HERIOT WATT UNIVERSITY

UK | DUBAI | MALAYSIA

MATHEMATICAL AND COMPUTER SCIENCES

BE FUTUREMADE

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 and innovation, the school provides students with a dynamic and intellectually stimulating learning environment.

At the School of Mathematical and Computer Sciences, students have access to state-of-the-art facilities and cutting-edge technology, enabling them to develop their analytical and problem-solving skills. The faculty comprises highly qualified and experienced academics who are dedicated to delivering quality education and mentoring students to achieve their full potential.

The school offers a wide range of undergraduate and postgraduate programmes, including Bachelor's degrees in Statistical Data Science, Computer Science, and Actuarial Science, as well as Master's degrees in Data Science, Computer Science, and Financial Mathematics. These programmes are designed to equip students with the necessary knowledge and skills to excel in their chosen fields.

In addition to academic excellence, the School of Mathematical and Computer Sciences fosters a supportive and inclusive community, encouraging collaboration and interaction among students and faculty members. Various extracurricular activities and student organisations provide opportunities for personal growth and networking.

By studying at the School of Mathematical and Computer Sciences at Heriot-Watt University Malaysia, students can expect a rigorous academic curriculum, access to world-class resources, and a supportive learning environment that prepares them for successful careers in mathematics and computer science.

About Our Programmes

BSc (HONS) ACTUARIAL SCIENCE

KPT/JPS (R/462/6/008) (FA4167) 06/24

Intake: September

Actuaries manage risk and uncertainty and evaluate the likely impact of future events. Heriot-Watt University's 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.

The Institute and Faculty of Actuaries (IFoA) exams are essential for students pursuing a career in actuarial science. These exams assess the knowledge and skills of aspiring actuaries and are recognised globally as a benchmark for professional competence in the field.

For Heriot-Watt University Malaysia's Actuarial Science programme, the IFoA exams are a vital part of the curriculum. The programme is designed to prepare students for these exams and equip them with the knowledge and skills needed to succeed in the actuarial profession. Heriot-Watt University offers Actuarial Science students the opportunity to obtain exemptions for a maximum of 12 papers from the Institute and Faculty of Actuaries' (IFoA's) professional exams, allowing them to streamline their academic journey by recognising their prior coursework and providing a pathway towards achieving their actuarial qualifications. The degree is also accredited by the Royal Statistical Society and by the Malaysian Qualifications Agency (MQA).

We are also recognised by the Society of Actuaries (SOA) under Universities & Colleges with Actuarial Programs - Advanced Curriculum (UCAP-AC), which is the highest level of recognition in Malaysia.

Institute and Faculty of Actuaries

ROYAL STATISTICAL SOCIETY
DATA | EVIDENCE | DECISIONS

Year 1:
- Probability and Statistics A & B
- Actuarial and Financial Mathematics A & B
- Multivariable Calculus and Real Analysis A & B
- Linear Algebra
- Algorithmic and Scientific Programming

Optional and elective courses available for Year 1 include:

- Finance and Financial Reporting
- Database Management Systems

Year 2:
- Life Insurance Mathematics A & B
- Stochastic Processes
- Survival Models
- Derivative Markets and Discrete-time Finance
- Statistical Models A & B
- Portfolio Theory & Asset Models

Year 3:
Students typically take Introductory Economics, Continuous-time Finance, Risk Theory, and Time Series Analysis. They can also choose from a range of options such as Statistics for Social Science, Bayesian Inference and Computational Methods, Statistical Machine Learning, and Optimisation.

Students take a total of 8 or 9 core/optional courses per year. For full details of the optional and elective courses, please refer to our website.

Entry Requirements
- Heriot-Watt University Malaysia Foundation in Science: ABBC – A in Mathematics, B in any other 2 subjects, C in Academic English/Study Skills
- Heriot-Watt University Malaysia Foundation in Business: ABBC – A in Mathematics, B in any other 2 subjects, C in Academic English/Study Skills
- A-Level/STPM: ABB including A in Mathematics
- UEC: 8 points or less including A1 in Mathematics and Advanced Mathematics (5 subjects not less than B grade)
- WACE/SACE: ATAR 90
- SMA 3 (Indonesia): 8
- IB Diploma: 28 points (Minimum 6 in HL Mathematics: analysis and approaches)
- Diploma with high level of attainment in mathematics recognised by the Malaysian Government, acceptable to the University.
- Any other relevant qualification with high level of attainment in mathematics recognised by the Malaysian Government, acceptable to the University.

BSc (HONS) COMPUTING SCIENCE

KPT/JPS (N/481/6/0833) (MQA/PA14530) 06/26

Intake: September, January

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 informatics. Our BSc (Hons) Computing Science degree focuses on software development and algorithms, with the aim of constructing robust and usable systems for industry and commerce.

As well as looking at cutting edge tools and techniques, it's designed to help you build the next generation of software tools that other system constructors will use. 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.

