MMU®
MULTIMEDIA UNIVERSITY

UPDATED
2024
VERSION

TOGETHER WE LEAD THE
DIGITAL FUTURE

Maavwin Ashokumar
MMU IT Student

INFORMATION TECHNOLOGY AND COMPUTER SCIENCE

TM GROUP

A WHOLE NEW WORLD

“Welcome to MMU!”

Multimedia University is an institution that leads future digital leaders and you are welcome to be part of a dynamic and vibrant community. Get ready to embark into the intellectual adventure with us and we are providing an array of opportunities for you to learn, to grow, to discover who you are, and how you can make a difference in the world.

It is undeniable that education is a great tool to transform lives, where we can achieve our biggest dreams and empower us to become better person. At MMU, the ‘YOU’ element is vital where you will embrace the spirit of discovery and explore all the things that we have to offer. It is YOU who made us what we are and we are looking forward to the positive energy that YOU bring to our campus.

MMU is You! Join us to become future digital leaders and your success begins here!

Prof. Dato’ Dr. Mazliham Mohd Su’ud
CEO/President

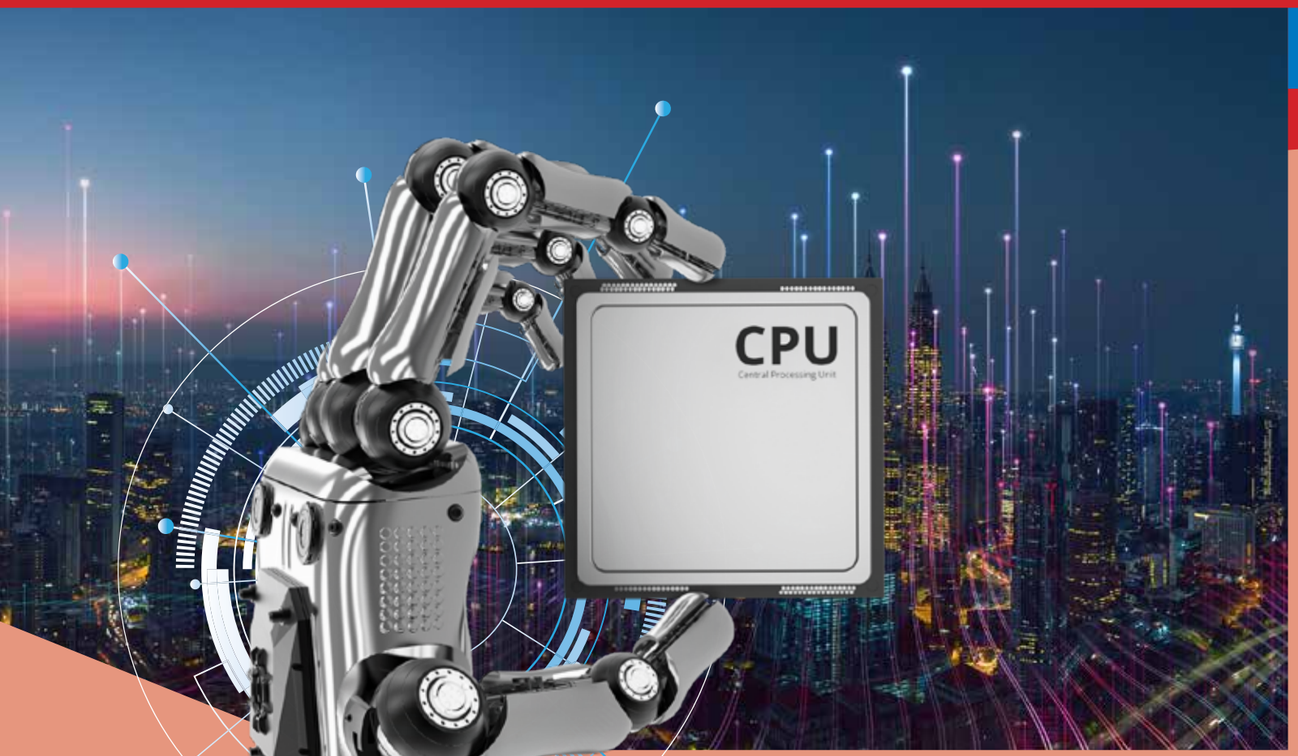
INFORMATION TECHNOLOGY & COMPUTER SCIENCE

If you have your passion on a career in information technology and computer science, MMU is the university for you. Listed in the Top 300 QS World University Rankings in Computer Science and Information Systems, 2017, MMU offers award-winning, practical and industry-ready degrees that will allow you to make a real and lasting impact as an ICT specialist.

Expertise and knowledge are what we seek to empower our students with. We are committed to offer programmes that will enhance your depth and perception as well as employability in the field of ICT.

Both our Faculty of Computing & Informatics and Faculty of Information Science & Technology incorporate industry-led curriculum so you will gain not only technical knowledge and skills, but also relevant soft and management skills. Many of your lecturers are professionals and specialists in their fields who will be able to impart real-life experience and solutions to your learning.

We also have strong collaborations with global industry leaders who are ready to share their knowledge of cutting-edge innovative technologies to keep you up-to-the-minute with current and future industry needs.



WHY INFORMATION TECHNOLOGY & COMPUTER SCIENCE AT MMU

Cutting-Edge Curriculum

Immerse yourself in a curriculum crafted to stay ahead of industry trends. Our courses are regularly updated to include the latest technologies and advancements in computer science.

Hands-On Learning

From day one, students engage in hands-on projects and real-world applications. Practical experience is integrated into every aspect of our program to prepare you for the challenges of the tech workforce.

World-Class Faculty

Learn from industry experts and dedicated educators with a wealth of experience in computer science. Our faculty is committed to your success, providing mentorship and guidance throughout your academic journey.

Innovation Hub Development

Join a community that fosters creativity and innovation. Our dedicated innovation hub provides a collaborative space for students to work on cutting-edge projects, participate in hackathons, and bring their ideas to life.

Industry Connections

Benefit from our strong ties with leading tech companies. Our extensive network of industry partners offers internship opportunities, guest lectures, and networking events, paving the way for exciting career prospects.

Customizable Specializations

Tailor your degree to match your interests and career goals. Choose from a range of specializations, including data science, cybersecurity, software engineering, game development, information systems, and more.

Professional Certifications Integration

Our Bachelor of Computer Science program is designed to seamlessly integrate professional certifications directly into the curriculum. By completing our program, you not only earn a valuable degree but are also exposed to industry-recognized certifications that employers highly value.

