



Programme Handbook

BSc Computer Science

BSc Computer Systems

BSc Statistical DataScience

BSc Data Sciences

Dubai Campus

2022 – 2023

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PART A: SCHOOL INFORMATION

A1. How to Use This Handbook

This handbook provides you with:

- An overview of your programme, its structure and its courses.
- Contact information for key staff in your programme, subject and academic School.
- Details of support and resources available to you as a Heriot-Watt student.

Take time to look through the information provided, but also use it for reference if you are unsure of anything, if you want to contact someone, or if you want to find out more about any aspect of your studies. This Handbook is not just for your first week or two at University, nor is it something to be read once and discarded, you will find it useful to refer back to its contents in the coming weeks and months. If you can't find the information you are looking for then you can ask your personal tutor.

All information is correct at the time the Handbook was produced.

A2. Welcome and Introduction

Welcome from the Principal and Vice Chancellor of Heriot-Watt University

I am delighted that you have chosen our unique and innovative University and have entrusted us with your education for the next few years. Heriot-Watt has been at the forefront of pioneering education and future thinking since 1821, and now more than 200 years on, we continue to lead the way in world class education as a distinctive, globally connected institution.

The global pandemic affected all of us, not least in how institutions delivered learning and teaching. You may have studied extensively online in the last year or two. Fortunately, we are now able to look forward to enhancing our on-campus learning and teaching, and offering an outstanding on-campus student experience at all of our global campuses, which is so valued by our students.

We have developed a unique approach to learning for this academic year called Globally Connected Learning, which blends on-campus teaching with online activities, support and resources to create a rich student learning experience. This will allow you to actively participate in the learning opportunities open to you and to engage with the global Heriot-Watt community, which spans five campuses in three countries.

The University is a community of people, with a purpose, and I would encourage you to seek out the opportunities that will enable you to further develop your own individual sense of purpose to impact society. Many students and staff participate in creating their own 'impact statement' during the course of their studies, so do look out for this.

Throughout your studies you will have the opportunity to thrive both personally and academically, and I would encourage you to take advantage of all that our campuses, student societies and global community has to offer you. As a University committed to preparing you for your future, we're delighted to offer opportunities for students to gain a global perspective, whether at a single campus or abroad. Our Go Global programme will continue to offer inter-campus transfers and exchanges across our campuses in Dubai, Scotland and Malaysia, allowing you to study, socialise or experience new cultures and places. We encourage you to connect with likeminded individuals across the globe and grasp every opportunity with both hands.

Our graduates are sought-after by global professions and industries all over the world. The very nature of a Heriot-Watt education is one that allows you to benefit from our research-informed approach, underpinned by our rich heritage and values. We're dedicated to providing you with the confidence and purposeful leadership skills to be a global citizen, and the expertise to one day become a leader in your chosen field or career. Together we will help shape tomorrow to deliver benefits for all of society.

We look forward to supporting you as you grow and become a successful graduate of Heriot-Watt University. On behalf of our global OneWatt community, I'd like to take this opportunity to say: welcome to the family.

Professor Richard A. Williams OBE

Principal and Vice-Chancellor

Welcome from Head of Dubai Campus

Welcome to Heriot-Watt University Dubai!

We are committed to excellence and innovation in education and are excited to see you start and continue your higher education journey here. We have been in the UAE since 2005 and have gone from strength to strength whilst providing best-in-class education to our students. Our programmes reflect tailored courses that are not only relevant to the Middle East region but also provide global perspectives. In addition, our strong industry engagement and research capabilities offer students a unique educational experience.

As part of our growth plans, we established our new digitally enabled campus in Dubai Knowledge Park in 2021, which provides an excellent learning environment for students. Our faculty come from varied backgrounds and collectively represent decades of teaching experience in the region and globally, providing the right support in pursuing your future goals. There are currently over 11,600 Heriot-Watt University Dubai alumni living and working in the UAE and globally. Over 4,100 students were enrolled at the Dubai Campus last academic year and our student community will continue to grow in the year ahead. We are here to support and guide you through your chosen programme and wish you the best in this journey.

Professor Heather J. McGregor, CBE

Provost and Vice Principal, Heriot-Watt University Dubai

Welcome from Head of School (Dubai Campus)

Can I firstly welcome you to the university and to our Dubai campus. It is also my great pleasure to welcome you to the School of Mathematical and Computer Sciences. You are joining a large and well-established school at the Dubai campus which has a strong tradition of research, scholarship and teaching. You are about to start on a well-established programme leading to a highly regarded and internationally recognised qualification. As our student, you will enjoy the professionalism enthusiasm and

friendliness of our Dubai-based staff, confident that you are receiving the same high standards of teaching and assessment as your fellow students in Scotland. I trust that you will find studying with us both stimulating and rewarding.

