

Information Technology

Diploma of **Higher Education (Majoring in Information Technology)**
Bachelor of **Information Technology**
Bachelor of **Cybersecurity**
Master of **Information Technology**

Joint Degree:

Master of **Information Technology** - Master of **Business Administration**

The Singapore campus of James Cook University

Established in 2003

The Singapore campus of James Cook University is fully owned by James Cook University Australia, which is ranked in the top 2% of universities in the world¹. James Cook University Australia established its Singapore campus in 2003 as part of its expressed intent of internationalising its activities and offers a suite of university level programs at the Singapore campus covering the areas of Business, Information Technology, Psychology, Guidance and Counselling, Science, Commerce, Accounting, Aquaculture, Environmental Science, Games Design, Tourism and Hospitality.

James Cook University offers Higher Degree by Research programs such as Doctor of Philosophy, Master of Philosophy and pathways to a higher degree.

Additionally, the campus offers courses at the pre-university level, specifically designed to provide pathways for students who are unable to immediately meet university entrance standards.

The Singapore campus of James Cook University is located at Sims Drive. The campus provides students with access to a full range of facilities and services to support their learning. These include lecture and seminar rooms, library and associated study facilities, computer laboratories, aquaculture research and teaching facility, financial lab and access to a variety of sporting facilities.

James Cook University Inter-campus Exchange Program*

James Cook University provides the opportunity for students to study in Singapore and in Australia and yet still remain as Singapore based students paying their fees in Singapore currency. This is a unique program designed to ensure that the students get the best possible outcomes from their years of study with the university, which operates across two countries.

EduTrust Star

James Cook University has the highest level of quality assurance in Singapore for Private Education Institutions. This is known as EduTrust Star and is a symbol of recognition for outstanding achievement. EduTrust Star is awarded to those institutions for attaining a commendable level of performance in managing

their institutions and providing an outstanding quality of education and welfare for their students.

James Cook University is the first organisation with EduTrust Star. By obtaining this award for the third time in 2023, James Cook University has displayed its commitment and focus as a student centric educational institution.

SQC STAR

James Cook University has also been awarded the Singapore Quality Class STAR (SQC STAR). The SQC STAR recognises SQC organisations that have made further improvement in their business excellence journey.

Tropical Futures Institute

Given that research is a core component of the university, James Cook University established the Tropical Futures Institute to leverage off the university's research capability and strength and that creates substantive value-add to the research ecosystems of Singapore and the ASEAN region. The Tropical Futures Institute is the first research institute established by an Australian university in Singapore.

James Cook Institute

James Cook Institute is a wholly-owned subsidiary of James Cook University in Singapore that offers short courses and training programs in Industry 4.0 and areas that fit the needs of the workforce and community. This includes a wide range of short courses and training programs in information technology, digital marketing, communication, and more.

James Cook Institute is committed to further diversifying and enhancing its short course offerings, as well as delivering customised training programs for corporate clients to provide more people with the opportunity to upgrade their skills and stay relevant and employable in today's ever-changing world..

¹ 2024 Times Higher Education World University Rankings and 2023 ShanghaiRanking Academic Ranking of World Universities as a percentage of higher education providers in the International Association of Universities (IAU) database

* Terms and conditions apply





Modern business and society are increasingly computer-reliant.

In recent years the Internet and local computer networks have become essential everyday business tools. The people who make this work are called Information Technology (IT) professionals. Not surprisingly, the IT industry is one of the world's fastest-growing industries, and IT graduates can expect exciting and rewarding careers, anywhere in the world.

Note: International students in Singapore on a Student Pass are not permitted to work. For more information please visit www.ica.gov.sg

James Cook University is EduTrust Certified. The EduTrust certification scheme is administered by the Committee for Private Education (CPE), a part of SkillsFuture Singapore (SSG). EduTrust requires all students to be covered under a Fee Protection Scheme. In James Cook University, this is provided through Fee Protection Scheme Group Insurance. All students from James Cook University are covered hospitalization, surgery and treatment costs in accordance to insurance policy term and conditions under the Group Hospitalisation and Surgical insurance scheme. James Cook University will advise in the Standard Student Contract the total amount of insurance payable.

