Bachelor of Science (Honours) Computer Science/Bachelor of Cyber Security

DLI Program and Module Handbook

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Program Information

Award Granted	Bachelor of Science (Honours) Computer Science/Bachelor of Cyber Security
Program title	Bachelor of Science (Honours) Computer Science/Bachelor of Cyber Security
Campus	Bandung
Program Duration	3 Years

Program Map

Your program map is available via the Student Portal.

Program Overview

Bachelor of Science (Honours) Computer Science – Lancaster University

The degree in Computer Science is designed for students seeking a broad yet rigorous grounding in this innovative discipline, with a strong emphasis on experimental computer science. Its balanced curriculum combines theory and practice to equip students with the cutting-edge knowledge and well-rounded professional and technical skills needed for a diverse range of careers. The program aims to provide students with the knowledge and skills required to be a computing professional. In particular, it aims to develop graduates equipped to work effectively in a professional software and systems development environment and at all stages of the product life-cycle.

In sum, the program aims to:

- Ensure students have mature knowledge of the fundamental principles underpinning the field of Computer Science, and can demonstrate a high degree of scholarship and investigative practice in that domain;
- Impart knowledge and experience of the most significant contemporary developments in practice and technology;
- Help students develop the skills they will need in order to respond positively to the evolution of the discipline throughout the course of their career;
- Develop the critical, analytical and problem-solving skills needed by a practising Computing professional;
- Equip students with transferable skills necessary for working within diverse, team-based, professional environments.

Bachelor of Cyber Security – Deakin University

Cyber security threats are a rapidly growing global challenge for individuals and businesses alike. Secure technology is not only pivotal to business, but to everyday life. As a result, cyber security professionals are in high demand around the world. Deakin's Bachelor of Cyber Security equips you with the essential skills to investigate and combat cybercrime and cyber terrorism. You will graduate with the expertise to tackle one of the fastest-growing criminal threats to modern-day society.

Delivered in Bandung through Deakin Lancaster Indonesia (DLI), a joint initiative between Deakin University, Lancaster University and Navitas, this globally connected program combines academic excellence with the advantage of an international education delivered in Indonesia. You will receive the same, high-quality education as students at Deakin and Lancaster's home campuses, with the added benefit of learning close to home. Taught in English and delivered on a unique Bandung academic calendar, your studies will include Indonesian National Subjects alongside coursework from both universities.

Gain practical and theoretical knowledge with an emphasis on assessing cyber security in a working environment, as well as the business, ethical and legal implications of risk management. You will cover areas such as computer crime and digital forensics and gain the skills to identify, diagnose and manage the challenges of cyber security. As a graduate, you will be well prepared for an exciting career in one of the most in-demand global industries.

Are you ready to join the fight against cybercrime?

This program equips you with the skills demanded by a diverse range of industry and government sectors, covering areas such as:

- computer crime and digital forensics
- evaluating software for security vulnerabilities
- designing secure databases
- securing operating systems
- assessing and reinforcing the security of websites
- integrating security requirements into new developments
- designing secure network architectures
- Performing risk assessments and responding to cyber security incidents

You will have access to our specialised capstone project to collaborate with your teammates on your capstone project, develop solutions to real-world industry problems and learn agile project management methods, widely used across the industry. Our past students have collaborated on capstone projects such as:

- is my smart home secure enough?
- virtual penetration testing lab
- one-time pad (OTP) VPN
- voice activated password security
- Secure Australian online voting system

Program Learning Outcomes

Bachelor of Science (Honours) Computer Science – Lancaster University

Students will cover the following learning outcomes, drawn from accreditation requirements, during their program:

- Demonstrate knowledge, understanding, and application of the essential facts, concepts, principles and theories relating to computing;
- Design software and systems solutions to specific problems using appropriate methodologies and tools;
- Apply theory and practice to construct computing software and systems, recognizing the importance of completeness and trust;
- Apply theory and practice to solve problems and/or evaluate an artefact using methodologies such as formal analysis, numerical analysis, simulation or observation;
- Ability to work effectively in group contexts including communications and technical collaboration;
- Demonstrate electronic, written, and verbal communication skills;
- Recognise and apply the legal, social, ethical, and professional codes of conduct relevant to a practicing computing professional, including equality, diversity, inclusion, and sustainability principles;
- Demonstrate knowledge and understanding of the commercial and economic context of computing and information systems, including risk, project management, and commercial aspects;
- Apply general science and engineering relevant to computing, numerical, modelling, and simulations skills.

Bachelor of Cyber Security – Deakin University

Deakin Graduate Learning Outcomes	**Program Learning Outcomes**
Discipline-specific knowledge and capabilities	Develop a broad, coherent knowledge of the IT discipline including its dynamic environment, with detailed knowledge of project management principles and in-depth knowledge in IT Security. Design, develop and implement IT systems and software, and associated policies and procedures for optimal use and apply industry standards and best practice in one or more specialised areas of IT. Acquire in-depth knowledge and skills to develop, implement and manage security solutions for systems, networks, and data according to industry-accepted standards and best practice.
Communication	Communicate in a professional context to inform, explain and drive sustainable innovation through cyber security, utilising a range of verbal, graphical and written methods, recognising the needs of diverse audiences.