Steve Gill

Head of the School of Mathematical and Computer Sciences (Dubai Campus)

A3. Globally Connected Learning

Our University teaching model is **Globally Connected Learning**, an approach that blends on-campus teaching with online activities, support and resources to create a rich student learning experience. Throughout your studies at Heriot Watt you will be able to learn, interact and collaborate with your classmates and your academic teaching team through a range of inspiring activities and learning events.

If you are enrolled on our campus-based programmes you will be able to take full advantage of all that campus life offers. Our campuses are at the heart of our community and campus-based learning is core to the Heriot-Watt student learning experience. You will be expected to attend campus-based teaching and undertake any assessments or examinations scheduled on campus.

The specific balance of learning on individual courses will depend on the subjects you are studying and the activities and resources your course team have designed to help you engage effectively with your studies.

Our approach is founded on a commitment to student partnership. That means you are encouraged to take responsibility for your own learning, to actively participate in the opportunities open to you. Your course team will support you to plan your time carefully to [make the most of Globally Connected Learning](#).

We recognise that your studies will have been significantly disrupted in recent years as a result of the Covid pandemic. You can discuss any issues around your learning or your wellbeing with your personal tutor (see below) and with the University's support services (see below).

A4. Personal Tutors

Every student has a member of academic staff allocated to them as a personal tutor who will be a key source of advice, guidance and support during your time at Heriot-Watt. Your personal tutor is your first point of contact if you need advice on any issue, both academic and non-academic, and can refer you to other support services where relevant for non-academic matters. Personal tutors provide a clear point of contact for you throughout your degree.

While social distancing is in operation, or if you are off campus, you can still arrange to meet your personal tutor remotely and contact them by email.

More details about personal tutoring can be found [here](#).

A5. Key Staff Contact Details

Dubai Campus Senior Executive Group		
Designation	Staff Name	Contact Details
Provost & Vice-Principal - Heriot-Watt University Dubai	Prof Heather McGregor	provostdubai@hw.ac.uk
Deputy Vice Principal - Academic Leadership	Prof Tadhg O'Donovan	provostdubai@hw.ac.uk
Deputy Vice Principal - Learning, Teaching and Student Experience	Vanessa Northway	provostdubai@hw.ac.uk
Chief Operating Officer	Dr Mathew Sukumaran	provostdubai@hw.ac.uk
Academic School Contact		
Point of Contact	Responsible Staff Name	Email
Dubai Campus		
Academic Head	Mr Steve Gill	S.Gill@hw.ac.uk
Deputy Academic Head	Dr Hind Zantout	H.Zantout@hw.ac.uk
Director of Postgraduate Studies	Dr Abrar Ullah	A.Ullah@hw.ac.uk
Director of Undergraduate Studies	Mr Talal Shaikh	T.A.G.Shaikh@hw.ac.uk
Associate Director of Learning & Teaching	Ms Smitha Kumar	Smitha.Kumar@hw.ac.uk
Associate Director of Quality	Dr Ryad Soobhany	R.soobhany@hw.ac.uk
Director of Research	Dr Hadj Batatia	H.Batatia@hw.ac.uk
Director of the Institute of Applied Information Security	Dr Hani Ragab Hassen	H.RagabHassen@hw.ac.uk
Edinburgh Campus		
Head of School	Professor Sara Lombardo	S.Lombardo@hw.ac.uk
Head of Computer Science	Professor Jurriaan Hage	J.Hage@hw.ac.uk
Programme Director	Stefano Padilla	S.Padilla@hw.ac.uk
Academic Staff Contacts		
Point of Contact	Responsible Staff Name	Direct line/Email/ Office location
Programme Director: BSc Computer Science	Mr Talal Shaikh	T.A.G.Shaikh@hw.ac.uk
Programme Director: Computer Systems	Ms. Smitha Kumar	Smitha.kumar@hw.ac.uk
Programme Director: BSc Data Sciences	Dr Hadj Batatia	H.batatia@hw.ac.uk
Programme Director: BSc Statistical Data Science	Ms. Haslifah Hasim	H.Hasim@hw.ac.uk
Student Services		
Office	Office Hours	Email / Phone