Integration of Professional Certification Modules

into the programme structure such as Cisco Certified Network Associate (CCNA), AWS Cloud Practitioner (Foundational) & AWS Cloud Architecture (Associate), EC-Council Certified Ethical Hacker (CEH), Huawei Certified ICT Associate - Artificial Intelligence (HCIA-AI), Google Data Analytics Professional Certificate & etc

AN AWARD-WINNING UNIVERSITY WITH A GLOBAL OUTLOOK

Create your success story here!

Multimedia University (MMU) is a leading university in Malaysia and we are also listed in global rankings namely QS World University Rankings 2023 and Times Higher Education (THE) World University Rankings 2023. At MMU, our diversity is what makes us unique where you will study alongside with approximately 1,200 international students from 65 countries.

Not only that, you will also experience the best and latest technologies from our collaborations with major ICT players such as ZTE, Huawei, Nokia, Intel, Microsoft, Cisco, Motorola and others. Expand your study experience through our international linkages with abroad universities such as Northumbria University, Western Sydney University, University of Southern Queensland, Auckland University of Technology, Hull University, Manchester Metropolitan University, University of Essex and many more.

Top 10 among private Malaysian universities in QS World Ranking University Rankings 2024, Top 400 in QS World Ranking by Subject (electrical and electronic) since 2015

Awarded **Self-Accreditation Status**, 2017 by Malaysian Qualification Agency

Top 10 among Malaysian Private Universities in Times Higher Education (THE) Asia University Rankings 2024.

Awarded the **5-Star Rating in the SETARA** by Ministry of Higher Education (MOHE)

Awarded **CXP Best Customer Experience Awards 2021, 2022 & 2023**

Awarded **Platinum Award** under the Education and Learning at **Putra Brand Awards 2023**

MMU's IT graduates are the most preferred by Malaysian firms- Frost& Sullivan Asia Pacific (MDEC's Malaysian Digital Talent Study 2017 Final Findings)

Awarded **Premier Digital Tech Institution (PDTI) Status** since 2017 by Ministry of Higher Education (MoHE) and Malaysia Digital Economy Corporation (MDEC)

Employers' Preferred University by Talent Bank 2022

In this constantly evolving digital world, Information and Communication Technology is more important than ever. As ICT continues to transform the way people communicate, learn, work and play, the career prospects for IT graduates are both diverse and rewarding. Whether it's Artificial Intelligence, Data Science, Security Technology or Software Engineering, a degree from MMU will definitely hold you in good stead for the future.

AN ENTREPRENEURIAL UNIVERSITY WITH INDUSTRY-READY PROGRAMMES

Well-rounded Education
Be empowered with the fundamentals of your field of study that also incorporate entrepreneurial skills and expertise which are relevant to your respective industries and job markets.

Industry on Campus
Be connected and gain benefit from our state-of the-art labs established by our industry collaboration with ZTE, HUAWEI, Microsoft, Intel and many more.

Ready for Industry
Be enthused with Start-up Schemes from the Entrepreneurship Development Centre (EDC) and nurture your entrepreneurship mindset.

A UNIVERSITY THAT IS AN INDUSTRY TRENDSETTER

- We offer programmes which are tailored to the industry's needs.
- We produce graduates who are setting new standards in Malaysia's industries. Among our successful alumni are Mohd Nizam Abd Razak (the creator of BoBoiBoy, who has boosted the animation industry in Malaysia), Muhammad Usamah Zaid Yasin (Founder & Executive Director of Wau Animation that produces Ejen Ali), Tan Aik Keong (Director of Agmo Studio, a multi-award winning mobile app development company), Ko Chuan Zhen (CEO and co-founder of Plus Xnergy, a multi-award winning clean energy company in Malaysia) and many more.

RESEARCH-LED AND INDUSTRY-DRIVEN UNIVERSITY

Due to its unique niche as a research-led industry-driven university (RIU), MMU currently has the privilege of serving as one of the nation's leading talent incubators. The university takes immense pride in nurturing and growing students in the digital talent pipeline into competent and responsible members of the workforce, who collectively support both TM's and the nation's growth areas.

The 10 growth areas are Fixed Mobile Convergence (FMC)/Mobile Content Play, New Convergence growth, SME Digital Ecosystem, Cyber-Security, Smart Services Cloud, Submarine Cables, Content Delivery Network (CDN) dan Data Centre.

Preparing Graduates to be Industry Ready and Versatile

GAINING INDUSTRIAL EXPERIENCE VIA I-CADET

The i-Cadet Programme is an initiative of MMU's Industry-University Partnership Programme, which aims to groom students into industry-ready graduates as soon as possible, from the moment they began their degree programmes.

Through this initiative, MMU students would be groomed into industry-ready graduates tailored for their industries of choice. The programme would match students with suitable companies, and then, via a series of meetings and projects, would provide them with the actual working environment within their chosen company.

DEVELOPING WELL BALANCED GRADUATES THROUGH PERMATA DUNIA PERSONA

MMU is deeply involved with the proper development and realization of human capital potential, as this would enable the university to satisfy the needs of the industries for capable manpower.

Our goal is to produce well-balanced graduates of good character that possess desirable qualities, such as having empathy, sensitivity, creativity, readiness, and resilience, on top of having sufficient technical competence. Such graduates from MMU are referred to as our Permata Dunia, and we are confident that such personages would become capable future leaders for their nation as well as their communities.

We contend that MMU is the best place for student development as we continually strive to bring out the best within each student; we imbue in them with deep knowledge of their respective fields of expertise via lectures, co-curricular activities, development initiatives, and lifestyle choices. MMU is fully committed to making every student's time in the university the best time of their lives.

EXPANDING HORIZON WITH BYOC

Build Your Own Curriculum (BYOC) is a concept to enable students to imbue additional value into their graduation qualifications so that, upon completion of their studies, they would have better chances of having a career path that is not just financially rewarding, but also fulfilling.

The key to BYOC is allowing students to build curriculum in a guided and yet flexible way. Students may stack up courses based on the free elective slots they have, or by choosing a collective minor package offered by the faculties.

A VIBRANT AND CONDUCIVE CAMPUS LIFE

- Convenient and comfortable accommodation – on-campus and off-campus.
- Intelligent and high-tech labs.
- Digital libraries.
- Set studio and post-production suite.
- Over 100 clubs and societies.
- Extensive infrastructure – campus-wide Wi-Fi, health clinics, mosques, 24-hour security, food & beverage outlets and more.
- Comprehensive Sports Centre – track & field, indoor sports arena, gym as well as an olympic-sized swimming pool.

PERMATA DUNIA TAKES ON THE WORLD

"Information Technology (IT) shapes the digital world for Infineon's success. IT delivers state-of-the-art digital services and continuously increases the efficiency of the business processes."