Deakin Graduate Learning Outcomes	Program Learning Outcomes
Digital literacy	Use digital technologies, platforms, frameworks and tools from the field of cyber security to generate, manage, process and share digital resources and solutions.
Critical thinking	Critically analyse information provided to inform decision making and evaluation of plans and solutions associated with the field of cyber security.
Problem solving	Apply cognitive, technical, and creative skills from cyber security to understand requirements and design, implement, and operate solutions to real-world and ill- defined computing problems.
Self-management	Work independently to apply knowledge and skills to new situations in professional practice and/or further learning in the field of cyber security with adaptability, autonomy, responsibility, and personal accountability for actions as a practitioner and a learner.
Teamwork	Work independently and collaboratively to achieve team goals, contributing knowledge and skills from cyber security to advance the teams objectives, employing effective teamwork practices and principles, and comprehending distinct workplace roles and their functions.
Global citizenship	Apply professional and ethical standards and accountability in the field of cyber security, and engage openly and respectfully with diverse communities and cultures.

Workload/Study Commitment

Trimester and other key dates for the academic year are in the important dates section on the DLI website. Students will on average spend 150 hours for each standard module (15 credit points) undertaking the teaching, learning and assessment activities for this program.
This could include lectures, seminars, practical sessions and online interaction. You can refer to module information for more details.

You will also need to study and complete assessment tasks in your own time.

Career Opportunities

Bachelor of Science (Honours) Computer Science – Lancaster University

Graduates of this program will be highly sought after by employers in the fields of Computer Science and Cyber Security due to the well-rounded, high-quality education that the students will receive on this interdisciplinary program.

The opportunities open to graduates of computer science degrees are almost endless – from working for major technology companies (such as Google and Microsoft) or government agencies to pursuing a future in software development and design or even beginning their own tech start-up. The problem-solving skills our students will gain, alongside their technical expertise in a range of coding languages and cyber security areas, will make them highly desirable to employers.

Bachelor of Cyber Security – Deakin University

Graduate with the skills needed to thrive in a booming industry and help secure our digital future. As a graduate you may find employment in one of the following roles:

- Cyber Security Analyst
- Network Security Analyst
- Cyber Threat Analyst
- Incident Responder
- Operations Coordinator
- Penetration Tester
- Cyber Security Advisor
- Vulnerability Researcher
- Cyber Security Consultant
- information security auditor
- IT security engineer
- Digital Forensics Analyst
- Project Manager
- Cyber Security System Developer or Programmer
- Cyber Security System Manager

Work Experience

This program includes a compulsory work placement with an approved host organisation to take your learning beyond the classroom and prepare you to be work and career ready. Work Integrated Learning modules offered in this program provide you with the opportunity to develop your professional networks and work practices while completing your degree.

Program Completion Rules/Program Structure

To complete the Bachelor of Science (Honours) Computer Science / Bachelor of Cyber Security students must pass 420 Deakin Lancaster Indonesia credit points and meet the following program rules to be eligible to graduate:

DAI001 Academic Integrity and Respect Module (0-credit-point compulsory module) in their first study period
STP010 Career Tools for Employability (0-credit-point compulsory module)
210 credit points of core modules (Deakin)
210 credit points of core modules (Lancaster)
4 Indonesian National Subjects (0 credit points; delivered by Telkom University; mandatory for Indonesian students only)

Year 1
• DAI001 Academic Integrity and Respect Module (0-credit point compulsory module)
• SCC.111 Software Development
• SCC.121 Fundamentals of Computer Science
• SCC.131 Digital Systems
• SCC.141 (A) Professionalism in Practice
• SCC.141 (B) Professionalism in Practice
• SIT182 Real World Practices for Cyber Security
• SIT192 Discrete Mathematics
• SIT232 Object-Orientated development

• Indonesian National Subjects
  ○ INS001 Religion
  ○ INS002 Bahasa Indonesia
  ○ INS003 Pancasila
  ○ INS004 Citizenship

Year 2
• SCC.211 Software Design
• SCC.221 Data Engineering
• SCC.231 Networks and Systems
• SCC.241 Human-Computer Interaction
• SIT202 Computer Networks and Communication
• SIT218 Secure Coding
• SIT221 Data Structures and Algorithms
• SIT223 Professional Practice in Information Technology
• SIT282 Computer Forensics and Investigations
• SIT374 Team Project (A) - Project Management and Practices
• STP010 Career Tools for Employability (0-credit point compulsory module)
Year 3
• SCC.300a Individual Project

• SCC.300b Individual Project
• SCC.321 Languages and Compilation
• SCC.323 Deep Learning
• SCC.354 Cyber Security Analytics
• SIT306 IT Placements and Industry Experience
• SIT324 Malware Analysis
• SIT327 Network Forensics
• SIT378 Team Project (B) - Execution and Delivery
• SIT379 Ethical Hacking

Participation requirements

Reasonable adjustments to participation and other course requirements will be made for students with a disability. For more information, please contact Student and Academic Services. Email: studentsupport@dli.ac.id

Further information

Contact Student and Academic Services for assistance in program planning and explaining program rules and requirements. Email: studentsupport@dli.ac.id

Standard fee information disclaimer

Fees and charges vary depending on the type of fee place you hold, your course, your commencement year, the modules you choose to study, and their study discipline or your study load.

Fees are reviewed annually and may be increased to reflect increases in cost of delivery of the programs in line with increases in the consumer price index and to reflect changes required by regulatory, professional, or academic bodies resulting in additional costs. All fees quoted are in Indonesian Rupiah (IDR). Tuition fees do not include textbooks, computer equipment or software, other equipment or costs such as mandatory checks, travel and consumables.

Estimate your fees

For further information regarding tuition fees, other fees and charges, invoice due dates, withdrawal dates, payment methods visit our current students website.