Dubai Student Service Centre (all student enquiries, both general and academic)	Student Service Centre, 1 st Floor See here for current hours	Current Students: Log enquiry via AskHWU tile from myHWU student portal Ph : +971 4 571 7000 ext 6
Dubai Finance Office	Student Service Centre, 1 st Floor See here for current hours	Email : dubai-finance@hw.ac.uk Ph : +971 4 571 7000 ext 4
Visa Office	Student Service Centre, 1 st Floor See here for current hours Mon-Fri: 09:00 to 17:00	Email : dubaivisa@hw.ac.uk Ph : +971 4 571 7000 ext 3
Library	Library, 2 nd Floor See here for current hours	Email : DubaiLibHelp@hw.ac.uk Ph : +971 4 571 7000 ext 5
IT Office (Help Desk - Dubai)	Library, 2 nd Floor See here for current hours	Email : DubaiShelp@hw.ac.uk
Reception	Mon-Fri: 09:00 to 22:00	Email : dubai.staffreception@hw.ac.uk Ph : +971 4 571 7000

Student Life & Support Services

Designation	Staff Name	Contact Details
Student Success Advisor	Farah Basem Shailin Sequeira	StudentSuccessDubai@hw.ac.uk
Student Wellbeing	Chiara-Maria Cutajar Neenu Kuruvilla Shweta Misra	dubaiwellbeing@hw.ac.uk
Students of Determination / Disability Services	Sudha Sripada	dubai.Determination@hw.ac.uk
Careers & Graduate Futures	Benita Maben Tasneem Dakri	dubaicareersandgradfutures@hw.ac.uk
Effective Learning Advisor	Dr Allyson Noble	A.noble@hw.ac.uk
Student Engagement and Events Officer	Nicola Mitchell	Nicola.Mitchell@hw.ac.uk
Alumni Engagement Officer	Kathryn Taylor	K.Taylor@hw.ac.uk

Sports Development Manager	David Mulligan	d.mulligan@hw.ac.uk
Student Council President	Syed Uzair	Council.president@hw.ac.uk
Student Council Support Officer	Soehl Abraham	S.Abraham_1@hw.ac.uk
Other Useful Contacts		
Transport	Email : transport@hw.ac.uk More information can be found here .	
Recruitment and Admissions Office	Email : dubaienquiries@hw.ac.uk Ph : +971 4 571 7000 ext 2 Office Hours : Mon - Fri: 09:00 to 17:00	
Accommodation	Information can be found here	
Facilities Management Help Desk	Email : Fmhelpdeskdubai@hw.ac.uk	
Safeguarding Services	Email : safeguardingdubai@hw.ac.uk Ph: +971 52 562 3467 You can contact us 24/7 for support or general advice by using SafeZone app	

A6. Programme Overview

This handbook contains information on the programme structure, notes, description and the courses offered on the BSc Computer Science, BSc Computer Systems, BSc Statistical Data Science and BSc Data Sciences.

Information Resources and Links

Resource	Description	Location
MACS Student Website	Lots of information regarding MACS programmes and courses.	http://www.macs.hw.ac.uk/students
University Student Website	The main University website for information and resources.	https://www.hw.ac.uk/students
Student Portal	Access to the University Student Portal (e.g. email, room bookings, timetables).	https://portal.hw.ac.uk

Virtual Learning Environment (VLE)	All courses have materials available at the University's Learning Environment (CANVAS).	https://canvas.hw.ac.uk/
Student Self Service	You can update your address and where you will get your on-line results.	https://www.hw.ac.uk/selfservice

Programme Structure

Our academic year is divided into 2 semesters corresponding to 30 weeks (September and January Semesters). There will be 12 weeks of teaching in each semester. You are expected to study 4 courses each semester, giving a total of 8 courses in a full year. Contact hours through lecture, lab and tutorial slots are only part of your study time for each course. You are expected to spend **10 hours in total per week on each** of the 4 courses. Each course is worth 15 credits. Courses may be mandatory or optional.

- **Mandatory courses:** These courses are compulsory.
- **Optional courses:** Students are required to choose from a specified list of courses relevant to the subject area of their degree discipline.

All undergraduate courses are designed to be of equal length in terms of student effort. Students are expected to put in a total effort of 150 hours per course. These 150 hours include all lectures, tutorials, computing labs, workshops, background reading, writing up notes, coursework, revision and examinations for the course.

