JCU Diploma of Higher Education (Information Technology)

COURSE DETAILS

1) Course Entry Requirement(s)

To gain entry to the Diploma of Higher Education in Information Technology prospective students must have:

- a lower level Year 12, GCE 'A' Level qualifications or its equivalent.
- in addition, an overall IELTS score of 5.5 (with no component lesser than 5.0) or its equivalent or completed the JCU English Language Preparatory program Level 2 (score of 75% & above), ELPP Level 3 (55% and above)

2) Course learning outcomes

The objective of the Diploma of Higher Education program with its two streams is to provide a suitable pathway for students with an unacknowledged or lower level Year 12, GCE 'A' Level qualifications. The new Diploma of Higher Education will primarily focus on providing a supported pathway into degree study for non- degree eligible students.

Students in this course will be given a tailored program within the allocated study period to acquire the necessary skills needed to progress to an undergraduate degree program. The Diploma of Higher Education will also provide an exit point for early graduates who wish to undertake advanced skills or paraprofessional work in the industry.

The graduates of the JCU Diploma of Higher Education will be prepared and equipped to create a brighter future for life in the tropics through the application of acquired knowledge and skills and being enabled for study at bachelor degree level.

3) Exit Requirements

Pass all 8 subjects.

4) Course schedule with modules and/or subjects

For the Diploma of Higher Education in Information Technology students must complete eight subjects. Each subject is equivalent to 3 credit points.

Diploma of Higher Education (Information Technology)	
Subjects	CU1022:03 Developing Academic Skills (Core) CS1022:03 Learning in a Digital Environment (Core) MA1022:03 Essential Mathematics CV1200:03 Effective Speaking CP1801:03 Fundamentals of Problem Solving and Programming CP1802:03 Internet Fundamentals CP1806:03 Interactive Media and Web Technologies CP1803:03 Design Thinking* CP1805:03 Games for Business and Gamification* (* Offered in alternate semesters)

5) Course Duration

The Diploma of Higher Education is a 8 month program comprising of two trimesters. It is conducted on a trimester basis (4 subjects per trimester).
Intakes: March, July & November

Course Title	Contact Hour/week per subject	Total Teaching Weeks	Total Subjects	Total Contact Hours Full-time
Diploma of Higher Education (Information Technology)	5	10	8	400

6) Module synopses

CU1022 Developing Academic Skills

Developing Academic Skills allows you to develop the learning, thinking, critical reading and writing and time management skills that are required for rigorous study in a university context. The subject aims to facilitate the process of orientation and transition into academic teaching and learning cultures in a range of disciplines. You will develop learning skills relevant to the contemporary university environment to maximise learning from future lectures, tutorials and online subject materials. You will learn to plan and develop responses to a range of assessment tasks, and develop skills to prepare a range of written and oral tasks required in a university environment. Through actively engaging in planning, monitoring and evaluating your own learning, you will develop confidence in your own ability to be successful in higher education studies. There will be a strong emphasis on the importance of independent learning for successful university studies.

Learning Outcomes

- Upon successful completion of this subject, you will be able to: Identify, analyse, synthesize and evaluate information, claims and evidence from a range of texts and sources for specific academic purposes
- Communicate information, ideas, arguments and solutions in a clear and logical way using appropriate academic and referencing conventions
- Demonstrate the ability to be a self-directed and independent learner through application of knowledge and academic literacy, digital literacy and numeracy skills
- Demonstrate autonomy, judgment, accountability and responsibility to complete a range of higher education activities within broad but established parameters
- Manage personal development and evaluate future study/career pathways

CS01022 Learning in a Digital Environment

In Learning in a Digital Environment, you will develop the digital literacy skills required to select and use appropriate tools and technologies for learning and research purposes as well as communicating information, including the use of mobile devices. Through experiential learning activities, you will develop the necessary skills to use computers and other information communication technologies that are integral to learning and success at university. The subject will also introduce you to the LearnJCU platform, exploring its functions and uses across different disciplines. This subject will enable you to apply practices that ensure your safety in a digital environment.

Learning Outcomes

- Upon successful completion of this subject, you will be able to: Identify, analyse, synthesize and evaluate information, claims and evidence from a range of texts and sources for specific academic purposes
- Communicate information, ideas, arguments and solutions in a clear and logical way using appropriate academic and referencing conventions
- Demonstrate the ability to be a self-directed and independent learner through application of knowledge and academic literacy, digital literacy and numeracy skills
- Demonstrate autonomy, judgment, accountability and responsibility to complete a range of higher education activities within broad but established parameters
- Manage personal development and evaluate future study/career pathways

MA1022 - Essential Mathematics

You will develop mathematical knowledge, conceptual understanding and skills through investigative and explorative approaches to learning. These approaches provide opportunities for you to work individually, as well as collaboratively and cooperatively in teams. This subject is designed in ways that encourage you to develop positive and productive attitudes towards mathematics. You will participate in learning experiences that have relevance to you personally and to a range of work contexts and possible future study pathways. Essential Mathematics involves the study of Functional Mathematics, Financial Mathematics, Applied Geometry and Statistics and Probability.