For more details please visit the Committee for Private Education (CPE), a part of SkillsFuture Singapore (SSG) website: www.ssg.gov.sg/cpe/pei.html

Diploma of Higher Education (Majoring in Information Technology)

Students with Year 12, GCE 'A' Level or its equivalent but do not meet direct entry to a degree program are eligible to pursue this qualification.

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 (Information Technology) will also provide an exit point for early graduates who wish to undertake advanced skills or paraprofessional work in the industry.

Upon completion, students may be given advanced standing of 8 subjects into the Bachelor of Information Technology Program.





Study Program

Students are required to complete 8 subjects (24 credit points)

Core subjects:

Learning in a Digital environment
Developing Academic Skills
Essential Maths



Choose 5 subjects from the following:

Problem Solving and Programming I
Internet Fundamentals
Design Thinking I
Web Design and Development
Introductory Machine Learning and Data Science I
Operating Systems and Shell Scripting
Preparatory Mathematics

Duration:

8 months full-time / 16 months part-time
(Commencing in Trimester)

10 months full-time (Commencing in Carousel/Block)

Intakes:

Trimester: January*, May, September

Carousel/Block: March, July, November

Course Structure:

4 subjects in Trimester

2 subjects in Carousel/Block**

Total Tuition Fees (2024): S\$21,582 (International)
S\$20,710 (Domestic)***

**In 2024, the intake will commence in February*

***Carousel/Block intakes are for commencing students only, subsequently, students will progress with the trimester.*

****Fees apply to all Singapore residents (Singapore Citizens, Permanent Residents and all pass holders excluding those holding a Student Pass).*

Note:

- All course fees include the corresponding Singapore Goods and Services Tax (GST), which is 9% in 2024.
- The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.

Entry Requirements

Entry Requirements

Year 12, GCE 'A' Level qualifications or its equivalent (who do not meet direct entry requirement to a degree program).

Exit Requirement

- Pass all eight subjects

For further information email admissions-singapore@jcu.edu.au

English Requirements

- Applicants of non-English speaking backgrounds must meet the English language proficiency requirements of IELTS 5.5 (no component lower than 5.0) / TOEFL (Internet Based) 56 (no component less than 16) / Pearson PTE Academic 46 (no component less than 42); or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Successful completion of other qualifications completed in English Language deemed comparable to Australian standards on a case-by-case basis in accordance to JCU admissions guidelines.



Matthew Cabinian

Diploma of Higher Education
(Information Technology)

"I chose to study in JCU because the campus offered one of the best IT degree courses.

I learnt how to prepare my CVs, ePortfolios for any future interviews, how to write project reports and references.

I also learnt how to create a website from scratch, the right way to do research and apply it when designing projects."



Bachelor of Information Technology

This course brings together the knowledge and skills that are essential for professional IT careers along with subjects in interactive visualisation, games, big data and data mining, interactive 2D/3D graphics and web technologies, mobile technologies, programming and design thinking, and programming.

Bachelor of Information Technology graduates will be able to:

- Demonstrate essential knowledge for a career in technology related professions and practice;
- Synthesise industry standard and underlying principles and concepts for decision making;
- Critically evaluate data & resources in the context or relevant academic literature;
- Apply critical thinking to address IT related issues;
- Demonstrate the ability to work collaboratively

This course is accredited by the Australian Computer Society (ACS). Graduates are eligible to apply to join the ACS.

As an IT student, you will be entitled to memberships with two professional bodies: The Institute of Electrical and Electronics Engineers (IEEE) and the Singapore Computer Society (SCS).