Degree Specialism

BSc Computer Science

The degree of BSc Computer Science can also be offered with a specialism to highlight your knowledge in a certain domain. The current degree specialisations are:

- BSc (Hons) Computer Science (*Artificial Intelligence*),
- BSc (Hons) Computer Science (*Cyber Security*),
- BSc (Hons) Computer Science (*Computer Games Programming*),
- BSc (Hons) Computer Science (*Data Science*), or
- BSc (Hons) Computer Science (*Software Engineering*).

BSc Computer Systems

The degree can also be offered as BSc Computer Systems (*Computer Games Programming*) by specialising in courses in this area in the final year

BSc Computer Science (Cyber Security)

Programme Name	:	BSc Computer Science (Cyber Security)
Programme Code	:	F2C3-CCS
Mode of Study	:	Full Time

Key Contacts

Designation		Name	Contact Email			
Programme Director		Mr. Talal Shaikh	t.a.g.shaikh@hw.ac.uk			
Year 1 Coordinator		Dr Adrian Turcanu	a.turcanu@hw.ac.uk			
Year 2 Coordinator		Mr. Kayvan Karim	k.karim@hw.ac.uk			
Year 3 Coordinator		Mr. Md Azher Uddin	m.uddin@hw.ac.uk			
Year 4 Coordinator		Dr Hanı Ragab Hassen	h.ragabhassen@hw.ac.uk			
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates	
New Students						
Year 1						
Semester One – 4 Mandatory Courses						
F27PX	Praxis	Mandatory	1	1	Sept 2022 To Dec 2022	
F27SA	Software Development 1	Mandatory	1	1		
F27ID	Introduction to Interaction Design	Mandatory	1	1		
F17LP	Logic and Proof	Mandatory	1	1		
Semester Two – 4 Mandatory Courses						
F27CS	Introduction to Computer Systems	Mandatory	1	2	Jan 2023 to Apr 2023	
F27WD	Web Design and Databases	Mandatory	1	2		
F17SC	Discrete Mathematics	Mandatory	1	2		
F27SB	Software Development 2	Mandatory	1	2		
Direct Entry & Continuing Students						
Year 2						
Semester One – 4 Mandatory Courses						
F28ED	Experimental Design	Mandatory	2	1	Sept 2022 To Dec 2022	
F28PL	Programming Languages	Mandatory	2	1		
F28WP	Web Programming	Mandatory	2	1		
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1		
Semester Two – 4 Mandatory Courses						
F28DM	Database Management Systems	Mandatory	2	2	Jan 2023 to Apr 2023	
F28DA	Data Structures and Algorithms	Mandatory	2	2		
F28HS	Hardware-Software Interface	Mandatory	2	2		
F28SD	Introduction to Software & Algorithms	Mandatory	2	2		
Year 3						
Semester One – 4 Mandatory Courses						
F29AI	Artificial Intelligence and Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022	
F29DC	Data Comms and Networking	Mandatory	3	1		
F29FA	Foundations 1	Mandatory	3	1		
F29SO	Software Engineering	Mandatory	3	1		
Semester Two – 4 Mandatory Courses						
F29FB	Foundations 2	Mandatory	3	2	Jan 2023 to Apr 2023	
F29OC	Operating Systems & Concurrency	Mandatory	3	2		
F29PD	Professional Development	Mandatory	3	2		
F29LP	Language Processors	Mandatory	3	2		
Year 4						
Semester One – 2 Mandatory and 2 Optional Courses						
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	Sept 2022 To Dec 2022	
F20CN	Computer Network Security	Mandatory	4	1		
F20SA	Statistical Modelling & Analysis	Optional	4	1		

F20DL	Data Mining & Machine Learning	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20BC	Biologically Inspired Computation	Optional	4	1	
F20GA	3D Graphics and Animation	Optional	4	1	
F20IF	Information System Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Software Engineering	Optional	4	1	
F20RO	Intelligent Robotics	Optional	4	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					
F20AN	Advanced Network Security	Mandatory	4	2	Jan 2023 to Apr 2023
F20PF	Design Implementation (Cyber Security)	Mandatory	4	2	
F20PG	Project Testing Implementation (Cyber Security)	Mandatory	4	2	
F20FO	Digital Forensics	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F20AA	Applied text Analytics	Optional	4	2	

BSc Computer Science (Artificial Intelligence)

