

HERIOT WATT UNIVERSITY

UK | DUBAI | MALAYSIA

Mathematical and Computer Sciences

2026/27

About

the School of Mathematical and Computer Sciences

The School of Mathematical and Computer Sciences at Heriot-Watt University Malaysia is a leading academic institution that offers a comprehensive range of programmes in the fields of mathematics and computer science. With a strong focus on research, innovation, and industry relevance, the School provides students with a dynamic and intellectually stimulating learning environment.

Students have access to state-of-the-art facilities and cutting-edge technology that supports the development of analytical and problem-solving skills. The School comprises of highly qualified and experienced academics who are dedicated to delivering quality education and personalised mentorship to help students achieve their full potential.

The School offers a wide range of undergraduate programmes in Actuarial Science, Computing Science, Statistical Data Science and Information Systems with Data Analytics.

These programmes are designed to equip students with the necessary knowledge, technical expertise and practical skills to excel in their chosen fields.

Beyond the classroom, Heriot-Watt fosters a supportive and inclusive community, encouraging collaboration and interaction among students and faculty members. Various extracurricular activities, student societies and industry engagement opportunities enrich the student experience while promoting personal and professional growth.

Students graduate with a strong academic foundation, access to a global network and world-class resources, preparing them for successful careers across mathematics, computing, data science and related disciplines.



BSc (Hons) Actuarial Science

KPT/JPS (R2/0542/6/0012) (MQA/FA4167) 06/29



Intake: January, September

Actuaries manage risk and uncertainty, and evaluate the likely impact of future events. Our Actuarial Science programme is world-famous for its excellence. It contains all the courses that are essential for ensuring a flying start to a career as an actuary whilst at the same time fostering highly transferable mathematical skills.

If you excel at mathematics, enjoy problem solving, and are looking for a degree that will prepare you for a rewarding career – both intellectually and financially – Actuarial Science could be the programme for you.

Accreditation

This programme prepares students for professional actuarial exams, equipping them with the knowledge and skills essential to succeed in the actuarial profession. Through good performance in examinations, we offer students the opportunity to obtain exemptions from CS1 and 2, CM1 and 2, and CB1 and 2, of the Institute and Faculty of Actuaries (IFoA) UK, giving prospective actuaries an advantage over those in other mathematics programmes.

Institute and Faculty of Actuaries

This degree is also accredited by the Malaysian Qualifications Agency (MQA) and the Royal Statistical Society (RSS). We are also recognised by the Society of Actuaries (SOA), USA under Universities & Colleges with Actuarial Programs - Advanced Curriculum (UCAP-AC) which is the highest level of recognition in Malaysia.

Our 5-Star rating in Talentbank's Graduate Employability (GE) Index 2026 recognises our commitment to producing career-ready graduates with practical skills, professional competencies and a global perspective. Through industry-relevant learning and real-world exposure, our students are equipped to meet the evolving needs of employers and build successful careers in an increasingly competitive global workforce.

TALENTBANK GRADUATE EMPLOYABILITY INDEX

Additionally accredited by:

CAS

Accredited University ROYAL STATISTICAL SOCIETY DATA | EVIDENCE | DECISIONS

Year 1

- Probability and Statistics A and B
- Multivariable Calculus
- Real Analysis
- Actuarial and Financial Mathematics
- Linear Algebra
- Algorithmic and Scientific Programming
- Data Science Life Cycle

Year 2

- Life Insurance Mathematics A and B
- Stochastic Processes
- Survival Models
- Statistical Models A and B
- Economics for the Professions
- Finance and Financial Reporting

Year 3

- Financial Markets and Investments
- Financial Derivatives
- Time Series and Machine Learning
- Risk Theory

Optional and Elective Courses available for Year 3 include:

- Further Statistical Methods
- Climate Change and Sustainability
- International Bond and Currency Markets
- Optimisation
- Bayesian Inference and Computational Methods
- Database Management
- Advanced Machine Learning
- Taxation (Malaysia)

Potential Careers

• Actuarial Analyst (Life, General, Reinsurance) • Actuarial Consultant • Investment Analyst • Financial Analyst • Risk Analyst • Data Scientist • Data Analyst / Business Intelligence Analyst • Auditor / Government Regulatory Officer

Testimonial



Mohd Nizam

Class of 2017
Data Scientist at Mudah.my

My experience at Heriot-Watt University Malaysia played an important role in shaping how I think and solve problems today. The actuarial science programme trained me to approach challenges analytically, pay attention to detail, and build strong mathematical discipline, skills that have been valuable throughout my career. Beyond academics, the friendships, sense of community, and time spent learning together made my university experience meaningful. After graduation, I discovered Data Science and Analytics, realising that my analytical skills transitioned naturally into this field. Being an early adopter opened many doors and allowed me to grow alongside a rapidly evolving industry.