Learning Outcomes

- Upon successful completion of this subject you will be able to: Interpret and use appropriate mathematical terminology, symbols and conventions
- Access select, manipulate and apply mathematical rules, formula and procedures
- Interpret, clarify, analyse, model and solve problems
- Analyse, organise and communicate information via written, symbolic, pictorial and graphical forms, for different purposes and audiences.
- Justify the reasonableness of results obtained through the use of technology, and justify conclusions , solutions or propositions through logical explanations and sequences in everyday language and/or mathematical language

CV1200 - Effective Speaking

This subject offers practical training in vocal techniques essential to develop effective speech capabilities. Students are exposed to and learn the skills required to communicate effectively in such contexts as formal discussions, debates, meetings, public presentations and seminars. It also enables students to develop a vocal signature and use it and their body in effective communication.

Learning Outcomes

- the ability to analyse the voice and its role in communication;
- the capacity to apply in practice the interaction between purpose, audience and context;
- facility and confidence in speaking for a range of communicative purposes;
- foundation skills in oral interpretation;
- an understanding of the reciprocal roles of listener and speaker.

CP1801 - Fundamentals of Problem Solving and Programming

In this subject students will develop analytical skills and problem solving techniques to develop solutions and/or decision-making competence. Students will learn the principles of data-driven problem solving, analysis and visualisation using Microsoft Excel functions and formulas. In this subject, basic programming using Visual Basic Applications within Microsoft Excel will be introduced. This subject forms a foundation for further programming subjects in the course.

Learning Outcomes

- categorise and compare input/output computer hardware and software components
- describe problem-solving techniques in the IT context
- apply problem solving and visualisation techniques in Microsoft Excel basics for decision support
- define basic programming concepts
- demonstrate basic knowledge of programming using Visual Basic Applications (VBA)

CP1802 - Internet Fundamentals

This subject introduces students to Internet standards, architectures and technologies to develop fundamental knowledge of network devices, network models, and Internet protocols. Knowledge of the following themes will be developed: Open Systems Interconnection (OSI) and TCP/IP models, subnetting, switching, routing, LAN and WAN protocols, and network security. Students will also gain experience in network design, configuration and troubleshooting of core network devices.

Learning Outcomes

- describe the various components of Local Area Network (LAN) and a Wide Area Network (WAN) computer networks
- explain how the Open Systems Interconnect (OSI) and TCP/IP reference models function in designing communications in LAN and WAN environments
- identify and configure the hardware and software components that make up a LAN and WAN
- plan and Implement the TCP/IP protocols to design a LAN and WAN
- explain the fundamentals of network security and troubleshooting procedures and practice

CP1803 - Design Thinking

This subject provides students with the design process, interpretation, ideation, experimentation, evolution of design solutions, design formulation and design thinking. Students will develop essential design skills of creating, imaging, generating, iterating, communicating and consolidating. Collaboratively students will work together in teams to design, iterate, implement and validate computing solutions. Through projects, students will develop problem solving skills, communication skills, presentation skills, project management skills and also build creative systems for business cases. Students will learn basic approaches to creative group problem solving in multidisciplinary teams in the form of one-day "sprint" or "hackathon" event. The 'sprint' environment used in this subject will provide students an opportunity to develop these skills via a short-term practical exercise (or single day 'sprint') to collectively analyse a problem, design a practical solution and implement a solution in a single day.

Learning Outcomes

- apply basic design thinking processes
- apply basic project management skills for creative IT industries
- appraise basic multidisciplinary IT systems design
- apply basic multidisciplinary design thinking to business cases

CP1805 - Games for Business and Gamification

Students are introduced to the concepts and techniques of using 'serious games' and 'gamification' to achieve business goals in areas such as marketing, human resources management, productivity enhancement, training, customer engagement, and innovation. Real-world case studies are used to identify effective strategies, techniques and metrics for serious game and gamification to solve business problems. Legal and ethical issues related to serious games and gamification are introduced.

Learning Outcomes

- explain different types of gamification and applications
- apply concepts of motivation and user-based design to gamification
- evaluate existing serious games and gamification techniques and applications
- apply concepts and techniques of gamification to create games to achieve business goals

CP1806 - Interactive Media and Web Technologies

In this subject students are introduced to design, visual thinking, interactive media (graphics, audio, video) and a comprehensive overview of web technologies. Students explore Web and creative technologies, creation of interactive media, and standards used in the field including HTML, scripting languages and databases. Students will also learn add-on services that could be easily integrated into creative and web systems such as maps, blogs, and content management.

Learning Outcomes

- demonstrate best practices in creative and web design
- examine interactive media and web development technologies
- apply basic HTML and scripting languages to design interactive web sites