Programme Name	: BSc Computer Science (Artificial Intelligence)				
Programme Code	: F2P1-CSA				
Mode of Study	: Full Time				
Key Contacts					
Designation		Name		Contact Email	
Programme Director		Mr. Talal Shaikh		t.a.g.shaikh@hw.ac.uk	
Year 1 Coordinator		Dr Adrian Turcanu		a.turcanu@hw.ac.uk	
Year 2 Coordinator		Mr. Kayvan Karim		k.karim@hw.ac.uk	
Year 3 Coordinator		Mr. Md Azher Uddin		m.uddin@hw.ac.uk	
Year 4 Coordinator		Dr Hani Ragab Hassen		h.ragabhassen@hw.ac.uk	
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 4 Mandatory Courses					
F17LP	Logic & Proof	Mandatory	1	1	Sept 2022 To Dec 2022
F27PX	Praxis	Mandatory	1	1	
F27SA	Software Development 1	Mandatory	1	1	
F27ID	Intro to Interaction Design	Mandatory	1	1	
Semester Two – 4 Mandatory Courses					
F27CS	Intro to Computer Systems	Mandatory	1	2	Jan 2023 to Apr 2023
F27SB	Software Development 2	Mandatory	1	2	
F27WD	Web Design & Databases	Mandatory	1	2	
F17SC	Discrete Mathematics	Mandatory	1	2	

Direct Entry & Continuing Students					
Year 2					
Semester One – 4 Mandatory Courses					
F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1	
Semester Two – 4 Mandatory Courses					
F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28HS	Hardware-Software Interface	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29FA	Foundations 1	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29FB	Foundations 2	Mandatory	3	2	Jan 2023 to Apr 2023
F29LP	Language Processors	Mandatory	3	2	
F29OC	Operating Systems & Concurrency	Mandatory	3	2	
F29PD	Professional Development	Mandatory	3	2	
Year 4					
Semester One – 1 Mandatory and 3 Optional Courses					
F20PA	Research methods & Requirements Engineering	Mandatory	4	1	Sept 2022 To Dec 2022
F20SA	Stat Model & Anal	Optional	4	1	
F20RO	Intelligent Robotics	Optional	4	1	
F20CN	Computer Network Security	Optional	4	1	
F20IF	Information Sys Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Soft Engineering	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20GA	3D Graphics and Animation	Optional	4	1	
F20BC	Biologically Inspired Computation	Optional	4	1	
F20DL	Data Mining & Machine Learning	Optional	4	1	
Semester Two – 2 Mandatory and 2 Optional Courses					
F20PB	Design & Implementation	Mandatory	4	2	Jan 2023 to Apr 2023
F20PC	Project Testing & Presentation	Mandatory	4	2	
F20AA	Applied Text Analytics	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	
F20FO	Digital Forensics	Optional	4	2	

BSc Computer Science (Data Science)

Programme Name	:	BSc Computer Science (Data Science)
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Programme Code	: F2D3-CDS				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Mr. Talal Shaikh	t.a.g.shaikh@hw.ac.uk			
Year 1 Coordinator	Dr Adrian Turcanu	a.turcanu@hw.ac.uk			
Year 2 Coordinator	Mr. Kayvan Karim	k.karim@hw.ac.uk			
Year 3 Coordinator	Mr. Md Azher Uddin	m.uddin@hw.ac.uk			
Year 4 Coordinator	Dr Hani Ragab Hassen	h.ragabhassen@hw.ac.uk			
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 4 Mandatory Courses					
F17LP	Logic & Proof	Mandatory	1	1	Sept 2022 To Dec 2022
F27PX	Praxis	Mandatory	1	1	
F27SA	Software Development 1	Mandatory	1	1	
F27ID	Introduction to Interaction Design	Mandatory	1	1	
Semester Two – 4 Mandatory Courses					
F27CS	Introduction to Computer Systems	Mandatory	1	2	Jan 2023 to Apr 2023
F27SB	Software Development 2	Mandatory	1	2	
F27WD	Web Design & Databases	Mandatory	1	2	
F17SC	Discrete Mathematics	Mandatory	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 4 Mandatory Courses					
F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1	
Semester Two – 4 Mandatory Courses					
F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28HS	Hardware-Software Interface	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29FA	Foundations 1	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29FB	Foundations 2	Mandatory	3	2	Jan 2023 to Apr 2023
F29LP	Language Processors	Mandatory	3	2	
F29OC	Operating Systems & Concurrency	Mandatory	3	2	
F29PD	Professional Development	Mandatory	3	2	
Year 4					