Mr. Tang Chee Chiang
Director in Information Technology, Infineon Technologies

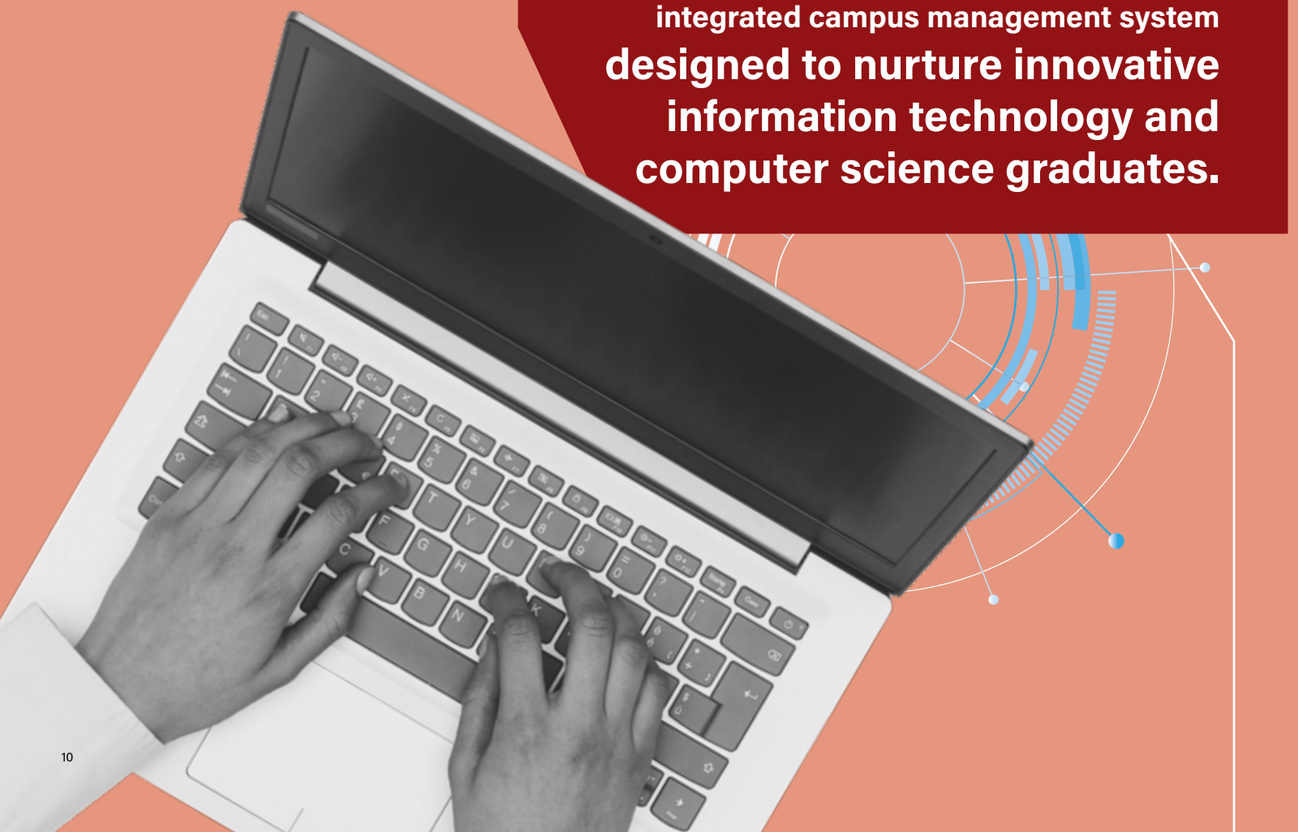
Alumnus FIST Class of 2000

"I will forever cherish MMU's tightly-knit academic community, which has been there for me during the ups and the downs. I am extremely grateful for all my lecturers who have gone out of their way to teach and foster an exceptionally supportive space. MMU's strong research environment, coupled with passionate professors, is an excellent starting point for a budding computer scientist."

Sidharrth Nagappan
Data Engineer at MoneyLion
Bachelor of Computer Science (Hons.) (Data Science).

FACULTY OF COMPUTING AND INFORMATICS
Cyberjaya Campus

Located within Cyberjaya and built on an 80-hectare plot of land, MMU Cyberjaya is equipped with various intelligent features such as multimedia learning facilities, intelligent building systems, a digital library, and an integrated campus management system designed to nurture innovative information technology and computer science graduates.



FOUNDATION IN INFORMATION TECHNOLOGY
(R3/010/3/0088) 12/27 (A8670)

In an ever-changing, technologically-dependent world, our one-year Foundation in Information Technology programme aims to produce students who are well-equipped with computer skills as well as mathematical and problem solving skills. The Foundation in Information Technology programme is delivered through engaging lectures and laboratory work which serve to build knowledge and help develop practical skills. After completion of the foundation programme, you can opt for a degree programme from either the Faculty of Computing and Informatics (FCI) or Faculty of Information Science and Technology (FIST).

PROGRAMME STRUCTURE

Trimester 1
- Introduction to Business Management
- Introduction to Computing Technologies
- Communicative English
- Mathematics I
- Problem Solving and Program Design

Trimester 2
- Critical Thinking
- Introduction to Digital Systems
- Essential English
- Multimedia Fundamentals
- Mathematics II
- Principles of Physics

Trimester 3
- Academic English
- Mathematics III
- Mini IT Project

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

DIPLOMA IN INFORMATION TECHNOLOGY
(R3/481/4/0229) 12/27 (A8553)

The programme provides students with computing knowledge in planning, implementation, configuration and maintenance of an organisation's computing infrastructure. Students will be exposed to various programming languages and web technologies with which they would be able to configure, integrate and deploy systems as well as provide technical support within an organisation.

The curriculum covers areas such as programming, database, software design, operating systems, data communication & networking, as well as mathematics. Apart from the technical subjects, students will also be exposed to soft skills such as writing and presentation skills to help enhance their interaction and communication and prepare them for real-life working environment.

After completion of the diploma programme, you can opt for a related degree programme from either FCI or FIST.