Duration:

24 months full-time (Commencing in Trimester)

26 months full-time (Commencing in Carousel/Block)

Intakes: Trimester: January*, May, September

Carousel/Block: March, July, November

Course Structure:

4 subjects in Trimester

2 subjects in Carousel/Block**

Total Tuition Fees (2024): S\$64,746 (International)
S\$62,130 (Domestic)***

**In 2024, the intake will commence in February*

***Carousel/Block intakes are for commencing students only, subsequently, students will progress with the trimester.*

****Fees apply to all Singapore residents (Singapore Citizens, Permanent Residents and all pass holders excluding those holding a Student Pass).*

Note:

- All course fees include the corresponding Singapore Goods and Services Tax (GST), which is 9% in 2024.
- The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.

Study Program

This course is composed of 24 subjects including core subjects and elective as per the study plan.

Core Subjects

- Problem Solving and Programming I
- Internet Fundamentals
- Design Thinking I
- Programming II
- Web Design and Development
- Introductory Machine Learning and Data Science
- Information Processing and Visualization
- Database Modelling
- Programming III
- Design Thinking II
- Network Security
- Cloud Computing
- Discrete Mathematics for Computing
- Data Mining
- Information Security
- Design Thinking III
- Mobile Computing
- Advanced Software Engineering
- Deep Learning
- Professional Internship or Multi-Disciplinary Project or Independent Project

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Choose 4 of any undergraduate subject

Career prospects:

Graduates will have the expertise to pursue exciting careers as project manager, network administrator and designer, system analyst, software developer, application developer, IT researcher, IT manager, system administrator, multimedia developer, game designer/tester/reviewer, simulation designer, enterprise architect, consultant, story boarder, web designer, and mobile app developer.



Entry Requirements

Entry Requirements

- The entry requirements differ from country to country but in general applicants must have satisfactorily completed 12 years of schooling or equivalent
- Successfully complete ten (10) subjects with a minimum pass of 50% per subject and secure an overall 65% of the James Cook University Foundation program will also satisfy the entry requirement.

Course Prerequisite

- English
- Recommended: Mathematical Methods

For further information email admissions-singapore@jcu.edu.au

Advanced Standing

- Advanced standing of up to 8 subjects will be granted upon successful completion of James Cook University Diploma of Higher Education (Information Technology) program.
- Credit exemption of up to 16 subjects may be granted for students with relevant qualifications from recognised institutions.
- Credit will be granted only for studies completed in the 5 years prior to the commencement of this course.

English Requirements

- Applicants of non-English speaking backgrounds must meet the English language proficiency requirements of IELTS 6 (no component lower than 6.0) / TOEFL (Internet Based) 74 (no component less than 18) / Pearson PTE Academic 52 (no component less than 52); or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Successful completion of other qualifications completed in English Language deemed comparable to Australian standards on a case-by-case basis in accordance to JCU admissions guidelines.





Ayushman Kapoor

Bachelor of Information Technology

"It's not just the programming languages, as IT students, we experience the entire IT workflow.

Through modules such as Design Thinking, we get to experience the practical scenarios

beginning from resource planning, designing, coding, all the way to testing and implementing in a live environment. The journey so far has been really informative and comprehensive."



Bachelor of Cybersecurity

Cybersecurity is a growing industry where demand hugely outstrips supply and currently lacks a specialised workforce able to cover its multifaceted challenges. The relevance of this field cannot be overestimated as it affects all sides of society and industry alike. This is especially relevant in the Tropical and ASEAN region where developing nations are striving to implement new technological solutions to enhance their population's living standards. Such technologies, including IoT, critical infrastructure and even a more general internet infrastructure, need to be secured and monitored at all levels from a constantly rising number of threats.

The Bachelor of Cybersecurity forms professionals with a proper foundation in IT (including software and mobile app development, database design, machine learning etc.) complemented by a strong emphasis in Cybersecurity and related knowledge.

