BE A FUTURE INNOVATOR

BSc (Hons) Computing Science
OVERVIEW

In the current era of digital disruption and the fourth industrial revolution (IR4), computer scientists and software engineers take the centre stage in driving the latest innovations in a broad range of disciplines such as artificial intelligence (AI), cybersecurity, Big Data, bioinformatics, healthcare, and retail.

Our BSc Computing Science programme provides you with key skillsets and knowledge in software development, algorithms, and computing systems to prepare you as a budding future-proof computing professional. We pride ourselves in teaching you cutting edge tools and techniques, designed to help you build the next generation of software and systems that will shape our world. The course delivers a well-balanced blend of theoretical underpinnings and practical experience, strongly informed by the research expertise of our academic staff.

The programme consists of core computer science, and mathematics units in Year 1 and 2. Students in Year 3 will take highly specialised units including three elective units from selected streams (Data Science or Artificial Intelligence) and will also be conducting a year-long individual final-year dissertation project. Students will also undertake a mandatory industrial training programme between Year 2 and 3.

You can take advantage of our international campuses by taking part in an Inter-Campus Transfer. This gives you the opportunity currently to study Computing Science at our Edinburgh campus for a semester or a year.

In accordance with our normal practice our professionally orientated programmes are designed to meet the educational requirements for membership of relevant professional institutions. In addition to recognition within Malaysia, we seek accreditation by the relevant UK or international professional bodies in accordance with their standard procedures.

We have obtained initial full accreditation from BCS, The Chartered Institute of IT, UK.

ENTRY REQUIREMENTS

- Heriot-Watt University Malaysia Foundation in Science & Foundation in Business: BBCC – including B in Mathematics
- A-Level/STPM: BBB including B in Mathematics
- UEC: 12 points or less including A in Mathematics (5 subjects not less than B grade)
- CPU: 80% including B in Mathematics
- WACE/SACE: ATAR 80 including B in Mathematics
- SMA 3 (Indonesia): 8.0 in Mathematics
- IB Diploma: 26 points with minimum 5 HL in Mathematics
- Diploma with high level of attainment in computing and/or IT and/or mathematics recognised by the Malaysian Government, acceptable to the University.
- Any other relevant qualification with high level of attainment in computing and/or IT and/or mathematics recognised by the Malaysian Government, acceptable to the University.

English language requirements

- If English is not your first language, then evidence of proficiency equivalent to IELTS 6.0 is required.
- If you do not have IELTS 6.0, we offer a Pre-Sessional English Programme (PSEP) prior to commencing your studies.

SCHOLARSHIP

For more information, speak to our Education Consultants or visit: www.hw.edu.my
### Year 1

**Semester 1**
- Software Development A
- Software Development B
- Mathematics for Computer Science
- Introduction to Interaction Design

**Semester 2**
- Introduction to Computer Systems
- Introduction to Software Engineering
- Data Structures and Algorithms
- Database Management Systems

### Year 2

**Semester 1**
- Software Engineering
- Data Communications & Networking
- Foundations 1
- Programming Languages

**Semester 2**
- Professional Development
- Operating Systems & Concurrency
- Foundations 2
- Hardware-Software Interface

**Semester 3**
- Industrial Training (Summer internship)

### Year 3

**Semester 1**
- Research Methods & Requirements Engineering
- Computer Network Security
- Artificial Intelligence and Intelligent Agents
- Option 1*

**Semester 2**
- Design & Implementation
- Project Testing & Presentation
- Option 2*
- Option 3*

### Options

**Data Science stream:**
- Data Mining and Machine Learning
- Statistical Modelling and Analytics
- Big Data Management
- Data Visualisation Analytics
- Distributed and Parallel Technologies

**Artificial Intelligence stream:**
- Applied Text Analytics
- Intelligent Robotics
- Data Mining and Machine Learning
- Language Processors
- Distributed and Parallel Technologies

### Notes on programme:
- Industrial Training is the compulsory internship during the summer break between Years 2 and 3.
- Software Engineering and Professional Development are group project courses (linked over the whole year).
- Research Methods & Requirements Engineering, Design & Implementation and Project Testing & Presentation are courses corresponding to one individual whole year project.
- Students can select Year 3 Options from courses under the Data Science and Artificial Intelligence streams, subject to availability of subjects on offer.

### Career Opportunities

The present global demand for computing skills presents numerous career opportunities in software and technology sectors, and also supports many other industries such as financial services, telecommunications, retail and manufacturing.

Employment prospects are good, with excellent financial rewards and career pathway. Our students will be well-equipped for a broad range of technical jobs from software developers and system analysts to machine learning/AI engineers. Our graduates will also be prepared for more general careers like project management, IT consultancy, teaching or research.
Heriot-Watt University Malaysia accepts applications all year round.

**APPLY ONLINE**

You can apply online for our programmes at bit.ly/HWUMApply. You must create an account to use the online application form. You don’t have to complete the application in one session; you can save the information you have already entered and return to complete it at a later date. There is a help facility on each page of the online form.

**SUPPORTING DOCUMENTS**

Please remember to upload supporting documents so that we can make a decision on your application. This includes proof of English language proficiency and original or certified copies of academic transcripts.

Please refer to the supplemental item checklist on the Online Application form:


See website for details of fees:

- www.hw.edu.my/fees

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Learn more about our Computing Science programme

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Open for consultation:
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