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

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 & 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

Option courses available for Year 3 include courses from the Artificial Intelligence or Data Science streams:

- Data Mining and Machine Learning
- Big Data Management
- Data Visualisation
- Applied Text Analytics
- Distributed and Parallel Technologies

Entry Requirements

- Heriot-Watt University Malaysia Foundation in Science or 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: Minimum 5 in HL 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.

BSc (HONS) STATISTICAL DATA SCIENCE

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

Intake: September

The applications of statistical data science range from economics and medicine to social and environmental sciences. Our BSc (Hons) in Statistical Data Science 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.

Our programme is accredited by the Royal Statistical Society. 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.

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

ROYAL STATISTICAL SOCIETY
DATA | EVIDENCE | DECISIONS

Year 1:
- Probability and Statistics A & B
- Linear Algebra
- Actuarial and Financial Mathematics A & B
- Multivariable Calculus and Real Analysis A & B
- Algorithmic and Scientific Programming

Optional and elective courses available for Year 1 include:
- Finance and Financial Reporting
- Database Management Systems

Year 2:
- Stochastic Processes
- Statistical Models A
- Statistics for Social Science
- Survival Models
- Statistical Models B
- Bayesian Inference & Computational Methods

Optional courses available for Year 2 may include:
- Portfolio Theory and Asset Models
- Derivative Markets and Discrete-time Finance
- Ordinary Differential Equations
- Introduction to Interactive Design

Year 3:
- Optimisation
- Statistics Dissertation A
- Statistical Machine Learning
- Time Series
- Statistics Dissertation B

Optional courses available for Year 3 may include:
- Artificial Intelligence and Intelligent Agents
- Big Data Management
- Continuous-Time Finance
- Data Assimilation
- Risk Theory
- Statistics Special Topic

Entry Requirements
- Heriot-Watt University Malaysia Foundation in Science: ABBC – A in Mathematics, B in Physics, B in Chemistry, C in Academic English/Study Skills
- Heriot-Watt University Malaysia Foundation in Business: ABBC – A in Mathematics, B in Accountancy and Finance, B in Business Management, C in Academic English/Study Skills
- A-Level/STPM: ABB including A in Mathematics
- UEC: 8 points or less including A1 in Mathematics and Advanced Mathematics (5 subjects not less than B grade)
- **WACE/SACE: ATAR 90 (WACE: Minimum 80% in Mathematics/SACE: Minimum 17.0 in Mathematics)
- SMA 3 (Indonesia): 8
- IB Diploma: 28 points (Minimum 6 in HL Mathematics: analysis and approaches)
- Diploma with high level of attainment in mathematics recognised by the Malaysian Government, acceptable to the University.
- Any other relevant qualification with high level of attainment in mathematics recognised by the Malaysian Government

**May be subject to additional school assessment.

Proud HWUMANS

Tan Kah Jie (Oscar)

BSc (Hons) Actuarial Science (Class of 2020), Associate, Product Pricing at Great Eastern Life, Malaysia

Professional lecturers, tranquil environment, friendly staff, multinational exposure, everything you can dream of not only to succeed in your studies, but to widen your horizon and enhance your personal development. The course has been prepared so that the skills learned are really useful in your workplace.

Gian Atmaja

BSc (Hons) Actuarial Science (Class of 2021), Technology Consultant, Data & Analytics at Ernst & Young, Indonesia

As an alumnus, I am proud to say that the University has greatly helped me in preparing for my career. I have always been impressed by Heriot-Watt University Malaysia's commitment to deliver great quality education, with directly applicable, as well as highly marketable analytical and computing skills, which are sought after in the current industry.

Miracle Wong

BSc (Hons) Statistical Data Science (Class of 2023), Data Science and Analytics Intern at Bank Negara Malaysia

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.

Sze Kah Shen

BSc (Hons) Computing Science (Class of 2024), Intern at JurisTech

The programme is structured in such a way that students have the opportunity to explore various areas in computing science. This has been incredibly enlightening for me because, initially, I had the impression that the programme would solely focus on programming. However, it has turned out that I am able to delve into networking, database management, user interface design, and more. This exposure has proven to be highly advantageous for career planning purposes.

Nicholas Chong Ing Hooi

BSc (Hons) Actuarial Science (Class of 2016), Manager at Innovation, Innovation of Securities Commission, Malaysia

I am proud of the impact that Heriot-Watt University Malaysia has created over the last decade - helping students be more resilient with positive education, empowering them to create their impact and more recently, enabling the underserved community through the Leaders with Impact Scholarship, just to name a few.