PROGRAMME STRUCTURE

Year 1

Trimester 1
- Computer Concepts & Applications
- Program Design
- University Learning Skills
- Mathematical Techniques 1
- English
- Sustainable Society
- U1

Trimester 2
- Database Systems
- Computer Architecture & Organizations
- Mathematical Techniques 2
- Object Oriented Programming
- Character Building

Trimester 3
- System Analysis & Design
- Elective 1
- Elective 2

Year 2

Trimester 1
- Discrete Structures
- Data Communications & Networking
- Internet & Web Publishing
- Data Structures & Algorithms
- Business Communication in the Digital Age

Trimester 2
- Introduction to Probability & Statistics
- Operating Systems
- Final Year Project
- Elective 3
- U2/U3
- U4

Trimester 3
- Industrial Training

ELECTIVE SUBJECTS
- **E-Commerce • Multimedia Applications • Management Information Systems • Mobile Application Development**
- **Introduction to Cloud Computing**

UNIVERSITY SUBJECTS

U1 -
1. **LMPU2192 Falsafah dan Isu Semasa (Philosophy and Current Issues) (for local student)**
2. **LMPU2132 Bahasa Melayu Komunikasi 1 (For international student)**

U2 / U3 -
1. **LMPU3212 Bahasa Kebangsaan A (For students without credit in BM at SPM Level)**
   Any other courses in the U2 or U3 category below (For students who obtained credit in BM at SPM Level):
   LMPU2222 Basic Academic Writing
   LMPU2212 Grooming and Professional Etiquette
   LMPU2322 Family and Society in Malaysia
2. **For International Students, choose one course in the U2/U3 category below:**
   LMPU2222 Basic Academic Writing
   LMPU2212 Grooming and Professional Etiquette
   LMPU2322 Family and Society in Malaysia

U4 -
- **LMPU2402 Personal Social Responsibility**

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

BACHELOR OF COMPUTER SCIENCE (HONS.)

(R2/481/6/0531) 02/25 (A5830)

This three-year programme equips students with fundamental computing knowledge and the latest technology. In year 1, all students learn common subjects before specialising in one of the following areas – Software Engineering, Game Development, Data Science or Cybersecurity - in the second year. Each designed specialisation prepares students with specific skills. Students will also complete a final year project and undergo industrial training to acquire practical industry experience.

Career Prospects: Researcher, Programmer, Software Development, Project Manager, System Analyst, Database Administrator, IS/SE Consultant, Game Producer, Game Artist & Visualiser, Data Analyst, Data Scientist, Data Engineer, Cyber Risk Analyst, Security Penetration Tester, Incident Responder, Digital Forensic Specialist, Security Architect, Security Engineer, Software Tester.

PROGRAMME STRUCTURE

Year 1

- Calculus
- Programming Fundamentals
- Discrete Structures & Probability
- Professional Development
- Computational Methods
- Object Oriented Programming & Data Structures
- Computer Architecture & Organisation
- Database Fundamentals
- Research Methodology in Computer Science
- Integrity and Leadership
- U4
- Character Building
- Sustainable Society

Year 2

- Software Engineering Fundamentals
- Operating Systems
- Computer Networks
- Object Oriented Analysis & Design
- Algorithm Design & Analysis
- Industrial Training
- U2

Specialisation: Software Engineering
- Software Requirements Engineering
- Software Design

Specialisation: Game Development
- Computer Graphics Fundamentals
- Game Design Fundamentals

Specialisation: Data Science
- Data Science Fundamentals
- Statistical Data Analysis

Specialisation: Cybersecurity
- Cybersecurity Fundamentals
- Network Security

Year 3

- Final Year Project
- Elective 1
- Elective 2
- Elective 3
- Elective 4
- U1
- U1
- Fundamentals of Digital Competence for Programmers

Specialisation: Software Engineering
- Software Reliability & Quality Assurance
- Software Verification & Validation
- Specialisation Elective 1
- Specialisation Elective 2

Specialisation: Game Development
- Game Algorithms
- 3D Game Programming
- Specialisation Elective 1
- Specialisation Elective 2

Specialisation: Data Science
- Data Mining
- Data Visualisation
- Specialisation Elective 1
- Specialisation Elective 2

Specialisation: Cybersecurity
- Cryptography and Data Security
- Ethical Hacking and Penetration Testing
- Specialisation Elective 1
- Specialisation Elective 2

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

Specialisations:

- **Software Engineering:** Focuses on designing and developing software systems with innovative methodologies and sophisticated tools. Students are exposed to various techniques of analysing user requirements and specifications, as well as the design, implementation and verification of software systems.
- **Game Development:** Integrates fundamental concepts of software engineering with both technical and creative aspects of game design and development. Students are exposed to various types of game production - from 2D to 3D, and from virtual to augmented reality game projects.
- **Data Science:** Focuses on designing and developing solutions to draw useful insights from the availability of large volumes of data, known as Big Data. Students will receive fundamental training in computer science theories and learn techniques on the processing of Big Data for analytics that can be impactful to business.
- **Cybersecurity:** Built on the technical foundation of computer science, the specialization focuses on the array of sophisticated techniques and innovative approaches used to protect data and information systems. Students are exposed to both offensive and defensive security methodologies such as ethical hacking, digital forensics and network security, as well as policies and ethical issues of cybersecurity.

SPECIALISATION ELECTIVE SUBJECTS

Two (2) subjects should be taken from the following based on specialisation:

Software Engineering
- Theory of Computation
- Programming Language Translation
- Introduction to Formal Methods
- Software Evolution & Maintenance

Game Development
- Game Production
- Game Physics

Data Science
- Machine Learning
- Visual Information Processing
- Social Media Computing

Cybersecurity
- Digital and Computer Forensics
- Database and Cloud Security
- Blockchain and Smart Contracts

ELECTIVE SUBJECTS (non-computing)

Four (4) subjects should be taken from the following:

- Consumer Trends
- Creativity and Innovation
- Becoming A Leader
- Corporate Training
- Professional Image and Etiquette
- Corporate Communication
- Corporate Strategy
- Design Thinking for Strategic Communication
- Social Media Strategies
- Film Appreciation
- Basic Filmmaking
- Suspenseful Filmmaking
- Fundamental of Wireless Communications
- Communications Networks
- Radio Network Planning Towards 5G
- Internet & Mobile Application
- Media Anthropology
- Media Law
- Project Management
- Motion Capture
- Information Visualization
- Visual & Corporate Identity
- Accounting for Decision Making
- Management
- Personal Finance
- Fundamentals of Marketing
- Digital Transformation Strategy
- Digital Transformation Technologies
- Ergonomics and Human Factor
- Machine Vision
- IoT Design and Interfacing
- Radio Network Planning Towards 5G
- Digital Business
- Business Information Systems
- Data Analytics for Businesses
- Cyber Security
- Understanding Management
- Fundamentals of Marketing
- Financial Management
- Data Analytics for Businesses
- Business Risk Management
- Consumer law
- Labour Law
- Law and Economics
- Environmental Law
- Law of Banking

UNIVERSITY SUBJECTS

U1 – Penghayatan Etika dan Peradaban (Local) or BM Komunikasi II (International)
U1 – Falsafah dan Isu Semasa (Local & International)
U2 – Bahasa Kebangsaan A or Foreign Language Beginners
U4 – Co-Curriculum

BACHELOR OF INFORMATION TECHNOLOGY (HONS) (INFORMATION SYSTEMS)

(R2/481/6/0388) 06/24 (A5216)

In this information-driven 21st century, computerised information systems play key roles to the success of organisations. Hence, there is an increasing demand for information systems graduates that are capable to design, develop and implement effective digital solutions to meet the needs for information and decision support of organisations.