Graduates of the Bachelor of Cybersecurity at James Cook University will be able to:

- Demonstrate essential knowledge for a career in IT and Cybersecurity related professions and practice.
- Synthesise IT and Cybersecurity industry standard and underlying principles and concepts for decision making and risk assessment.
- Critically analyse the core professional obligations, values and operations of organisations, including sustainability.
- Critically evaluate data & resources in the context of industry IT and Cybersecurity practice and/or relevant academic literature.
- Apply critical thinking to address IT and Cybersecurity related issues.
- Convey information clearly and fluently, in high quality written form appropriate for their audience.
- Demonstrate effective oral presentation skills for academic and professional audiences
- Demonstrate the ability to work collaboratively.
- Apply technical skills, including numeracy, necessary for IT and Cybersecurity professional practice.
- Demonstrate an awareness of ethical and social responsibility in professional practice.
- Identify and act upon, learning opportunities and self-improvements.

Study Program

Students are required to complete

Core Subjects Level 1:

- Problem Solving and Programming 1
- Internet Fundamentals
- Programming II
- Web Design and Development
- Preparatory Mathematics **or** Mathematical Foundations
- Foundations of Data Science
- Operating Systems and Shell Scripting
- Cybersecurity and Cryptography Fundamentals

Core Subjects Level 2:

- Information Processing and Visualisation
- Database Modelling
- Programming III
- Design Thinking II
- Network Forensics and Data Communications
- Discrete Mathematics for Computing **or** Machine Learning for Cybersecurity
- Cloud and Data Centre Security
- Cybersecurity Infrastructure and Management

Core Subjects Level 3:

- Data Mining
- Mobile Computing or Advanced Software Engineering
- Design Thinking III
- Ethical Hacking
- Behavioural Cybersecurity
- Cybersecurity for Operational Technology
- Professional Internship or Best Practices in Cybersecurity

Elective:

3 credit points (1 subject) of any undergraduate subject

Duration:

24 months full-time / 36 months part-time
(Commencing in Trimester)

Intakes:

Trimester: January*, May, September

Course Structure: 4 subjects in Trimester

Total Tuition Fees (2024): S\$64,746 (International)
S\$62,130 (Domestic)**

**In 2024, the intake will commence in February*

***Fees apply to all Singapore residents (Singapore Citizens, Permanent Residents and all pass holders excluding those holding a Student Pass).*

Note:

- All course fees include the corresponding Singapore Goods and Services Tax (GST), which is 9% in 2024.
- The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.

Career Outcome:

Graduates will be ready for different entry level jobs in this growing industry including, for example, cybersecurity analyst and penetration tester.

Besides learning technical topics like network infrastructure and security, ethical hacking, machine learning and more, students will also be exposed to higher level concepts, including risk management and strategy and governance, laying down a foundation for career growth and possible later shifts into senior management positions in both public and private sectors.





Entry Requirements

Entry Requirements

- The entry requirements differ from country to country but in general applicants must have satisfactorily completed 12 years of schooling or equivalent
- Successfully complete ten (10) subjects with a minimum pass of 50% per subject and secure an overall 65% of the James Cook University Foundation program will also satisfy the entry requirement

Course Prerequisite

- English
- Recommended: Mathematical Methods

For further information email admissions-singapore@jcu.edu.au

Advanced Standing

- Credit exemption of up to 16 subjects may be granted for students with relevant qualifications from recognised institutions.
- Credit will be granted only for subjects completed in the 5 years prior to the commencement of this course.

English Requirements

- Applicants of non-English speaking backgrounds must meet the English language proficiency requirements of IELTS 6 (no component lower than 6.0) / TOEFL (Internet Based) 74 (no component less than 18) / Pearson PTE Academic 52 (no component less than 52); or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Successful completion of other qualifications completed in English Language deemed comparable to Australian standards on a case-by-case basis in accordance to JCU admissions guidelines.

Master of Information Technology

Majors

- **Business Informatics**
- **Computing**
- **Interactive Technologies and Games Design**

In the expanding e-Business/e-Commerce industry, there is a growing global demand for graduates skilled with a mix of marketing, management, internet, multimedia, computing, networking, software technologies and business operation skills.

