Bachelor of Engineering with Honours
BE(Hons) in Software Engineering

Papers (15 points unless stated otherwise)

SOFTENG1
APHYS111  Applied Physics
CHEMY100  Chemistry in Context
CHEMY101  Structure and Spectroscopy
CHEMY102  Chemical Reactivity
ENGEN110  Engineering Mechanics

ENGEN111  Electricity and Electronics
ENGEN112  Materials Science and Engineering
PHYS100  General Physics
PHYS101  Physics for Engineers and Scientists

Faculty of Computing and Mathematical Sciences
Location: FG Link, Gate 8 Hillcrest Rd, Hamilton
Phone: 07 838 4322
Email: cms@waikato.ac.nz
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Department of Computer Science
Phone: 07 838 4021
Website: cs.waikato.ac.nz
Facebook: facebook.com/WaikatoFCMS

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Software Engineering at Waikato

The Software Engineering programme at Waikato emphasises the software engineering process, formal methods for software engineering, and human-computer interaction.

Our goal is to teach you how to build software that is dependable and economic. Our papers include systematic techniques to test software systems and methods for formally proving safety critical systems.

Our BE(Hons) in Software Engineering is an innovative four-year degree that starts with C# programming and building model boats in the first year, progresses through advanced programming techniques and computer hardware labs in the second year, then branches out into a wide variety of programming skills in the third and fourth years.

Our Software Engineering degree is fully accredited by the Institution of Professional Engineers New Zealand (IPENZ), which benchmarks New Zealand Engineering degrees to international standards. IPENZ accreditation means that your degree will be recognised by engineers and employers worldwide.

Bachelor of Engineering (Honours) benefits:

Our work placement scheme means that you’ll leave university with 800 hours of paid work experience.

The BE(Hons) papers emphasise innovation and practical business skills, so you’ll have the background to be an entrepreneur as well as an inventor.

You will gain a highly marketable qualification in what is projected to be one of the fastest growing occupations over the next decade.

Entry requirements

To be eligible to apply for the BE(Hons) Software Engineering, you must gain University Entrance, including a minimum of 16 credits in NCEA at Level 3 in Calculus and at least 14 credits in NCEA at Level 3 in two other approved subjects.

Career opportunities

The skills students will gain from this programme can lead to work in a variety of areas including:

- Network Engineer
- Product Development Engineer
- Software Architect
- Software Consultant
- Software Developer
- Systems Engineer
- Test Engineer

Scholarship information

Each year we offer up to ten $5,000 Computer Science Undergraduate Scholarships to students beginning study at the Faculty of Computing and Mathematical Sciences.

This scholarship is awarded based on the results of a competitive exam and is open to Year 12 and Year 13 students only. Visit cms.waikato.ac.nz/scholarships for more information.

ALENA CHOONG

BE(Hons) Software Engineering

Software Developer, Smartrak

I grew up playing computer games and when I decided to pursue software engineering I came in to it thinking that I was only going to make computer games once I graduated. What I really liked about the software engineering programme at Waikato University was the breadth of computer science topics taught. Whilst I was studying, I thought it was a shame that you couldn’t pick any electives until fourth year - but after my first work placement at the Bay of Plenty Regional Council, I realised that the degree structure at Waikato prepares you to become an engineer fit for any industry.

I am currently working at Smartrak where I help create and maintain software used in tracking and aiding over 23,000 assets across Australasia each day. I go to work everyday excited to work with intelligent and creative people on various projects to help customers make smart business decisions remotely. I absolutely love my job and am happy that I chose to study at the University of Waikato.
Bachelor of Engineering with Honours
BE(Hons) in Software Engineering

<table>
<thead>
<tr>
<th>Year</th>
<th>Papers (15 points unless stated otherwise)</th>
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<tbody>
<tr>
<td>Y1</td>
<td>COMPX101 Introduction to Computer Science</td>
</tr>
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<td>COMPX102 Object-Oriented Programming</td>
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<td>ENGEN170 Engineering and Society</td>
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<td>ENGEN180 Foundations of Engineering</td>
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<td>ENGEN183 Linear Algebra and Statistics for Engineers</td>
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<td>ENGEN184 Calculus for Engineers</td>
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<td>MATHS135 Discrete Structures</td>
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<td>Any SOFTENG Paper</td>
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<td>Y2</td>
<td>COMPX203 Computer Systems</td>
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<td>COMPX204 Practical Networking and Cyber Security</td>
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<td>COMPX223 Database Practice and Experience</td>
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<td>COMPX241 Software Engineering Process</td>
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<td>COMPX242 Software Engineering Development</td>
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<td>COMPX243 Logic and Computation</td>
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<td>ENGEN201 Engineering Maths 2</td>
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<td>ENGEN270 Engineering Professional Practice 1</td>
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<td>ENGEN271 Industry Placement 1</td>
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<td>Y3</td>
<td>COMPX301 Problem Solving Using Algorithms</td>
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<td>COMPX304 Advanced Networking and Cyber Security</td>
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<td>COMPX307 Functional Programming</td>
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<td>COMPX324 Linear Experience Design</td>
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<td>COMPX341 Software Engineering Methodology</td>
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<td>COMPX374 Software Engineering Project</td>
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<td>ENGEN301 Engineering Maths 3</td>
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<td>ENGEN342 Sustainable Engineering</td>
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<td>ENGEN371 Industry Placement 2</td>
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<td>Y4</td>
<td>COMPX301 Engineering Professional Practice 2</td>
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<td>ENGEV342 Sustainable Engineering</td>
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