This three-year programme prepares students with a strong foundation in applications development of information systems as well as current and emerging technologies related to information systems. The knowledge and skills are essential not only in using information systems effectively, but also to contribute significantly in planning, designing, implementing and maintaining information systems solutions for critical business problems. Graduates of this programme will take the leading roles in shaping our information-driven future.

Career Prospects: Application Developer, Database Administrator, Business Analyst, IT Consultant, Information Systems Manager.

PROGRAMME STRUCTURE

Year 1

- Introduction to Discrete Mathematics and Linear Algebra
- Calculus and Statistics Fundamental
- Programming Fundamentals
- Professional Development
- Management
- Object Oriented Programming and Data Structures
- Computer Architecture and Organization
- Database Fundamentals
- Fundamentals of Digital Competence for Programmers
- Integrity and Leadership
- U4
- Character Building
- Sustainable Society

Year 2

- Software Engineering Fundamentals
- Operating Systems
- Computer Networks
- Object Oriented Analysis & Design
- IT Project Management
- Information Systems Planning and Development
- Web Application Development
- Advanced Database
- Industrial Training
- U2

Year 3

- System Administration
- Enterprise Application Integration
- Enterprise Information Systems
- Cybersecurity Theory and Practice
- Final Year Project
- Elective 1
- Elective 2
- Elective 3
- Elective 4
- U1
- U1

ELECTIVE SUBJECTS (non-computing)

Four (4) subjects should be taken from the following:

- Consumer Trends
- Creativity and Innovation
- Becoming A Leader
- Corporate Training
- Professional Image and Etiquette
- Corporate Communication
- Corporate Strategy
- Design Thinking for Strategic Communication
- Social Media Strategies
- Film Appreciation
- Basic Filmmaking
- Suspenseful Filmmaking
- Fundamental of Wireless Communications
- Communications Networks
- Radio Network Planning Towards 5G
- Internet & Mobile Application
- Media Anthropology
- Media Law
- Project Management
- Motion Capture
- Information Visualization
- Visual & Corporate Identity
- Accounting for Decision Making
- Personal Finance
- Fundamentals of Marketing
- Digital Transformation Strategy
- Digital Transformation Technologies
- Ergonomics and Human Factor
- Machine Vision
- IoT Design and Interfacing
- Radio Network Planning Towards 5G
- Digital Business
- Business Information Systems
- Data Analytics for Businesses
- Cyber Security
- Understanding Management
- Fundamentals of Marketing
- Financial Management
- Data Analytics for Businesses
- Business Risk Management
- Consumer law
- Labour Law
- Law and Economics
- Environmental Law
- Law of Banking

UNIVERSITY SUBJECTS

- U1 – Falsafah dan Isu Semasa (Local & International)
- U1 – Penghayatan Etika dan Peradaban (Local) or BM Komunikasi II (International)
- U2 – Bahasa Kebangsaan A or Foreign Language Beginners
- U4 – Co-Curriculum

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

FACULTY OF INFORMATION SCIENCE AND TECHNOLOGY

Melaka Campus

Since 1997, the Faculty has been a trendsetter in ICT education and research, with a rigorous academic approach designed to produce innovative graduates who are well equipped to enact positive changes in society.

FOUNDATION IN INFORMATION TECHNOLOGY

(R3/010/3/0140) 02/27 (A7858)

Modern lifestyle has progressed rapidly with the evolution of current technology. Technological solutions derived from Information Technology to retrieve information and solve problems or tasks in our daily routines. Therefore, our Foundation in Information Technology programme aims to equip students with essential knowledge and skills for them to pursue their respective degree programmes successfully.

Classes and laboratories are equipped with hardware, software and tools for student to experience an engaging teaching and learning environment and nurturing their knowledge in technical and soft skills.

After completion of Foundation in Information Technology programme, students are able to further their Bachelor Degree Programmes in either Information Technology, Computer Science or Science from Faculty of Information Science and Technology (FIST) or Faculty of Computing and Informatics (FCI).

PROGRAMME STRUCTURE

Trimester 1

- Communicative English
- Critical Thinking
- Algebra*
- Trigonometry
- Computer Applications
- Introduction to Computer Architecture and Operating System

Trimester 2

- Essential English
- Calculus
- Introduction to Physics

Trimester 3

- Academic English
- Fundamentals of Business Management
- Introduction to Probability and Statistics
- Problem Solving and Programming
- Mini IT Projects
- Introduction to Multimedia Technology

**** Pre requisite for TCM1134 Calculus***

BACHELOR OF INFORMATION TECHNOLOGY (HONS.) (DATA COMMUNICATIONS AND NETWORKING)

(R2/481/6/0440) 08/24 (A5313)

Data Communications and Networking graduates are expected to possess the knowledge and skills necessary to design, build, maintain and manage network and communication systems in any organisation. Therefore, they will be learning core components of communication, such as Internet Computing, TCP/IP Programming, High-Speed Networks, Client Server Computing and Real Time Systems.

Ultimately, we expect our Data Communications and Networking graduates to branch into areas of communication and apply the knowledge they have acquired in network technology and telecommunications.

Career Prospects: System Programmer, Network Engineer, Network Administrator.

PROGRAMME STRUCTURE

Year 1

- Computer Architecture and Organisation
- Data Communications and Networking
- Computer Programming
- Database Systems
- Operating Systems
- System Analysis and Design
- Ethics and Professional Conducts
- Discrete Mathematics and Probability
- U2
- U3
- U4
- Character Building
- Sustainable Society
- Elective 1
- Elective 2

Year 2

- Human Computer Interaction
- Web Techniques and Application
- System Integration and Architecture
- Computer Security
- Computer Networks
- System Administration and Maintenance
- Data Structures and Algorithms
- Internet of Things (IoT) Fundamentals
- Routing and Switching
- Network Security and Management
- Artificial Intelligence Fundamentals
- Elective 3
- Elective 4
- U1

Year 3

- Enterprise Resource Planning
- Cloud Computing
- Management of Information Security
- High-Speed Networks
- Mobile and Wireless Communications
- Real-Time Systems
- Data Analytics Fundamental
- TCP/IP Programming
- Industrial Training
- Project I
- Project II