BSc (Hons) Computing Science

KPT/JPS (R/0613/6/0123) (MQA/FA14530) 06/31



Intake: January, September

In the current era of digital revolution, computer scientists and software engineers can be found at the forefront, driving latest developments in a broad range of fields such as artificial intelligence, cybersecurity, bioinformatics, healthcare, and data science.

Our Computing Science programme focuses on software development and algorithms, equipping you with the skills to design and build robust, practical systems for industry and commerce. You will explore cutting-edge tools and techniques while developing the knowledge and expertise to create the next generation of software tools and technologies. The course aims to give a well-integrated balance of theoretical underpinnings and practical experience, strongly informed by the research expertise of our academic staff. The strong foundation in Computing Science allows students to specialise in Data Science or Artificial Intelligence, by taking elective courses in their final year allowing students to tread confidently in the ever-changing era of technology.

Accreditation

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

The degree is also accredited by the Malaysian Qualifications Agency (MQA).

Accredited by:

bcs The Chartered Institute for IT

Year 1

- Software Development A and B
- Mathematics for Computer Science
- Introduction to Interaction Design
- Introduction to Computer Systems
- Introduction to Software Engineering
- Data Structures and Algorithms
- Database Management Systems

Year 2

- Software Engineering
- Data Communications and Networking
- Foundations 1 and 2
- Programming Languages
- Professional Development
- Operating Systems and Concurrency
- Hardware-Software Interface
- Industrial Training (Summer Internship)

Year 3

- Research Methods and Requirements Engineering
- Computer Network Security
- Artificial Intelligence and Intelligent Agents
- Design and Implementation
- Project Testing and Presentation

Optional Courses available for Year 3 include courses from the Artificial Intelligence, Data Science or Cybersecurity streams:

- Data Mining and Machine Learning
- Big Data Management
- Data Visualisation and Analytics
- Applied Text Analytics
- Computer Graphics
- Advanced Network Security

Potential Careers

• Developer • Data Scientist • Software Engineer
• Cyber Security Analyst • Games Developer
• App Developer • Machine Learning Engineer
• Robotics Engineer • UX/UI Designer

Testimonial



Izzat Hanis Zulhizzan

Class of 2025
CX Transformation Specialist at CelcomDigi Bhd

Heriot-Watt was able to offer me different opportunities in the way that I learned the syllabus by incorporating many hands-on projects, such as working with IoTs, developing apps and software, and using up-and-coming AI tools. The coursework provided a better understanding of applying my knowledge into code and real-life scenarios. Apart from academia, taking on the role of Vice President for the Heriot-Watt Silverbacks led to the development of my own Touch Rugby team. The people I met, including friends and lecturers, created a supportive environment. The course structure, groupwork, projects, and lecturer guidance helped shape how I work, manage my time, and collaborate in teams today.

BSc (Hons) Statistical Data Science

KPT/JPS (R/462/6/0018) (MQA/FA8513) 06/27



Intake: January, September

The applications of statistical data science range from economics and medicine to social and environmental sciences. Our Statistical Data Science programme provides a blend of both theoretical and applied elements of modern statistics, and aims to give students the training in modelling, analysing and interpreting real data that is required in the economy, industry and research.

The first year of the programme covers basic mathematics, probability and statistics. The final two years focus on specialist topics of statistical modelling and advanced courses in mathematics and data science. A variety of statistical computer packages are used.

It is possible for students who have completed the programme to apply for some exemptions from the Institute and Faculty of Actuaries (IFoA) professional examinations.

Accreditation

This programme is also accredited by the Malaysian Qualifications Agency (MQA).