Semester One – 3 Mandatory and 1 Optional Course(s)					
F20SA	Statistical Modelling & Analysis	Mandatory	4	1	Sept 2022 To Dec 2022
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	
F20DL	Data Mining & Machine Learning	Mandatory	4	1	
F20RO	Intelligent Robotics	Optional	4	1	
F20CN	Computer Network Security	Optional	4	1	
F20IF	Information Systems Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Software Engineering	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20GA	3D Graphics & Animation	Optional	4	1	
F20BC	Biologically Inspired Computation	Optional	4	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					
F20BD	Big Data Management	Mandatory	4	2	Jan 2023 to Apr 2023
F20PE	Project Testing & Implementation (Data Science)	Mandatory	4	2	
F20PD	Design Implement (Data Science)	Mandatory	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F20FO	Digital Forensics	Optional	4	2	
F20AA	Applied Text Analytics	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	

BSc Computer Science (Software Engineering)

Programme Name	: BSc Computer Science (Software Engineering)
Programme Code	: F2J1-CSE
Mode of Study	: Full Time

Key Contacts

Designation	Name	Contact Email
Programme Director	Mr. Talal Shaikh	t.a.g.shaikh@hw.ac.uk
Year 1 Coordinator	Dr Adrian Turcanu	a.turcanu@hw.ac.uk
Year 2 Coordinator	Mr. Kayvan Karim	k.karim@hw.ac.uk
Year 3 Coordinator	Mr. Md Azher Uddin	m.uddin@hw.ac.uk
Year 4 Coordinator	Dr Hani Ragab Hassen	h.ragabhassen@hw.ac.uk

Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
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New Students

Year 1

Semester One – 4 Mandatory Courses

F17LP	Logic & Proof	Mandatory	1	1	Sept 2022 To Dec 2022
F27PX	Praxis	Mandatory	1	1	
F27SA	Software Development 1	Mandatory	1	1	
F27ID	Introduction to Interaction Design	Mandatory	1	1	

Semester Two – 4 Mandatory Courses

F27CS	Introduction to Computer Systems	Mandatory	1	2	Jan 2023
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F27SB	Software Development 2	Mandatory	1	2	to Apr 2023
F27WD	Web Design & Databases	Mandatory	1	2	
F17SC	Discrete Mathematics	Mandatory	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 4 Mandatory Courses					
F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1	
Semester Two – 4 Mandatory Courses					
F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28HS	Hardware-Software Interface	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29FA	Foundations 1	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29FB	Foundations 2	Mandatory	3	2	Jan 2023 to Apr 2023
F29LP	Language Processors	Mandatory	3	2	
F29OC	Operating Sys & Concurrency	Mandatory	3	2	
F29PD	Professional Development	Mandatory	3	2	
Year 4					
Semester One – 2 Mandatory and 2 Optional Courses					
F20RS	Rigorous Methods for Software Engineering	Mandatory	4	1	Sept 2022 To Dec 2022
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	
F20SA	Statistical Modelling & Analysis	Optional	4	1	
F20DL	Data Mining & Machine Learning	Optional	4	1	
F20BC	Biologically Inspired Computation	Optional	4	1	
F20GA	3D Graphics & Animation	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20IF	Information Systems Methodologies	Optional	4	1	
F20CN	Computer Network Security	Optional	4	1	
F20RO	Intelligent Robotics	Optional	4	1	
Semester Two – 3 Mandatory and 1 Optional Courses					
F20AD	Advanced Interaction Design	Mandatory	4	2	Jan 2023 to Apr 2023
F20PB	Design & Implementation	Mandatory	4	2	
F20PC	Project Testing & Presentation	Mandatory	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	
F20AA	Applied Text Analytics	Optional	4	2	
F20FO	Digital Forensics	Optional	4	2	