ELECTIVE SUBJECTS

- **Fundamentals of Digital Competence for Programmers**
- **Technopreneur Venture**
- **Technology Transfer**
- **Organisational Behaviour**
- **Open Electives (Non-computing course from other faculties)**

UNIVERSITY SUBJECTS

U1
U1 - Falsafah dan Isu Semasa (Philosophy and Current Issues)

U1:
Local:
Penghayatan Etika dan Peradaban (Appreciation of Ethics and Civilizations)

International:
Bahasa Melayu Komunikasi 2

U2
Local:
Students without credit in BM at SPM Level i.Bahasa Kebangsaan A. If the student has taken this course before, he/she must take any other courses in the U2 category**
Students who obtained credit in BM at SPM Level
Any other courses in the U2 category***

International:
Any other courses in the U2 category***

**** Should the student choose to take foreign language, he/she must choose one which he/she has no formal education in.*

U3 - Integrity and Leadership
U4 - Choose one U4 from the list offered

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

BACHELOR OF INFORMATION TECHNOLOGY (HONS.) (BUSINESS INTELLIGENCE AND ANALYTICS)

(R2/481/6/0079) 11/21 (A7498)

This programme equips students with business intelligence and analytical skills to provide insights and improved decision making to corporations in achieving business agility. The purpose is to produce graduates who are knowledgeable in the components of information technology and data analytics, capable to plan, design, visualise, analyse and interpret business statistical data. Some of the subjects covered in this programme are Data Mining and Machine Learning, IT Project Management for Business Analysts, Business Intelligence, Internet Marketing, Human Computer Interaction and Enterprise Resource Planning.

Career Prospects: SAP Specialist, Data Scientist, Computer Scientist, IT Auditor, Knowledge Engineer, Business Intelligence Consultant, IT Business Analyst and Web Analyst

PROGRAMME STRUCTURE

Year 1

- Computer Architecture and Organisation
- Data Communications and Networking
- Computer Programming
- Database Systems
- Operating Systems
- System Analysis and Design
- Ethics and Professional Conducts
- Discrete Mathematics and Probability
- U2
- U3
- U4
- Elective 1
- Elective 2
- Character Building
- Sustainable Society

Year 2

- Human Computer Interaction
- Web Techniques and Application
- System Integration and Architecture
- Computer Security
- Computer Networks
- System Administration and Maintenance
- Data Structures and Algorithms
- Internet of Things (IOT) Fundamental
- Business Intelligence
- Business Statistical Analysis
- Artificial Intelligence Fundamentals
- Elective 3
- Elective 4
- U1

Year 3

- Enterprise Resource planning
- Cloud Computing
- Management of Information Security
- Internet Marketing
- Project Management for Business Analysts
- Data Mining and Machine Learning
- Data Analytics Fundamentals
- Data Storytelling
- Industrial Training
- Project I
- Project II

ELECTIVE SUBJECTS

- **Fundamentals of Digital Competence for Programmers**
- **Technopreneur Venture**
- **Technology Transfer**
- **Organisational Behaviour**
- **Open Electives (Non-computing course from other faculties)**

UNIVERSITY SUBJECTS

U1
U1 - Falsafah dan Isu Semasa (Philosophy and Current Issues)

U1:
Local:
Penghayatan Etika dan Peradaban (Appreciation of Ethics and Civilizations)

International:
Bahasa Melayu Komunikasi 2

U2:
Local:
Students without credit in BM at SPM Level i.Bahasa Kebangsaan A. If the student has taken this course before, he/she must take any other courses in the U2 category**
Students who obtained credit in BM at SPM Level
Any other courses in the U2 category***

International:
Any other courses in the U2 category***

**** Should the student choose to take foreign language, he/she must choose one which he/she has no formal education in.*

U3 - Integrity and Leadership

U4 - Choose one U4 from the list offered

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

BACHELOR OF COMPUTER SCIENCE (HONS.) (ARTIFICIAL INTELLIGENCE)

(R2/481/6/0786) 08/23 (A4187)

As computer systems increase their complexity and sophistication, the demand for intelligent advanced applications also increases in proportion. It is now a common practice and expectation to incorporate intelligent capabilities in the design of any computer application, from web-based intelligent search engines to stand-alone intelligent applications.

The objective of this course is to equip students with the necessary knowledge and skills required to be successful in building the much needed intelligent computer systems. Based on the solid foundations of Computer Science and Information Technology, the three-year degree programme covers the traditional grounds of artificial intelligence, such as fundamental in artificial intelligence, programming language concept, and computational intelligence. It then extends to advanced and deeper understanding of AI techniques in application, such as Computer Vision, Natural Language Processing, Data analytics, etc.

Career Prospects: Computer Scientist, Knowledge Engineer, Software Engineer, Systems Analyst, and Programmer.

PROGRAMME STRUCTURE

Year 1

- Computer Architecture and Organisation
- Data Communications and Networking
- Computer Programming
- Database Systems
- Operating Systems
- System Analysis and Design
- Ethics and Professional Conducts
- Discrete Mathematics and Probability
- Elective 1
- Elective 2
- U2
- U3
- U4
- Character Building
- Sustainable Society

Year 2

- Human Computer Interaction
- Software Engineering Fundamentals
- Web Techniques and Application
- Programming Language Concept
- Artificial Intelligence Fundamentals
- Data Structures and Algorithms
- Computer Networks
- Semantic Web Technology
- Machine Learning
- Computer Graphics
- Data Analytics Fundamentals
- Elective 3
- Elective 4
- U1

Year 3

- Parallel Computing
- Algorithm Design and Analysis
- Data Wrangling and Visualization
- Natural Language Processing
- Cloud Computing
- Expert Systems
- Computational Intelligence
- Computer Vision
- Industrial Training
- Project I
- Project II

ELECTIVE SUBJECTS

▪ Fundamentals of Digital Competence for Programmers ▪ Technopreneur Venture ▪ Technology Transfer ▪ Organisational Behaviour
▪ Open Electives (Non-computing course from other faculties)

UNIVERSITY SUBJECTS

U1 - Falsafah dan Isu Semasa (Philosophy and Current Issues)

U1:
Local:
Penghayatan Etika dan Peradaban (Appreciation of Ethics and Civilizations)

International:
Bahasa Melayu Komunikasi 2

U2:
Local:
Students without credit in BM at SPM Level i.Bahasa Kebangsaan A. If the student has taken this course before, he/she must take any other courses in the U2 category**
Students who obtained credit in BM at SPM Level
Any other courses in the U2 category***

International:
Any other courses in the U2 category***

*** Should the student choose to take foreign language, he/she must choose one which he/she has no formal education in.*

U3 - Integrity and Leadership

U4 - Choose one U4 from the list offered

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

BACHELOR OF INFORMATION TECHNOLOGY (HONS.) (SECURITY TECHNOLOGY)

(R2/481/6/0439) 08/24 (A5470)

Security Technology is designed to develop knowledge and skills in security management and technologies necessary for employment in areas such as government and corporate security, strategic facilities security, private sector and retail security, financial institutions and major security organisations.