Our 5-Star rating in Talentbank's Graduate Employability (GE) Index 2026 recognises our commitment to producing career-ready graduates with practical skills, professional competencies and a global perspective. Through industry-relevant learning and real-world exposure, our students are equipped to meet the evolving needs of employers and build successful careers in an increasingly competitive global workforce.

TALENTBANK GRADUATE EMPLOYABILITY INDEX

Accredited by:

Institute and Faculty of Actuaries

Accredited University ROYAL STATISTICAL SOCIETY DATA | EVIDENCE | DECISIONS

Year 1

- Probability and Statistics A and B
- Multivariable Calculus
- Real Analysis
- Actuarial and Financial Mathematics
- Linear Algebra
- Algorithmic and Scientific Programming
- Data Science Life Cycle

Year 2

- Statistical Models A and B
- Further Statistical Methods
- Stochastic Processes
- Bayesian Inference and Computational Methods

Optional and Elective Courses available for Year 2 include:

- Artificial Intelligence and Intelligent Models
- Interactive Design
- Survival Models
- Database Management Systems
- Ordinary Differential Equations

Year 3

- Statistics Dissertation A and B
- Time Series and Machine Learning

Optional and Elective Courses available for Year 3 include:

- Data Assimilation
- Optimisation
- Financial Markets and Investments
- Sustainability
- Risk Theory
- Database Management Systems
- Big Data Management
- Statistics Special Topic
- Financial Derivatives
- Advanced Machine Learning

Potential Careers

• Data Scientist • Data Analyst • Business Intelligence Analyst • AI/ML Engineer • Investment / Financial/Risk Analyst • Actuarial Analyst / Consultant • AI Governance / Ethics Specialist • AI / Data Science / Statistics Researcher

Testimonial



Miracle Wong

Class of 2023
Data Scientist at Grab

Even though I chose to study at Heriot-Watt due to the course, what astonished me was the high quality of teaching and academic support. The lecturers are responsive to feedback, eager to address my numerous queries, and motivate me to delve deeper into my degree. With their assistance, I was able to actively participate in shaping my education, gain a thorough comprehension of the course material, and maintain an inquisitive approach to learning about Data Science and its intricacies.

BSc (Hons) Information Systems with Data Analytics

KPT/JPS (N/0611/6/0092) (MQA/PA17527) 07/29



Intake: January, September

Our Information Systems with Data Analytics programme is intended to provide students with a strong grasp of information systems while also increasing their competence in data analytics. The curriculum emphasises the critical skills of data collection, management, and analysis, ensuring that students can handle and analyse data efficiently. The programme trains graduates to face real-world commercial and technological challenges by developing critical thinking and problem-solving skills. Furthermore, this degree seeks to generate professionals who are prepared to flourish in data-driven decision-making jobs across a variety of industries.

Accreditation

This programme has obtained provisional accreditation from the Malaysian Qualifications Agency (MQA).

**Not available for the Go Global programme.*

Year 1

- Introduction to Programming 1
- Introduction to Interaction Design
- International Management
- Fundamentals of Marketing
- Introduction to Computer Systems
- Introduction to Software Engineering
- Database Management Systems
- Data Science Life Cycle

Year 2

- Leading in Organisations
- Software Engineering
- Knowledge Management
- Human Resource Management
- Organisational Behaviour
- Professional Development
- Sociotechnical and Soft Systems
- Visual Analytics
- Industrial Training (Summer Internship)

Year 3

- Research Methods and Requirements Engineering
- Information System Methodologies
- Data Mining and Machine Learning
- Design and Implementation
- Project Testing and Presentation
- Big Data Management

Optional Courses (Choose 1 for Semester 1):

- Information Technology Master Class
- Software Engineering Foundations
- Statistical Modelling and Analysis

Optional Courses (Choose 1 for Semester 2):

- Advanced Human Computer Interaction
- Digital and Knowledge Economy
- Applied Text Analytics

Potential Careers

• Data Analyst • Business Analyst • Information Systems Manager • Data Scientist • IT Consultant • Big Data Engineer in a wide range of industries

Testimonial



Yow Xin Yi

Current Student

Information Systems with Data Analytics has given me a solid foundation in data analysis and problem-solving skills applicable to real-world business and technology environments. I appreciate how the coursework combines theory with hands-on projects, which helped me grow both academically and personally. It's a programme that truly prepares you for real-world challenges.

