, Multimedia Projectors, Printers, Scanners, etc.

3.4 **Career prospects**

Being in the industry allows the diploma students to be part of the technology wave of the world. It grants you the chance to bring forth technology to greater heights and advance the living standards of the world.

With the computing and information systems qualifications, the students can choose from a wide range of careers at supervisory and management levels.

The career options include:

- Hospitality and Food Service
- Tourism
- Sports and Entertainment
- Marketing and Communication
- Consultancy
- Education and Training
- Health
- Entrepreneurship

Popular career choices:

Programmer, network administrator, technologist, system analyst, software engineers, database administrator, consultant, web designer, system implementer, research officer, chief information officer, chief technology officer and many more.

3.5 **Alumni**

Our graduates have found employment in various industry sectors, including banking, engineering, education, semiconductor, IT, lighting, property development and telecommunications in renowned multinational companies like Intel, Agilent, Motorola, Dell, Pentamaster, Altera, AMD, Jabil Circuit, Justicon Technology, Plexus and Western Digital.

3.6 **Valedictorian / Book Prize**

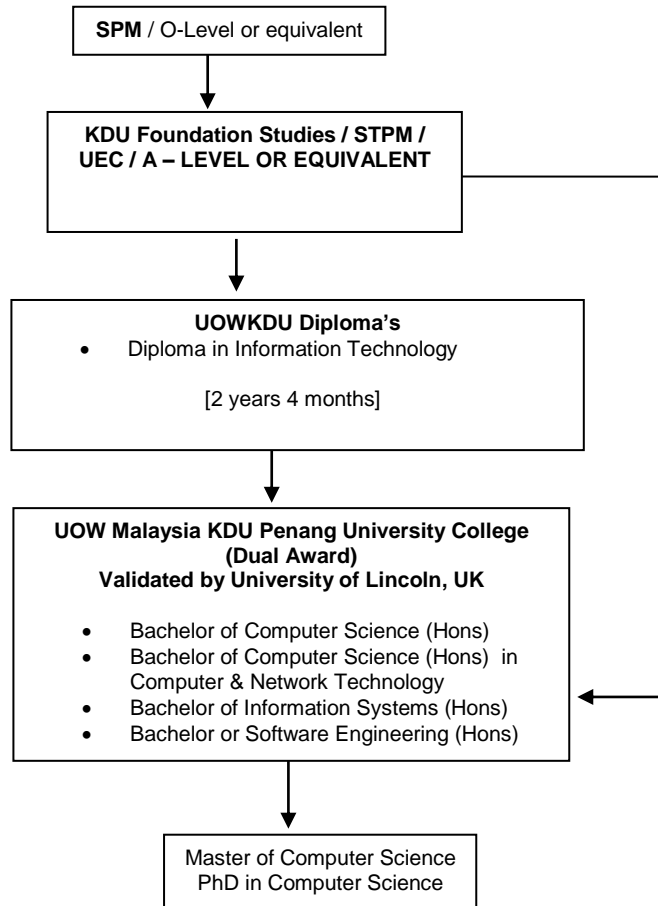
The Valedictorian is chosen based on outstanding academic performance and excellent contribution to the UOW Malaysia KDU Penang University College community.

3.7 **Course based society**

The peers within the College and the Department form the spine of your educational community.

3.8 **Program route**

Diploma in Information Technology has an excellent route from a Diploma right up to a master degree via UOW Malaysia KDU Penang University College's internal program route. Students can, upon completion of the Diploma in Information Technology, move into the Year 2 UOW Malaysia KDU Penang University College – University of Lincoln, UK dual award degree programmes.



3.9 Entry Requirement

- SPM (sat in year 2013): 3 Credits including Maths, Pass in BM & Sejarah
- SPM (sat before year 2013): 3 Credits including Maths & Pass in BM
- O-level: 3 Credits including Maths
- UEC: 3 Credits (Min Grade B) including Maths
- Recognised Certificate in relevant field with Standard CGPA 2.0

3.10 School Rules & Regulation

In UOW Malaysia KDU Penang University College's School of Engineering, Computing and Built Environment you not only come to learn, to be motivated, to be constructive, and interactive, but we also train you to be self-reliant and self-disciplined. We have a series of rules and regulations regarding the school, fees payment, assessment etc. that are designed to help you to achieve success in your studies.

Lecture Rules and Conduct

- 3.10.1 Students must attend all their classes. Students will be barred from joining the Final Examinations if they fail to achieve **80% attendance in the classes**
- 3.10.2 Students must be punctual---at the beginning of each class and at the beginning of each class after break.
- 3.10.3 Students cannot leave the classroom---“no emergencies are allowed.” Not more than one emergency is allowed at any one time.
- 3.10.4 Students cannot make unwanted noise during the class.
- 3.10.5 Lecturers will take attendance at the beginning of each class and after the in-between break.
- 3.10.6 Attendance is compulsory. Lecturers will take attendance; the attendance record will be kept and studied. However, students will not be given any marks for attendance. They will be barred from joining the Final Examination if they fail to achieve 80% attendance requirement. An official warning letter will be written to parents once the student is absent three or more times.

