Applications close on December 8.

Questions about computer science? Email office@cs.auckland.ac.nz
Congratulations on choosing to study Computer Science. Whether you are taking a complete programme in Computer Science, or a few courses to enhance your effectiveness in another discipline, you will be spoilt for choice in our department.

Computer scientists profoundly affect how our society advances by developing the systems which are fundamental to daily life, our work, learning and entertainment environments. As the largest and top-ranked Computer Science department in New Zealand we offer the greatest variety of topics. We have great strengths in algorithmic information theory, artificial intelligence, bioinformatics, combinatorics, computer vision, data communications and networks, data science, distributed computing, graphics, health informatics, human-computer interaction, logic, multimedia systems, robotics, software engineering, software security, theory of computation, visual programming, and computer science education. Industry is keen to employ our graduates from the BSc and especially from our postgraduate and professional degrees. I look forward to celebrating your success in Computer Science.

PROFESSOR ROBERT AMOR
Head of Department
Bachelor of Science in Computer Science

As the demand for new technology continues to grow and change, Computer Science is always at the forefront of developments in the field. Computer Science is the study of information and computation, and of practical techniques for using machines to process information and perform computation.

3

The average number of years it takes to complete a Bachelor of Science degree

You can choose either a single or double major

Preparation for school leavers

Students are not required to have studied any sort of computing at high school. However, it would be beneficial to study NCEA Level 3 Mathematics, Physics and Digital Technologies (or equivalent).

For course planning and enrolment, go to www.science.auckland.ac.nz/student-centre

Thinking about postgraduate study options? Visit www.cs.auckland.ac.nz/pg

Complementary majors

You may wish to consider a double major to gain a broader base of skills and knowledge.

**COMPUTER SCIENCE +**

- Applied Mathematics
- Information Systems
- Logic and Computation
- Mathematics
- Physics
- Statistics

www.science.auckland.ac.nz/doublemajors
Planning your major in Computer Science

1. Courses in a minimum of three subjects listed in the BSc Schedule.
2. At least 180 points (12 courses) must be above Stage 1.
3. Up to 30 points (2 courses) may be taken from outside the Faculty.
4. 30 points (2 courses) must be taken from the appropriate General Education Schedules for BSc students.
5. At least 75 points (5 courses) must be at Stage III, of which 60 points (4 courses) must be in the majoring subject.

To view regulations for majors, and course descriptions, see www.calendar.auckland.ac.nz
BSc degree requires: 360 points (24 x 15 point courses). Each box represents one 15 point course. It is recommended that students enrol in 8 courses each year.

Degree Planners for double majors can be found at www.science.auckland.ac.nz/course-planning

<table>
<thead>
<tr>
<th>BSc</th>
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</thead>
<tbody>
<tr>
<td>COMPSCI 101*</td>
<td>COMPSCI 105*</td>
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<tr>
<td>COMPSCI 210-280</td>
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<tr>
<td>COMPSCI 313-393</td>
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</table>

With appropriate prerequisites can also be filled by Stage II or III.

*COMPSCI 101 and 105 may be replaced with COMPSCI 107 in semester 1 if the prerequisites for COMPSCI 107 have been met.

MATHS 108, 110 or 150 are recommended courses as some Stage II COMPSCI courses require 15 points from either of these as a prerequisite.

PHYSICS 140 and COMPSCI 111 are also recommended courses. Stage II Computer Science courses can be taken in the second semester of study if COMPSCI 107 is taken as an entry point paper.

Note:
Stage II COMPSCI courses require a GPA of 2.0 or higher.
COMPSCI 220 requires 15 points from MATHS 108, 110, 150 or 153 as a prerequisite.
Undergraduate Computer Science Courses

### Stage I

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester</th>
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</thead>
<tbody>
<tr>
<td>COMPSCI 111</td>
<td>An Introduction to Practical Computing</td>
<td>SS, S1, S2</td>
</tr>
<tr>
<td>COMPSCI 101</td>
<td>Principles of Programming</td>
<td>SS, S1, S2</td>
</tr>
<tr>
<td>COMPSCI 105</td>
<td>Principles of Computer Science</td>
<td>SS, S1, S2</td>
</tr>
<tr>
<td>COMPSCI 107</td>
<td>Computer Science Fundamentals</td>
<td>S1</td>
</tr>
</tbody>
</table>

### Stage II

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMPSCI 210</td>
<td>Computer Systems 1</td>
<td>S1, S2</td>
</tr>
<tr>
<td>COMPSCI 215</td>
<td>Computer Systems 2</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 220</td>
<td>Algorithms and Data Structures</td>
<td>S1, S2</td>
</tr>
<tr>
<td>COMPSCI 225</td>
<td>Discrete Structures in Mathematics and Computer Science</td>
<td>S1, S2</td>
</tr>
<tr>
<td>COMPSCI 230</td>
<td>Programming Techniques</td>
<td>S1, S2</td>
</tr>
<tr>
<td>COMPSCI 280</td>
<td>Introduction to Software Development</td>
<td>S2</td>
</tr>
</tbody>
</table>

### Stage III

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Semester</th>
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<tbody>
<tr>
<td>COMPSCI 313</td>
<td>Computer Organisation</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 314</td>
<td>Modern Data Communications</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 320</td>
<td>Applied Algorithmics</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 335</td>
<td>Distributed Objects, Services and Programming</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 340</td>
<td>Operating Systems</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 345</td>
<td>Human-Computer Interaction</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 350</td>
<td>Mathematical Foundations of Computer Science</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 351</td>
<td>Fundamentals of Database Systems</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 367</td>
<td>Artificial Intelligence</td>
<td>S2</td>
</tr>
<tr>
<td>COMPSCI 369</td>
<td>Computational Science</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 373</td>
<td>Computer Graphics and Image Processing</td>
<td>S1</td>
</tr>
<tr>
<td>COMPSCI 380</td>
<td>Undergraduate Project in Computer Science</td>
<td>SS, S1, S2</td>
</tr>
</tbody>
</table>

For course descriptions and prerequisite information, go to [www.cs.auckland.ac.nz/courses](http://www.cs.auckland.ac.nz/courses)
Careers in Computer Science

Computer Science graduates can find careers in an ever-widening variety of industries and roles.

Analyst/Programmer
Application Developer/Programmer
Behaviour Engineer
Business Systems Manager
Computer Assisted Assessment Developer
Computer Coder
Developer
ESRI Intermediate Developer
GIS Technician/Planning Assistant
ICT Technician
IT Analyst
IT/Communications Executive
Junior Test Analyst
Lab Technician
Net Developer
Senior Applications Engineer
Senior SQL Developer
Software Analyst Software Development
Software Developer
Software Engineer
Technical Analyst
Technician
User Interface Developer

Disclaimer
Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only for students and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the University of Auckland Calendar, to ensure that they are aware of and comply with all regulations, requirements and policies.

“I am interested in computational science, using computers to do cutting-edge scientific research. More specifically, I focus on computational evolutionary biology. This involves describing evolutionary theories as mathematical models and developing computer software to test these models.

“I’m enjoying learning from several excellent lecturers and professors in the department. Not only are they knowledgeable and enthusiastic about the topics that they teach, I can always ask questions about concepts I’m confused about or topics that I want to find out more about and receive helpful and interesting answers.”

Arman Bilge is studying a Bachelor of Science majoring in Computer Science and Mathematics.
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