Our Master of Information Technology program provides practical and relevant skills to allow graduates of different disciplines to move into the IT industry.

Students have an opportunity to specialise in Business Informatics, Computing or Interactive Technologies and Games Design.

Our Master of Information Technology program is fully accredited by the Australian Computer Society at the 'Professional Level' (its highest level).

As an IT student, you will be entitled to membership with two professional bodies: The Institute of Electrical and Electronics Engineers (IEEE) and the Singapore Computer Society (SCS).

Duration:

16 months full-time / 16 months part-time[^]
(commencing in Trimester)

18 months full time (commencing in Carousel/Block)

Intakes:

Trimester: January*, May, September

Carousel/Block: March, July, November

Course Structure:

4 subjects in Trimester

2 subjects in Carousel/Block**

Total Tuition Fees (2024): S\$55,372 (International)
S\$53,628 (Domestic)***

[^] Except for Computing Major

^{*} In 2024, the intake will commence in February

^{**} Carousel/Block intakes are for commencing students only, subsequently, students will progress with the trimester.

^{***} Fees apply to all Singapore residents (Singapore Citizens, Permanent Residents and all pass holders excluding those holding a Student Pass).

Note:

- All course fees include the corresponding Singapore Goods and Services Tax (GST), which is 9% in 2024.
 - The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.
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Study Program

This course is composed of 16 subjects including core subjects and elective as per the study plan.

Foundation Subjects

Internet Fundamentals
Problem Solving and Programming I
Database Modelling
Web Design and Development or e-Strategic Management



Core Subjects (All majors)

ICT Project 1: Analysis and Design
ICT Project 2: Implementation and Commissioning
Advanced E-Security

Core Subjects (Major specific)

Business Informatics

E-Business Technologies
Enterprise Database Systems - Oracle
Advanced Databases and Applications
Data Analysis and Decision Modelling
Data Mining

Computing

Advanced Mobile Technology
Advanced Data Communication Principles
Data Mining
Advanced Human Computer Interaction
Advanced Algorithm Analysis

Interactive Technologies and Games Design

E-Business Technologies
Advanced Game Design
Advanced Human Computer Interaction
Advanced Animation Techniques
Intelligent Agents and Simulation



Plus four elective subjects

Majors

Business Informatics is a specialist area of IT that combines information technology, management and business. It encompasses everything from utilising Information Technology, to making informed decisions in business, or to large scale data warehousing.

The **Computing** major is designed for information technology and computer science graduates and recognised IT professionals who seek to further their knowledge and skills in advanced computing, programming, information systems and networking.

Interactive Technologies and Games Design focuses on both the front and back end integration of interactive technologies - Web 2.0 applications, Digital Media, Web/Mobile Technologies and platforms, 2D/3D Graphics, Animation, Games Design, Computation Arts, Interactive Visualisation, Autonomous Simulation and Virtual Worlds.

Career prospects:

Depending on the major, the Master of Information Technology equips students with skills for a career in a variety of settings. They can operate as software, database or administration consultants or project managers for IT, education, research and system development projects.



Entry Requirements

Entry Requirements

- Completion of an AQF level 7 bachelor degree from this or another university; or other qualifications or practical experience recognised by the Pro-Vice-Chancellor of the College of Science and Engineering as equivalent to the above.
- Recognition of prior learning for general credit will reduce total time required to complete the degree for suitably qualified students similar to those in Australia.

English Requirements

- Applicants of non-English speaking backgrounds must meet the English language proficiency requirements of IELTS 6.5 (no component lower than 6.0) / TOEFL (Internet Based) 86 (no component less than 21) / Pearson PTE Academic 58 (no component less than 54); or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Successful completion of other qualifications completed in English Language deemed comparable to Australian standards on a case-by-case basis in accordance to JCU admissions guidelines.