BSc Computer Science

Programme Name	: BSc Computer Science				
Programme Code	: F291-COS				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Mr. Talal Shaikh	t.a.g.shaikh@hw.ac.uk			
Year 1 Coordinator	Dr Adrian Turcanu	a.turcanu@hw.ac.uk			
Year 2 Coordinator	Mr. Kayvan Karim	k.karim@hw.ac.uk			
Year 3 Coordinator	Mr. Md Azher Uddin	m.uddin@hw.ac.uk			
Year 4 Coordinator	Dr Hani Ragab Hassen	h.ragabhassen@hw.ac.uk			
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 4 Mandatory Courses					
F17LP	Logic & Proof	Mandatory	1	1	Sept 2022 To Dec 2022
F27PX	Praxis	Mandatory	1	1	
F27SA	Software Development 1	Mandatory	1	1	
F27ID	Intro to Interaction Design	Mandatory	1	1	
Semester Two – 4 Mandatory Courses					
F27CS	Intro to Computer Systems	Mandatory	1	2	Jan 2023 to Apr 2023
F27SB	Software Development 2	Mandatory	1	2	
F27WD	Web Design & Databases	Mandatory	1	2	
F17SC	Discrete Mathematics	Mandatory	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 4 Mandatory Courses					
F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1	
Semester Two – 4 Mandatory Courses					
F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28HS	Hardware-Software Interface	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29FA	Foundations 1	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29FB	Foundations 2	Mandatory	3	2	Jan 2023 to
F29LP	Language Processors	Mandatory	3	2	

F29OC	Operating Systems & Concurrency	Mandatory	3	2	Apr 2023
F29PD	Professional Development	Mandatory	3	2	
Year 4					
Semester One – 1 Mandatory and 3 Optional Course(s)					
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	Sept 2022 To Dec 2022
F20SA	Statistical Modelling & Analysis	Optional	4	1	
F20RO	Intelligent Robotics	Optional	4	1	
F20CN	Computer Network Security	Optional	4	1	
F20IF	Information Systems Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Software Engineering	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20GA	3D Graphics & Animation	Optional	4	1	
F20BC	Biologically Inspired Computation	Optional	4	1	
F20DL	Data Mining & Machine Learning	Optional	4	1	
Semester Two – 2 Mandatory and 2 Optional Course(s)					
F20PB	Design & Implementation	Mandatory	4	2	Jan 2023 to Apr 2023
F20PC	Project Testing & Presentation	Mandatory	4	2	
F20FO	Digital Forensics	Optional	4	2	
F20AA	Applied Text Analytics	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	

BSc Computer Systems (Computer Games Programming)

Programme Name	: BSc Computer Systems (Computer Games Programming)
Programme Code	: F2C2-CGP
Mode of Study	: Full Time

Key Contacts

Designation	Name	Contact Email
Programme Director	Mrs. Smitha Kumar	smitha.kumar@hw.ac.uk
Year 1 Coordinator	Dr Adrian Turcanu	a.turcanu@hw.ac.uk
Year 2 Coordinator	Mr. Kayvan Karim	k.karim@hw.ac.uk
Year 3 Coordinator	Mr. Md Azher Uddin	m.uddin@hw.ac.uk
Year 4 Coordinator	Dr Hani Ragab Hassen	h.ragabhassen@hw.ac.uk

Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 4 Mandatory Courses					
F27PX	Praxis	Mandatory	1	1	Sept 2022

F27SA	Software Development 1	Mandatory	1	1	To Dec 2022
F27ID	Introduction to Interaction Design	Mandatory	1	1	
F17LP	Logic & Proof	Optional	1	1	
Semester Two – 4 Mandatory Courses					
F27SB	Software Development 2	Mandatory	1	2	Jan 2023 to Apr 2023
F27WD	Web Design & Databases	Mandatory	1	2	
F27CS	Introduction to Computer Systems	Mandatory	1	2	
F17SC	Discrete Mathematics	Optional	1	2	
C17PS	Becoming a Professional	Optional	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 4 Mandatory Courses					
F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Intro Data Struct & Algorithms	Mandatory	2	1	
Semester Two – 4 Mandatory Courses					
F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
F28HS	Hardware-Software Interface	Optional	2	2	
C18OP	Operations Management	Optional	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
F29KM	Knowledge Management	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29SS	Sociotechnical & Soft Systems Methodologies	Mandatory	3	2	Jan 2023 to Apr 2023
F29LP	Language Processors	Mandatory	3	2	
F29OC	Operating Systems & Concurrency	Mandatory	3	2	
F29PD	Professional Development	Mandatory	3	2	
Year 4					
Semester One – 2 Mandatory and 2 Optional Courses					
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	Sept 2022 To Dec 2022
F20GA	3D Graphics & Animation	Mandatory	4	1	
F20SA	Statistical Modelling & Analysis	Optional	4	1	
F20CN	Computer Network Security	Optional	4	1	
F20IF	Information Systems Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Software Engineering	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					
F20GP	Computer Games Programming	Mandatory	4	2	Jan 2023 to Apr 2023
F20PB	Design & Implementation	Mandatory	4	2	
F20PC	Project Testing & Presentation	Mandatory	4	2	
F20AA	Applied Text Analytics	Optional	4	2	
F20FO	Digital Forensics	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20DE	Digital & Knowledge Economy				