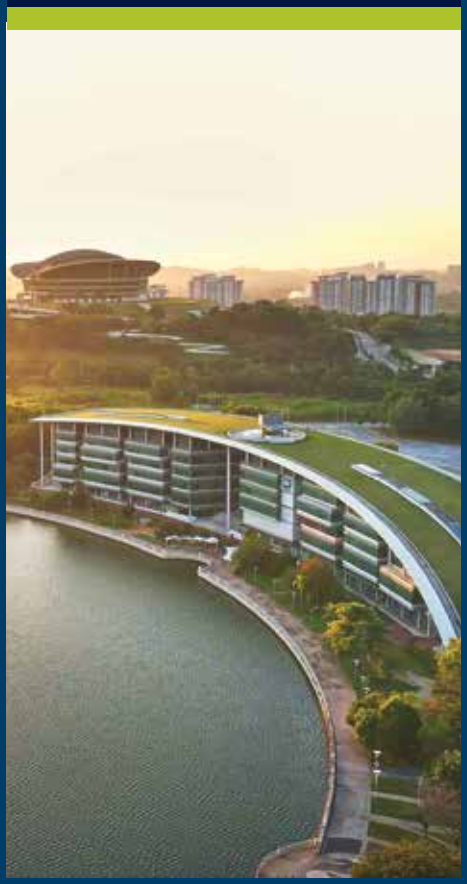
About Our Go Global

At Heriot-Watt University, the world is your classroom. Immerse yourself in a truly international learning experience with students from diverse backgrounds. Unlock the world's possibilities through our seamless inter-campus transfer programme to the **Edinburgh** or **Dubai campuses** and enjoy a **20% discount***.

** Subject to the degree programme running at your chosen campus.*

20%

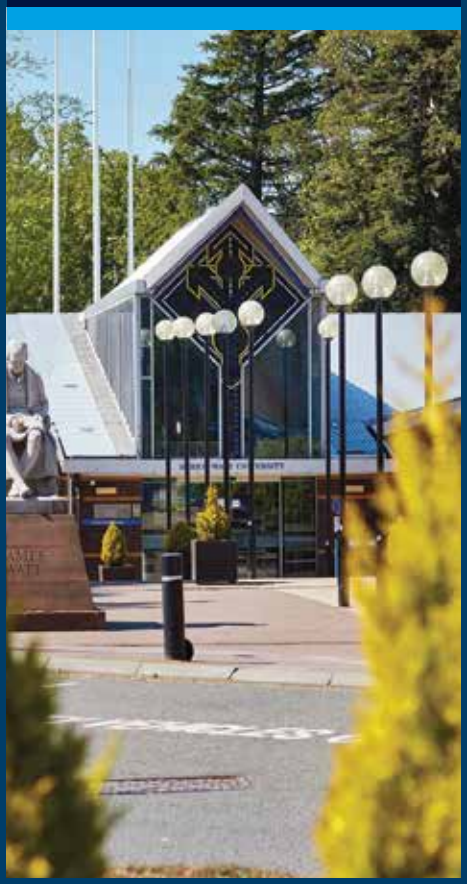
tuition fee discount when you transfer to our Edinburgh or Dubai campuses



99%

of Go Global students said they would recommend it

Heriot-Watt University Student Survey 2020



80%

of surveyed employers actively seek out graduates with international experience

QS Global Employer Survey Report



HOW TO APPLY

Heriot-Watt University Malaysia accepts applications all year round.

APPLY ONLINE

You can apply online for our programmes at **https://bit.ly/HWApply** 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 to help us 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:
▶ **http://bit.ly/hwumaccount**

See website for details of fees:
▶ **http://bit.ly/hwum_fees**

Scan by using your phone QR scanner to navigate to our location
Check the QR code matches this link: http://bit.ly/hwumlocation

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Open for consultation:
Weekdays 9am - 5pm
Weekends by appointment

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TALENTBANK EMPLOYERS' CHOICE 2026

The information in this brochure was correct at the time of publication (Oct 2026).
Heriot-Watt University Malaysia reserves the right to alter the information should the need arise.