Bachelor of Information Technology (Computer Science)

Computer science is the scientific and practical approach to computer-based system design, development and operation. It deals with areas ranging from the fundamental principles of computation through to tools and techniques for IT system development and evaluation, including identifying and solving systems design issues associated with efficiency, usability and security. Computer science applications extend into specialised areas including mobile computing, artificial intelligence, robotics, and large-scale information management involving information retrieval and web search engines.

If you want to work with cutting-edge technology and be a part of creating technologies that have not yet been invented, a computer science career could be for you.

Why choose this course?
Modern information technology professionals need to know more than technology. They need to have a comprehensive understanding of the complex interplay between technology, data, business, and people. This major equips future graduates with the key technical skills and knowledge related to processes, data, services, and tools required to analyse, design, and manage IT projects to digitally transform industries.

We provide our graduates with what industry is seeking: a skillset that enables you to create innovative technology solutions to make businesses more effective and efficient.

Subject prerequisites
- Maths A, B or C

You must have achieved this study at a level comparable to Australian Year 12 or in recognised post-secondary studies.

Minimum English requirements
Students must meet the English proficiency requirements.

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<th>IELTS (International English Language Testing System)</th>
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<tr>
<td>Overall</td>
<td>6.5</td>
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<tr>
<td>Listening</td>
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<td>Reading</td>
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Kelvin O'Shea
Real-world opportunities

'The internship I undertook while studying gave me an opportunity I would not have expected. The experience was challenging, exciting and motivating. It helped me develop my technical skills and understand how knowledge translates from university to the real world.'
Opportunity to develop a significant depth of study area, which can be either a second major or double minor. You might prefer to expand the breadth of your studies by adding to your major with two minors. You can choose from the information technology discipline, or you can broaden your studies by completing minors that offer general knowledge and insights in study areas from across the university.

### Course structure

**Bachelor of Information Technology (Study Area A)** as follows:

- **72 credit points** (6 units) of information technology core units, which includes 24 credit points (2 units) of option unit” selected from an approved list
- **120 credit points** (10 units) of major core units
- **96 credit points** of complementary studies comprising of either a second major (8 unit set); or two minors (4 unit set each); or one minor (4 unit set) plus 4 elective units.

*Unit options list - comprises a range of units from which you choose to undertake two units. You are able to undertake the option unit in any semester. The options include introductory units from a wide variety of disciplines offered at QUT.*

### Customise your degree

Foster your passion and shape your career through complementary study areas. As well as choosing a major area of study, your course includes a second study area, which can be either a second major or double minor.

A second major can complement your major area of study, giving you the opportunity to develop a significant depth of knowledge and skills in two discipline areas.

**IT Second Majors**

- **Computational and Simulation Science** combines the study of science and mathematical models with the use of computers to provide quantitative analysis and visualisation in order to gain insight to the solution of scientific problems from a range of scientific application areas. Computational and Simulation Science second major graduates will be in demand, to apply the latest computing and computational techniques to specialist application areas.
- **Data Science** provides the necessary skills to be a data scientist including statistical methods and data visualisation, computational tools for and data management techniques for large datasets, and high-performance computing resources and techniques. This unique skill-set in statistics and computing will allow you to cope with sophisticated models applied to complex and/or large datasets.

### IT Minors

- **Business Process Management** is a systematic approach to making the workflow of the organization more effective. You will learn how to discover, analyse, model, improve, automate and monitor various business processes.
- **Enterprise Systems** are large scale application software packages that support business processes and information flow across business departments. This minor develops the knowledge and skills required in supporting Enterprise Systems within the modern organisation.
- **Intelligent Systems** are an introduction to the field of robotics and intelligent systems technologies to students interested in careers in this area. Students will develop knowledge and skills to specialise in developing physical and virtual intelligent systems.
- **Mobile Applications** develops the knowledge and skills to design, develop and distribute applications or games delivered as a Mobile Application. It examines the role and application of ubiquitous and mobile technologies to the individual and enterprises.
- **Social Technologies** develops the knowledge and skills to be able to design and build software systems for a variety of environments and problem domains.
- **Data-centric Computing** develops the knowledge and skills needed to specialize in developing better and novel data-centric systems using a variety of tools, techniques and theories.
- **Networks and Security** develops the knowledge and skills involved in contemporary electronic communications infrastructure, concentrating on fundamental networking technologies and information security principles.

### Careers and outcomes

Computer science graduates are experienced in software development, familiar with networked systems and have an understanding of the underlying foundations of all modern computerbased technologies. Depending on your choice of study areas, opportunities also exist to gain specific expertise in information security, networks and communications, intelligent systems, data-centric computing, or humancomputer interaction.

Graduates work in a wide variety of roles such as web developer, database manager, network administrator, electronic commerce developer, data communications specialist, software engineer, systems programmer, multimedia specialist, computer scientist, systems analyst or programmer. Career opportunities are unbounded with information technology being an integral part of all commercial, industrial,
government, social and personal activities.

**Professional recognition**
This program is ACS accredited, giving eligibility for ACS membership, recognition by ACS for certification and migration skills assessment, and international recognition by signatories of the [Seoul Accord](#).