4. GRADUATE ATTRIBUTES

At UOW Malaysia KDU we take great pride in the qualities we instill in our graduates, which firmly reflect our institutional culture and values. Our graduates' academic and campus experience ensures that they possess the following attributes regardless of their program of study.

INTELLECTUAL COMPETENCY

- Demonstrate in-depth knowledge of the discipline for effective decision-making

PROFESSIONAL ACUMEN

- Apply knowledge learned effectively into their professional career
- Demonstrate skills of the discipline effectively and professionally
- Establish a strong understanding of industry requirements and challenges
- Strive for justice, equality, honesty, and integrity in his/her professional pursuits
- Continuously engage in learning new knowledge of the discipline as well as across disciplines

EFFECTIVE COMMUNICATION SKILLS

- Express and discuss complex ideas effectively in written and spoken form
- Utilize various information technologies to communicate

CREATIVE, CRITICAL THINKING, AND PROBLEM SOLVING ABILITIES

- Analyze, assess, and utilize different thinking skills to determine the value of information and ideas
- Provide solutions to problems effectively
- Inspire others and work effectively in a team
- Demonstrate self-awareness and self-reflection towards continuous-quality-improvement

ENTREPRENEURIAL SPIRIT

- Engage risk and reality in decision making
- Demonstrate high adaptability and perseverance in overcoming challenges
- Innovate and generate ideas
- Evaluate the context and viability of an organization or business

GLOBAL MINDSET

- Function in an international context with respect of diversity, and be open-minded to social and cultural differences
- Be knowledgeable about national, international and global issues
- Collaborate with anyone at any location of the world anytime and anywhere
- Be a responsible and ethical global citizen

5. PROGRAMME OBJECTIVES AND OUTCOME

5.1 Introduction

This programme is accredited by Malaysian Qualifications Agency (MQA), recognized by Ministry of Higher Education (MOHE) and Public Services Department, Malaysia (JPA). This 2 years 4 months full-time course introduces students to basic computer principles and programming.

Students are also required to undertake practical on-the-job training with companies and factories in the northern region, or complete a systems development project before they receive their diploma. This requirement enables students to apply classroom knowledge to a working environment.

Students may ordinarily register for up to 5 modules per semester, subject to having fulfilled the pre-requisites for each module. Final examinations are held at the end of each semester. Should a student fail a module; he/she must repeat that module the following semester, under certain conditions the student may be allowed sit for the supplementary exam.

The Diploma in Information Technology Studies also represents a component of study towards an overseas B.A/B.Sc. Degree.

Duration of program: 2 years 4 months

Qualification earned: Diploma in Information Technology

Awarded by: UOW Malaysia KDU Penang University College

5.2 Objective

To produce graduates who:

- Possess relevant knowledge, skills and aptitude to carry out routine tasks and support services in the field of information technology.
- Can apply the knowledge and skills on the appropriate tools and methods to effectively solve IT-related problems, and/or define, design, implement and deploy IT software solutions of various size, including the use of critical-thinking and higher-level problem-solving in the process.
- Possess good communication and interpersonal skills to be an effective team-player and are aware of their social and ethical responsibilities.
- Have appropriate leadership, management and entrepreneurial qualities, including the skills to engage in lifelong learning.

5.3 Learning Outcomes:

By the end of this course, students are able to:

- Apply knowledge and skills to document requirements, design and develop user-friendly IT solutions in relevant areas.
- Provide technical support and maintenance for computer solutions.
- Demonstrate teamwork, interpersonal and social skills to enable achievement of tasks and projects.
- Communicate effectively with peers, clients, superiors and society at large.
- Demonstrate professionalism, social and ethical considerations in accordance to legal and ethical principles.
- Demonstrate managerial and entrepreneurial skills, including the ability to articulate and document work-flow during project development.
- Demonstrate problem-solving and critical-thinking skills in handling tasks and issues.
- Apply skills and principles of lifelong learning in academic and career development.

