JAMES COOK UNIVERSITY
SINGAPORE

Make a difference to the world with the knowledge of **Science**



JAMES COOK UNIVERSITY
Townsville | Singapore | Cairns | Brisbane

1 university • 2 countries • 4 distinct locations

Creating a brighter future for life in the Tropics and beyond, through education and research that makes a difference locally, and globally.

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 world[1]. 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, Cybersecurity, Economics, 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. This is a unique program designed to ensure that students get the best possible outcomes from their years of study with the university, which operates across two countries. Students will get to experience international study environments within one study journey, with exposure to diverse cultures, communities, and ways of life.

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.

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] 2026 Times Higher Education (THE) World University Rankings and 2026 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

edutrust SINGAPORE STAR
Cert No. : EDU-1-1001
Validity : 10/04/2023 - 09/04/2027



James Cook University's science program is a leader in discovering innovative solutions to complex problems. Our lecturers empower students to discover, explore and pioneer innovative solutions through a strong focus on building hands-on, practical skills.

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 (EduTrust) is a quality assurance scheme administered and governed by Skills and Workforce Development Agency (SWDA) for Private Education Institutions (PEIs) in Singapore. The EduTrust Certification Scheme requires all students to be covered under the Fee Protection Scheme (FPS). 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 Skills and Workforce Development Agency (SWDA) website: https://www.swda.gov.sg/



"The allure of data and a passion for the optimisation process led me to choose Data Science. I believe that in an era where information is abundant, data is crucial and the skills to handle them are highly sought-after across all industries."

Se Dickson
Bachelor of Science (Majoring in Data Science), 2023

Bachelor of Science (Majoring in Data Science)

Data and analytics capabilities have made a leap forward in recent years. The volume of available data has grown exponentially, more sophisticated algorithms have been developed, and computational power and storage have steadily improved. Career opportunities in data science, big data and analytics are growing dramatically. Data scientists work in every industry – from defence departments to internet start-ups and financial institutions – and tackle big data projects on every level. They are among the most sought-after jobs in the tech world today.

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

- Integrate and apply a coherent body of theoretical and technical knowledge, including underlying concepts and principles, within the domain of data science
- Critically appraise the role and relevance of science in society, particularly in creating sustainable futures in the tropics, worldwide
- Demonstrate broad understanding of the methodsof science, including the creative processes involved in developing scientific knowledge, and its contestable and testable nature
- Retrieve, analyse, synthesise and evaluate information from a range of sources
- Plan and conduct reliable, evidence-based laboratory and or field experiments by selecting and applying methods, techniques and tools, as appropriate to one or more science disciplines
- Organise, analyse and interpret scientific data using mathematical, statistical and technological skills
- Convey scientific ideas, arguments and conclusions clearly and coherently through well-developed written and oral communication skills and a variety of media
- Identify, analyse and generate solutions to unpredictable or complex problems by applying scientific knowledge and skills with initiative and well-developed judgment
- Critically review regulatory requirements, ethical principles and, where appropriate, cultural frameworks, to work effectively, responsibly and safely in diverse contexts
- Reflect on current skills, knowledge and attitudes to manage their professional learning needs and performance, autonomously and in collaboration with others

Study Program

Students are required to complete 24 subjects as per following:

7 Core Subjects

Preparatory Chemistry (or any Level 1, 2, 3 or 5 subject if already satisfied via previous study)
Preparatory Mathematics (or any Level 1, 2, 3 or 5 subject if already satisfied via previous study)
Science, Technology and Truth
Modelling Natural Systems
Quantitative Methods in Science
Professional Placement or Science Research Internship

1 subject (Also known as skill subjects)

Database Modelling
Geographic Information Systems
Mathematics for Scientists and Engineers
Linear Algebra
Data Visualisation
Sensors and Sensing for Scientists

+ 8 Major Subjects

Foundations of Data Science
Mathematical Foundations
Advanced Statistical Modelling
Statistical Data Mining for Big Data
Natural Language Processing, Web Scraping and Large Data Processing
Neural Network and Deep Learning
or Optimisation and Operations Research

2 Subjects

Database Modelling
Linear Algebra
Discrete Mathematics
Data Visualisation

+ 9 additional electives

2 subjects (Also known as breadth subject)

Problem Solving and Programming I
Programming II

3 subjects (Level 2, 3 or 5 Science subjects)

2 subjects (Level 1, 2, 3 or 5 subjects)

2 subjects (Level 3 or Level 5 subjects)

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; or
- Students who have completed either JCU Pre-University Foundation Program or Pre-University Foundation Program Extended with 65% pass.