The course emphasises on the functions and management of security technology in the protection of assets and is supported by appropriate studies in cyber law and ethics. Graduates of this course will be equipped for a career in the security industry.

Career Prospects : Security Auditor, Security Penetration Tester, Computer Forensic Investigator, Software Engineer, Systems Analyst, and Programmer.

PROGRAMME STRUCTURE

Year 1

- Computer Architecture and Organisation
- Data Communications and Networking
- Computer Programming
- Database Systems
- Operating Systems
- System Analysis and Design
- Ethics and Professional Conducts
- Discrete Mathematics and Probability
- Elective 1
- Elective 2
- U2
- U3
- U4
- Character Building
- Sustainable Society

Year 2

- Human Computer Interaction
- Web Techniques and Application
- System Integration and Architecture
- Computer Security
- Computer Networks
- System Administration and Maintenance
- Data Structures and Algorithms
- Cybersecurity Law
- Ethical Hacking and Security Assessment
- Information Assurance and Security
- Elective 3
- Elective 4
- U1

Year 3

- Enterprise Resource Planning
- Cloud Computing
- Management of Information Security
- Malware and Intrusion Detection
- Password Authentication and Biometrics
- Digital Forensics
- Applied Cryptography
- Security Analysis & Vulnerability Assessment
- Python for Security
- Industrial Training
- Project I
- Project II

ELECTIVE SUBJECTS

▪ Fundamentals of Digital Competence for Programmers ▪ Technopreneur Venture ▪ Technology Transfer
▪ Organisational Behaviour ▪ Open Electives (Non-computing course from other faculties)

UNIVERSITY SUBJECTS

U1 - Falsafah dan Isu Semasa (Philosophy and Current Issues)

U1:
Local:
Penghayatan Etika dan Peradaban (Appreciation of Ethics and Civilizations)

International:
Bahasa Melayu Komunikasi 2

U2:
Local:
Students without credit in BM at SPM Level i.Bahasa Kebangsaan A. If the student has taken this course before, he/she must take any other courses in the U2 category**
Students who obtained credit in BM at SPM Level
Any other courses in the U2 category***

International:
Any other courses in the U2 category***

*** Should the student choose to take foreign language, he/she must choose one which he/she has no formal education in.*

U3 - Integrity and Leadership

U4 - Choose one U4 from the list offered

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

DIPLOMA IN INFORMATION TECHNOLOGY

(R3/481/4/0229) 12/27 (A8553)

This programme equips students with relevant ICT knowledge and skills to meet the technological needs of an organisation. Through the 2-year programme, students will acquire essential technical skills and hands-on experience in systems analysis and design, programming, web design and development, database design, operating systems, data communications and networking.

Students will also learn about professional ethics and develop communication, presentation and teamwork skills that are deemed critical for success in today's workforce. Both the technical and soft skills will prepare them for their degree studies, as well as for future employment.

Upon completion of the diploma programme, students can opt for a related degree programme offered by the Faculty of Information Science and Technology (FIST) or Faculty of Computing and Informatics (FCI).

Career Prospects: Programmer, E-Commerce Developer, Internet/ Software Application Developer, IT Technical Support Officer, Database Manager, Information Systems Manager, System Analyst, etc.

PROGRAMME STRUCTURE

Year 1

- Program Design
- Calculus & Algebra
- Data Communications & Networking
- Introduction to Computer Security
- Operating Systems
- Systems Analysis & Design
- Computer Architecture
- Ethics & Cybertechnology
- Mathematical & Statistical Techniques
- Discrete Structures & Probability
- Database Systems
- Character Building
- Sustainable Society
- U1

Year 2

- Data Structure & Algorithms
- Fundamentals of Networking
- System Administration and Maintenance
- Internet & Web Publishing
- Introduction to Information Assurance & Security
- Enterprise Resource Planning
- System Integration Architecture
- Human Machine Interaction
- Introduction to Cloud Computing
- Industrial Training
- Final Year Project
- U2/U3
- U4

ELECTIVE SUBJECTS

Open elective course (non-computing)
• English • Business Communication in Digital Age • Fundamentals of Entrepreneurship

UNIVERSITY SUBJECTS

U1
Falsafah dan Isu Semasa (Philosophy and Current Issues)- Local
OR
Bahasa Melayu Komunikasi 1 - International

U2/U3
Local:
Students without credit in BM at SPM Level
Bahasa Kebangsaan A
Students who obtained credit in BM at SPM Level Only
Any other courses in the U2 or U3 category**
OR
International:
Choose one course in the U2/U3 category**

*** Should the student choose to take foreign language, he/she must choose one which he/she has no formal education in.*

U4
Choose one U4 from the list offered

Note: The above programme structure serves as a guide. Courses may differ according to intakes.

University	Programme	Minimum Entry Requirements
CYBERJAYA MELAKA	*Diploma* • **Diploma in Information Technology**	I. Pass SPM/O-Level or its equivalent with a minimum of Grade C in at least three (3) subjects (inclusive of Mathematics and a Pass in English); OR II. Pass UEC with a minimum of Grade B in at least three (3) subjects (inclusive of Mathematics and a Pass in English); OR III. Pass STPM or its equivalent with a minimum of Grade C (GP 2.00) in a subject AND a credit in Mathematics at SPM Level or its equivalent; OR IV. Pass STAM with a minimum grade of Maqbul (Pass) AND a Credit in Mathematics at SPM Level or its equivalent; OR V. Possess SKM Level 3 in a related field. (Candidates without Mathematics can be admitted subject to a thorough rigorous assessment to determine their competencies in Mathematics that are equivalent to SPM level); OR VI. A Certificate (Level 3, MQF) in a related field with at least a CGPA of 2.00); OR VII. Other relevant & equivalent qualifications recognised by the Malaysian Government. (Candidates can be admitted if their admission qualification contains Mathematics subject(s) equivalent to Mathematics at the SPM level. Those without a pass in Mathematics at SPM level or equivalent can be admitted but required to take and pass the reinforcement Mathematics subject. The reinforcement Mathematics subject must be offered in the first semester or before enrolment with unconditional offer). *Note :* *Candidates with a pass in Mathematics at the SPM level (or Mathematics equivalent to SPM) may be admitted if their admission qualification contains Mathematics subject(s) equivalent to Mathematics at the SPM level.* *Candidates with a pass in Mathematics at SPM level (or Mathematics equivalent to SPM) and without a Mathematics subject in their admission qualification need to take and pass the reinforcement Mathematics subject that is equivalent to the SPM level. The reinforcement Mathematics subject must be offered in first semester or before enrolment with unconditional offer.* *Candidate with a credit in a Computing-related subject(s) at SPM level or its equivalent may be given preferential consideration.*
CYBERJAYA MELAKA	*Foundation* • **Foundation in Information Technology**	I. Pass SPM/O-Level or its equivalent with a minimum of Grade C in at least five (5) subjects inclusive of English, Mathematics and two (2) science subjects; OR II. Pass UEC with a minimum of Grade B in Mathematics, English and two (2) science subjects.