6. CURRICULUM STRUCTURE AND INFORMATION

6.1 Course Guidelines

| September 2021 Intake | | | | | |
|-----------------------|-----------------------------|---------------------------------------|--|--------|-------------------------|
| No | Year/Sem | Course Code | Course Name | Credit | Pre-req |
| 1 | Y1/S1- September2 021 | MPU2422N (MPU4) | TEAMWORK AND COMMUNITY | 2 | None |
| 2 | | DOP1254N | FUNDAMENTALS OF OBJECT-ORIENTED PROGRAMMING | 4 | None |
| 3 | | DSA1214N | OBJECT-ORIENTED SYSTEMS ANALYSIS AND DESIGN | 4 | None |
| 4 | | DUD1204N | USER INTERFACE DESIGN | 4 | None |
| 5 | | DCM1124N | COMPUTING MATHEMATICS | 4 | None |
| Total credits | | | | 18 | |
| 6 | Y1/S2- Jan2022 | DJP2264N | JAVA PROGRAMMING | 4 | DOP1254 |
| 7 | | DDA1224N | DATA STRUCTURES AND ALGORITHMS | 4 | DOP1254 |
| 8 | | DOS1524N | INTRODUCTION TO OPERATING SYSTEM | 4 | None |
| 9 | | DDS1144N | DATABASE SYSTEMS | 4 | None |
| Total credits | | | | 16 | |
| 10 | Y1/S3- June2022 | MPU2323N (MPU3) | SOCIETY AND DEVELOPMENT IN MALAYSIA | 3 | None |
| 11 | | KDEN1033N | ORAL COMMUNICATION | 3 | None |
| 12 | | DCL1284N | COMPUTER ARCHITECTURE | 4 | None |
| 13 | | DNS1254N | NETWORKING FUNDAMENTAL | 4 | None |
| Total credits | | | | 14 | |
| 14 | Y2/S1- Sept2022 | MPU2293N(MPU2) | PERSONAL DEVELOPMENT SKILLS | 3 | None |
| 15 | | MPU2163N (MPU1)/MPU2133N (MPU1) | PENGAJIAN MALAYSIA 2/ BAHASA MELAYU KOMUNIKASI 1 | 3 | None |
| 16 | | DIT2154N | INTERNET TECHNOLOGY AND APPLICATION | 4 | None |
| 17 | | DMA1234N | MULTIMEDIA AUTHORIZING | 4 | None |
| Total credits | | | | 14 | |
| 18 | Y2/S2- Jan2023 | DSM2294N | SYSTEM ADMINISTRATION AND MANAGEMENT | 4 | None |
| 19 | | DVB1134N | VB PROGRAMMING | 4 | DOP1254 |
| 20 | | DCS22104N | FUNDAMENTALS OF SECURITY IN ETHICAL HACKING | 4 | DIT2154 |
| 21 | | DMT22113N | MOBILE TECHNOLOGY | 3 | DJP2264 |
| Total credits | | | | 15 | |
| 22 | Y2/S3- June2023 | DTP3033N | TECHNOPRENEURSHIP | 3 | None |
| 23 | | DPT3054N | PROJECT | 4 | DSA1214 & DOP1254 |
| Total credits | | | | 7 | |
| 24 | Y3/S1- Sept2023 | DIS2046N | INTERNSHIP | 6 | Complete Year 2 |
| Total credits | | | | 6 | |
| Overall total Credits | | | | 90 | |

Note: You are required to strictly follow your study plan for each semester enrollment to enable you to graduate on time. However, the study plan is subjected to revision/ adjustment upon every semester programme planning. Please refer to the subject offering confirmation before your semester enrollment.

If you do not have credit in SPM Bahasa Malaysia, you are required to register to additional MPU subject Bahasa Kebangsaan A. Please consult program leader for subject offering session.

6.2 Examination System

Assessment

Each course subject will have its own framework of assessment, which will be stated in the study guide. Below is a sample:

| | |
|----------------------|-------------|
| Assignments/Project | 30% |
| Mid Term Examination | 20% |
| Final Examination | 50% |
| Total | 100% |

All course subjects will have a final exam. To pass the subject **students have to achieve minimum 40 marks for both components (summative or formative) with an overall total marks of 50. All marks below 40% at component level and 50% at course level will be considered Fail.**

Passing Marks and Grading Scheme

Below is the standard Institutional grading scheme, which is applicable to all UOW Malaysia KDU programs.

| Grade | | Marks (%) | Grade point |
|-------|------------------|-----------|-------------|
| A+ | High Distinction | 85-100 | 4.00 |
| A | Distinction | 80-84 | 4.00 |
| A- | Good | 75-79 | 3.67 |
| B+ | High Credit | 70-74 | 3.33 |
| B | Credit | 65-69 | 3.00 |
| B- | Satisfactory | 60-64 | 2.67 |
| C+ | Commendable Pass | 55-59 | 2.33 |
| C | Pass | 50-54 | 2.00 |
| D | Marginal Fail | 40-49 | 1.00 |
| F | Fail | 0-39 | 0 |

6.3 Course Synopsis

Diploma in Information Technology

1. Fundamentals of Object Oriented Programming

Pre-requisite: None

This course introduces C++ language, Object-Oriented Programming and special features. It uses C++ as a discipline conceptual framework for software development.