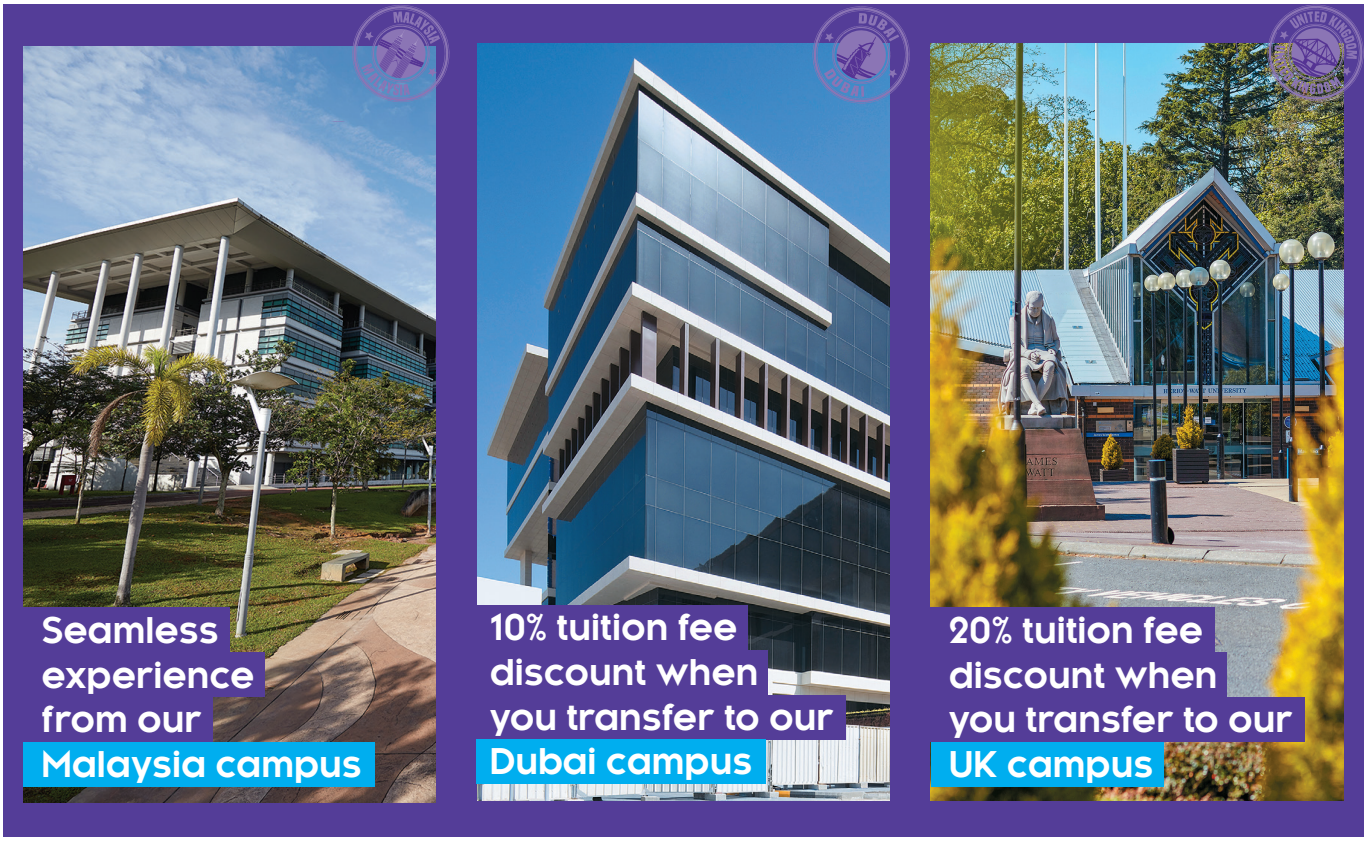
Cheo Kar Sin

BSc (Hons) Statistical Data Science (Class of 2021), Management Consultant at Oliver Wyman, Malaysia

Heriot-Watt University Malaysia was an amazing place for me to grow, learn and have fun during my University time. It has enabled me to explore my fullest potential in both academic and extracurricular activities, setting me up for a smooth career path ahead.

Go Global

Our Go Global programme offers students a seamless range of international opportunities, including study abroad programmes, international internships, research exchanges, and cultural immersion experiences. Through these initiatives, students gain valuable global perspectives, develop cross-cultural skills, and broaden their horizons. With support and guidance from dedicated staff, the programmes prepares students for success in a globalised world, fostering inter-cultural competence and equipping them with the necessary skills for a successful future.



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 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:
▶ http://bit.ly/hwumaccount

See website for details of fees:
▶ www.hw.edu.my/fees

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www.hw.edu.my

Open for consultation:
Monday to Friday (9am - 5pm) and and weekends (10am - 4pm) except Public Holidays

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IN EMPLOYABILITY
PRESENTED BY TALENTBANK
100% DETERMINED BY LEADING GRADUATE EMPLOYERS

Received a 6 Star Rating in Actuarial Science, Mathematics, and Statistics at the Talentbank National Graduate Employability Index 2023

As of May 2023