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Advanced Standing

Advanced Standing from 4 of the Foundation subjects can be considered for:

- Applicants with a minimum 4 years full-time equivalent professional work experience in information and communication sector.
- Applicants with undergraduate degree from cognate discipline such as IT Cognate disciplines: Information Technology, Computer Science, Information Systems or other disciplines where students will have completed study relating to information and communication technologies.
- Credit will be granted only for studies completed in the 4 years prior to the commencement of this course.

Advanced standing can also be considered for:

- Applicants with a four-year relevant undergraduate program
- Previous tertiary study where appropriate





Master of Information Technology - Master of Business Administration

There is a growing demand for graduates skilled in a range of Information Technologies. In addition, there is worldwide demand for graduates with critical business skills and acumen to fully leverage these technical skills into profitable products and services.

This joint degree provides a path for IT graduates seeking to move into the IT and management area. The objective is to provide theory and practical skills in accounting, financial management, marketing, operations management, e-business technologies, multimedia, programming, networking and software development.

Program Features:

- Prepares students for management responsibilities and career advancement
- Enables students to work more effectively in multidisciplinary teams
- Better equips students to use their IT skills to achieve organisation goals
- A relevant curriculum designed to meet the unique business needs
- Formal business and management education that enhances students' research, report preparation, presentation and people skills

Study Program

Students need to complete 16 subjects including core and elective subjects as per the study plan

Core Subjects

- ICT Project 1: Analysis and Design
- ICT Project 2: Implementation and Commissioning
- Collective Intelligence and Entrepreneurship or Advanced Human Computer Interaction
- Database Modelling or Advanced Data Communications Principles
- Advanced E-Security
- Data Mining
- Corporate Strategy
- Business Innovation and Technology Management
- Managing Strategic Resources and Operations
- Leadership Futures
- Digital Marketing or Marketing Essentials
- Innovation and Entrepreneurship
- Leading and Managing Organisational Change
- Applied Research Project



Plus two elective subjects

Career prospects:

The joint masters program prepares students for a broad range of careers in management, science or as specialist consultants.

Duration:

16 months full-time (Commencing in Trimester)

Intakes:

Trimester: January*, May, September

Course Structure:

4 subjects in Trimester

Total Tuition Fees (2024): S\$55,372 (International)
S\$53,628 (Domestic)**

**In 2024, the intake will commence in February*

***Fees apply to all Singapore residents (Singapore Citizens, Permanent Residents and all pass holders excluding those holding a Student Pass).*

Note:

- All course fees include the corresponding Singapore Goods and Services Tax (GST), which is 9% in 2024.
- The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.

Entry Requirements

Entry Requirements

- Entry requirement requires cognate degree: Completion of an AQF Level 7 Bachelor Degree in Information Technology from this or another University.

For further information email admissions-singapore@jcu.edu.au

English Requirements

- Applicants of non-English speaking backgrounds must meet the English language proficiency requirements of IELTS 6.5 (no component lower than 6.0) / TOEFL (Internet Based) 86 (no component less than 21) / Pearson PTE Academic 58 (no component less than 54); or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Successful completion of other qualifications completed in English Language deemed comparable to Australian standards on a case-by-case basis in accordance to JCU admissions guidelines.



Low Yee Ling Elaine

Bachelor of Information Technology

"I was personally attracted to JCU by the prospect of being able to learn game design and other key aspects of IT to widen my horizons and provide me with more career options."

I was delighted to discover that at JCU I also learn statistics and business fundamentals.

I have also attended important conferences and events that have widened my networking circle, such as the Retroinspired Game Jam that was organized by and held at the Singapore campus."

Your Local Representative:

— James Cook University —

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James Cook University Australia offers pathway, undergraduate and postgraduate at the Singapore campus of James Cook University.

This publication is intended as a general guide. The information is correct at the time of printing. James Cook University reserves the right to alter any course contents or admission requirements without prior notice. Version SIN01/24
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