2. Object Oriented Systems Analysis and Design

Pre-requisite: None

This module addresses object oriented analysis and design using UML. Students are taught to capture requirements using the use case modeling technique. They are also taught to design a system using Class and Collaboration diagrams.

3. Computing Mathematics

Pre-requisite: None

This course is designed to provide students with a basic understanding and ability to model software and related data/systems, through the application of concepts of discrete mathematics and additional mathematics techniques.

4. User Interface Design

Pre-requisite: None

This is a module that addresses the concepts and development of interactive multimedia programs within the human-computer interactive models, with emphasis on elements of good User Interface Design for applications development.

5. Java Programming

Pre-requisite: Fundamentals of Object Oriented Programming

This is a course that addresses Java Programming with emphasis on text-based, GUI, and Thread programming.

It inculcates an object-oriented approach to the programming process with the Java Programming Language using SL-275 standard (second half) from Sun Microsystems as the preparation for the Java Certified Programmer

6. Data Structure and Algorithms

Pre-requisite: Fundamentals of Object Oriented Programming

This course aims to help students understand the concept of data abstraction and to apply this abstractions using an object-oriented language. The students will be exposed to various data

structures, both in implementation and their use in simple applications. The concept of recursion will also be introduced and used in some of the data structures. In addition, searching and sorting techniques will be explored and analyzed. Simple analysis using big O notation will be introduced.

7. Database System

Pre-requisite: None

This course is aimed at developing practical skills in database planning, designing and implementation in students. Students will learn database design techniques such as ERD and Normalization, and database transaction management such as concurrency control and recovery control.

8. Networking Fundamental

Pre-requisite: None

This subject discusses to the purpose of computer networking concepts. It discusses basic networking concepts such as routing, switching, network infrastructures such as intranets, internets, and extranets, and learn about network topologies. This module also introduces network protocols and models such as OSI and TCP/IP.

9. Introduction to Operating System

Pre-requisite: None

This subject introduces the application and implementation of operating systems. It discusses the function of operating system regardless of the system hardware. Students are given the opportunity to apply an OS in their own programs to solve a variety of problems. Additional topics such as memory management, file systems and security are required in the implementation of a full-scale OS and are investigated in this module.

10. VB Programming

Pre-requisite: Fundamentals of Object Oriented Programming

This course helps students to develop practical skills in window-based application development by using VB.

Students will learn the different types of controls used in a GUI-based application and to create various event procedures for the controls. It aims to extend students' understanding on database applications that interfaces with VB applications. Students will also learn to use database software such as MS Access or SQL Server for application development.

11. Internet Technology and Application

Pre-requisite: None

This unit focuses on developing high-performance Web applications with Visual C# .NET with practical work, on the fundamental tools and technologies, including the common language runtime, Web Forms, XML Web services, and the Microsoft .NET Framework.

12. Fundamentals of Security in Ethical Hacking

Pre-requisite: Internet Technology and Application

This is a course that addresses the professional requirements of the computer security practitioner will be incorporated throughout the course syllabus of this programme, and it is anticipated, this course will contribute to the CEH (Certified Ethical Hacking) certification in computer security.

13. Computer Architecture

Pre-requisite: None

This course is designed to provide students with the knowledge of the computing system architecture, organizing structures, technical components of computer based system and role played by system software in the development of computer applications. In addition, this module will provide an opportunity for students to gain an understanding the development, current trends and issues of today's computer technology.

14. System Administration and Management

Pre-requisite: None

This is a module that provides basic workstation administration. It includes installation of operating systems, adding users, backing up and restoring file systems, and adding new printer support. Emphasis is placed on the procedures needed to perform system administration tasks.

15. Technopreneurship

Pre-requisite: None

This course provides an overview of high technology and entrepreneurial skills required to starting a business, of team building, raising capital, planning a new business, marketing and developing business strategies.

This course addresses the planning and designing requirements of a business plan with emphasis on the financial, marketing, and legal aspects.

16. Project

Pre-requisite: 1) Object Oriented Systems Analysis and Design 2) Fundamentals of Object Oriented Programming

In this course, the students demonstrate their project handling through the basic techniques for conducting and managing systems analysis and design activities.

17. Multimedia Authoring

Pre-requisite: None

This is a course that addresses practical development of a multimedia product with emphasis on multimedia elements such as texts, images, audios, videos and animations.

18. Mobile Technology

Pre-requisite: Java Programming

This course provides students with hands-on experience with developing mobile applications on the Java(TM) 2 Platform, Micro Edition (J2ME(TM) platform) using Connected, Limited Device Configuration (CLDC) and the Mobile Interface Device Profile (MIDP).

19. Internship

Pre-requisite: None

The internship would provide students with the adequate on-the-job training in the various fields in computing. The internship would also better prepare the students with the necessary skills to face the job market.

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