Pre-requisite

- Recommended Knowledge: English (Units 3/4,C), Chemistry, General Maths or Mathematical Methods (Units 3/4,C).
- If you have completed Mathematical Methods (Australia QLD Unit 3 & 4) or equivalent overseas year 12 or other tertiary subjects and/or Chemistry (Australia QLD Unit 3/4) or equivalent overseas year 12 or other tertiary subjects, you may be able to replace MA1020: Preparatory Mathematics and/or CH1020 Preparatory Chemistry in your JCU study plan.

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*: S$73,771.20 (International)
S$66,708 (Domestic)**

** Effective for students commencing from Trimester 1, 2027. Tuition fees are subject to change in following years.*
*** 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 9% Singapore Goods and Services Tax (GST).
- The details of the instalment breakdown will be provided in your Student Contract. Please contact us for further details.

English Requirements

- IELTS 6.0 (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 C1 Advanced/C2 Proficiency 169 (no component less than 169) or ISLPR At least 3 in each skill area or AEMG English for Academic Purposes Direct Entry Program (AEAP DEP) Final Exam Overall 65% with no exam sub-score below 65%; or
- Satisfactory completion of James Cook University Singapore English Language Preparatory Program (ELPP); or
- Completing a course of study delivered in English or experience in an English-speaking workplace may help you demonstrate the English language skills you need at JCU.

Advanced Standing

- Students may apply for credit transfer for previous tertiary study in accordance with the Credit Transfer Procedure. Maximum advanced standing up to 48 credit points. Credit will be granted only for studies completed in the 10 years prior to the commencement of this course.

Career Prospects:

Possible careers graduates in the Bachelor of Science majoring in data Science can look forward to include the following:

- Data Engineer
- Data Analyst
- Data Scientist
- Data Architect
- Business Intelligence Analyst
- Data Analyst Manager



"I chose James Cook University because of its outstanding accelerated program, which allowed me to finish my degree quickly. In addition, the multicultural environment at JCU has given me priceless experience working with people from many backgrounds, which I believe will be very beneficial for my future in the international job market."

Sally Pang Shue Yan
Bachelor of Science (Majoring in Data Science), 2023

Bachelor of Science (Majoring in Aquaculture Science and Technology)

Breeding, rearing, and harvesting of fish, shellfish, and aquatic plants is the main objective of Aquaculture. This is an increasingly important area for developing a sustainable, food secure, future. Ensuring a consistent supply of food and associated products for human consumption, while also helping in the preservation of species in the wild, is key to solving real world problems. Throughout this major, students will explore the scientific and practical applications of breeding, rearing and harvesting of plants and animals in all types of water environments. You will understand the biodiversity of species and how they are farmed, the design of aquaculture systems, and the basics of nutrition.

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

- Integrate and apply a coherent body of theoretical and technical knowledge, including underlying concepts and principles, within the domain of data science
- Critically appraise the role and relevance of science in society, particularly in creating sustainable futures in the tropics, worldwide
- Demonstrate broad understanding of the methods of science, including the creative processes involved in developing scientific knowledge, and its contestable and testable nature
- Retrieve, analyse, synthesise and evaluate information from a range of sources
- Plan and conduct reliable, evidence-based laboratory and/or field experiments by selecting and applying methods, techniques and tools, as appropriate to one or more science disciplines
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7 Core Subjects

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Science, Technology and Truth
Modelling Natural Systems
Quantitative Methods in Science
Professional Placement or Science Research Internship

1 Subject (Also known as skill subjects)

Database Modelling
Geographic Information Systems
Mathematics for Scientists and Engineers
Linear Algebra
Data Visualisation
Sensors and Sensing for Scientists

+ 8 Major Subjects

Introduction to Biological Processes
Introduction to Biodiversity
Evolution
Diagnosis of Bacterial Diseases in Aquaculture
Introduction to Aquaculture
Aquaculture: Feeds and Nutrition
Sustainable Aquaculture