TOGETHER, WE LEAD THE
DIGITAL FUTURE

University	Programme	Minimum Entry Requirements
	Bachelor	
CYBERJAYA	**Bachelor of Computer Science (Hons)** **Specialization in** • **Software Engineering** • **Game Development** • **Data Science** • **Cybersecurity**	I. Pass in Foundation or Matriculation studies from a recognised institution with a minimum CGPA of 2.00, OR II. Pass STPM (Arts Stream) or its equivalent with a minimum of Grade C (CGPA 2.00) in any TWO (2) subjects or any equivalent qualification; OR III. Pass A-Level with a minimum of Grade D (CGPA 2.00) in any TWO (2) subjects; OR IV. Pass STAM with a minimum grade of Jayyid in any TWO (2) subjects; OR V. Any Diploma in Science and Technology (Level 4, MQF) with a minimum CGPA of 2.75. Candidates with a CGPA below 2.75 but more than 2.50 can be admitted subject to a thorough rigorous assessment; AND a credit in: • Additional Mathematics at the SPM level or its equivalent; OR • Mathematics and any one of the Science, Technology or Engineering subjects at SPM level or its equivalent. Candidates need to take and pass the reinforcement Mathematics equivalent to Additional Mathematics at the SPM level. The subject must be offered in the first semester or before enrolment with unconditional offer. OR VI. Pass STPM in (Science Stream) or its equivalent with a minimum of Grade C (GP 2.00) inclusive of Mathematics and one Science / ICT subject; OR VII. Pass A- Level (Science Stream) with a minimumof Grade D in Mathematics and ONE (1) Science/ ICT subject; OR VIII. Pass UEC with a minimum of Grade B in at least FIVE (5) subjects (inclusive of Mathematics, English and one Science / ICT subject); OR IX. Diploma in Computing (Level 4, MQF) or its equivalent with a minimum CGPA of 2.50. Candidates with a CGPA below 2.50 but more than 2.00 may be admitted subject to a thorough rigorous assessment; OR X. Pass DKM /DLKM/DVM in Computing fields with a minimum CGPA of 2.50 subjected to HEP Senate / Academic Board's approval*; OR XI. Other relevant & equivalent qualifications recognised by the Malaysian Government. (Candidates can be admitted if their admission qualification contains Mathematics subject(s) equivalent to Additional Mathematics at the SPM level. If it is not equivalent, reinforcement Mathematics subject that equivalent to the SPM level must be offered in first semester or before enrolment with unconditional offer). *Note:* ** *DKM /DLKM/DVM candidates may be required to undergo Bridging Programme as an additional requirement.* *Students are required to pass the reinforcement Mathematics before being allowed to take related core courses. The candidate can sit for any subjects that did not indicate Mathematics as a pre-requisite.* *Reinforcement Mathematics can contribute to the overall graduating credit.* *Students from Matriculation / Foundation or its equivalent can be exempted from taking the Reinforcement Mathematics, provided that the Mathematics offered at that programme level is equivalent / more than the Additional Mathematics offered at an SPM level.*
MELAKA	• **Bachelor of Computer Science (Hons) Artificial Intelligence**	
	Bachelor	
CYBERJAYA	• **Bachelor of Information Technology (Hons) Information System**	I. Pass Foundation / Matriculation studies with a minimum CGPA of 2.00 from a recognised institution and a Credit in Mathematics at SPM Level or its equivalent*; OR II. Pass STPM or its equivalent with a minimum Grade C (GP 2.00) in any TWO (2) subjects AND a Credit in Mathematics at SPM Level or its equivalent*; OR III. Pass A-Level with a minimum of Grade D in any TWO (2) subjects AND a Credit in Mathematics at SPM Level or its equivalent*; OR IV. Pass UEC with a minimum of Grade B in at least five (5) subjects (inclusive of Mathematics* and English); OR V. A pass in STAM with a minimum grade of Jayyid in any TWO (2) subjects (including a credit in Mathematics at SPM level or its equivalent*); OR VI. Diploma in Computing (Level 4, MQF) or equivalent with a minimum CGPA of 2.50. Candidates with CGPA below 2.50 but more than 2.00 may be admitted subject to a thorough rigorous assessment; OR VII. Diploma (Level 4,MQF) in Non-Computing with a minimum CGPA of 2.75 AND a Credit in Mathematics at SPM Level or its equivalent* . Candidates with a CGPA below 2.75 but more than 2.50 can be admitted subject to a thorough rigorous assessment; OR VIII. Other relevant & equivalent qualifications recognised by the Malaysian Government. (Candidates can be admitted if their admission qualification contains Mathematics subject(s) equivalent to Mathematics at the SPM level. If it is not equivalent, the reinforcement Mathematics subject equivalent to the SPM level must be offered in the first semester or before enrolment with unconditional offer). *Note:* ** Candidates with a pass in Mathematics at SPM level need to take and pass the reinforcement Mathematics subject that is equivalent to the SPM level. The reinforcement Mathematics subject must be offered in the first semester or before enrolment with unconditional offer.* ***DKM /DLKM/DVM candidates may be required to undergo Bridging Programme as an additional requirement.* *Students are required to pass the reinforcement Mathematics before being allowed to take related core courses. The candidate can sit for any subjects that did not indicate Mathematics as a prerequisite.* *Reinforcement Mathematics can contribute to the overall graduating credit.* *Students from Matriculation / Foundation or its equivalent can be exempted from taking reinforcement Mathematics, provided that the Mathematics offered at that programme level is equivalent / more than the Mathematics offered at an SPM level.*
MELAKA	• **Bachelor of Information Technology (Hons) Data Communications and Networking** • **Bachelor of Information Technology (Hons) Security Technology** • **Bachelor of Information Technology (Hons) Business Intelligence and Analytics**	

Faculty of
COMPUTING AND INFORMATICS
Cyberjaya Campus

Faculty of
INFORMATION SCIENCE AND TECHNOLOGY
Melaka Campus

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