1 Major Elective Subject

Aquaculture: Propagation
Aquaculture: Stock Improvement

+ 9 Elective Subjects

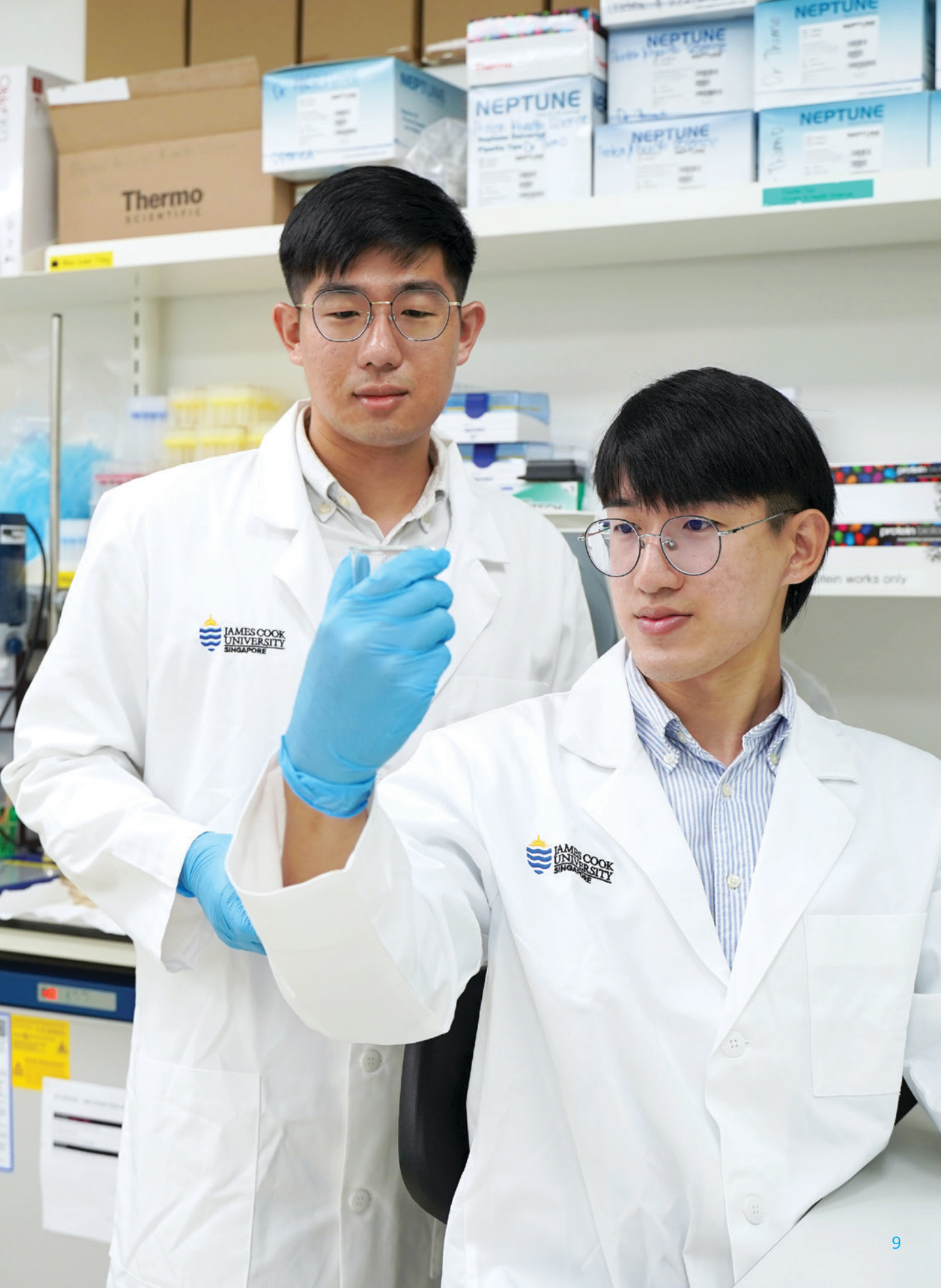
2 subjects (Also known as breadth subject)

Problem Solving and Programming I
Programming II
Evolution of the Earth
Environmental Processes and Global Change
Mathematical Foundation
Mathematical Techniques
Foundations of Data Science

3 subjects (Level 2, 3 or 5 Science subjects)

2 subjects (Level 1, 2, 3 or 5 subjects)

2 subjects (Level 3 or Level 5 subjects)


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Advanced Standing

- Students may apply for credit transfer for previous tertiary study in accordance with the Credit Transfer Procedure. Maximum advanced standing up to 48 credit points. Credit will be granted only for studies completed in the 10 years prior to the commencement of this course.

Career Prospects:

Possible careers graduates in the Bachelor of Science majoring in Aquaculture Science and Technology can look forward to include the following:

- Hatcheries management
- Stock nutrition programs and management
- Fresh water and marine farming
- Aquaculture research and development

Duration:
24 months full-time (Commencing in Trimester)

Intakes:
Trimester: January, May, September

Course Structure:
4 subjects in Trimester

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"Since young, I have always been curious about nature and how it works. It helped a lot that my family was supportive of my interests in wildlife conservation and sustainability.

Over the course of the program, I have gained insights into the lives and cultures of my schoolmates from other countries, picked up knowledge of sustainability concepts that I have an interest in, as well as some forms of industrial insights."

Chua Tze Xin John
Bachelor of Science (Majoring in Aquaculture Science and Technology), 2023

Bachelor of **Science (Majoring in Data Science)**
Bachelor of **Science (Majoring in Aquaculture Science and Techonology)**

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James Cook University Pte. Ltd. | 149 Sims Drive, S(387380) | UEN and PEI Registration No. 200100786K | PEI Period of Registration: 13 July 2026 to 12 July 2032
James Cook University Australia offers pathway, undergraduate and postgraduate programs at the Singapore campus of James Cook University.
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