F20BD	Big Data Management	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	

BSc Computer Systems

Programme Name	: BSc Computer Systems
Programme Code	: F2CC-CSE
Mode of Study	: Full Time

Key Contacts

Designation	Name	Contact Email
Programme Director	Mrs. Smitha Kumar	smitha.kumar@hw.ac.uk
Year 1 Coordinator	Dr Adrian Turcanu	a.turcanu@hw.ac.uk
Year 2 Coordinator	Mr. Kayvan Karim	k.karim@hw.ac.uk
Year 3 Coordinator	Mr. Md Azher Uddin	m.uddin@hw.ac.uk
Year 4 Coordinator	Dr Hani Ragab Hassen	h.ragabhassen@hw.ac.uk

Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
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New Students

Year 1

Semester One – 3 Mandatory and 1 Optional Course(s)

F27PX	Praxis	Mandatory	1	1	Sept 2022 To Dec 2022
F27SA	Software Development 1	Mandatory	1	1	
F27ID	Introduction to Interaction Design	Mandatory	1	1	
F17LP	Logic & Proof	Optional	1	1	

Semester Two – 3 Mandatory and 1 Optional Course(s)

F27SB	Software Development 2	Mandatory	1	2	Jan 2023 to Apr 2023
F27WD	Web Design & Databases	Mandatory	1	2	
F27CS	Introduction to Computer Systems	Mandatory	1	2	
C17PS	Becoming a Professional	Optional	1	2	
F17SC	Discrete Mathematics	Optional	1	2	

Direct Entry & Continuing Students

Year 2

Semester One – 4 Mandatory Courses

F28PL	Programming Languages	Mandatory	2	1	Sept 2022 To Dec 2022
F28WP	Web Programming	Mandatory	2	1	
F28ED	Experimental Design	Mandatory	2	1	
F28SG	Introduction to Data Structures & Algorithms	Mandatory	2	1	

Semester Two – 3 Mandatory and 1 Optional Course(s)

F28DA	Data Structures & Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F28DM	Database Management Systems	Mandatory	2	2	
F28SD	Introduction to Software Engineering	Mandatory	2	2	
F28HS	Hardware-Software Interface	Optional	2	2	
C18OP	Operations Management	Optional	2	2	

Year 3

Semester One – 4 Mandatory Courses

F29AI	Artificial Intelligence & Intelligent Agents	Mandatory	3	1	Sept 2022 To Dec 2022
F29DC	Data Communications & Networking	Mandatory	3	1	
F29KM	Knowledge Management	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
Semester Two – 4 Mandatory Courses					
F29SS	Sociotechnical & Soft Systems	Mandatory	3	2	Jan 2023 to Apr 2023
F29LP	Language Processors	Mandatory	3	2	
F29OC	Operating Systems & Concurrency	Mandatory	3	2	
F29PD	Professional Development	Mandatory	3	2	
Year 4					
Semester One – 1 Mandatory and 3 Optional Courses					
F20PA	Research Methods & Requirements Engineering	Mandatory	4	1	Sept 2022 To Dec 2022
F20CN	Computer Network Security	Optional	4	1	
F20IF	Information System Methodologies	Optional	4	1	
F20RS	Rigorous Methods for Software Engineering	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
F20GA	3D Graphics & Animation	Optional	4	1	
F20SA	Statistical Modelling & Analysis	Optional	4	1	
Semester Two – 2 Mandatory and 2 Optional Courses					
F20PB	Design & Implementation	Mandatory	4	2	Jan 2023 to Apr 2023
F20PC	Project Testing & Presentation	Mandatory	4	2	
F20DE	Digital and Knowledge Economy	Optional	4	2	
F20FO	Digital Forensics	Optional	4	2	
F20GP	Computer Games Programming	Optional	4	2	
F20AD	Advanced Interaction Design	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	
F20EC	E-Commerce Technology	Optional	4	2	
F20AN	Advanced Network Security	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	

BSc Data Sciences

Programme Name	: BSc Data Sciences				
Programme Code	: F902-MDS				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr Hadj Batatia	h.batatia@hw.ac.uk			
Year 1 Coordinator	Dr Hadj Batatia	h.batatia@hw.ac.uk			
Year 2 Coordinator	Dr Hadj Batatia	h.batatia@hw.ac.uk			
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 3 Mandatory and 1 Optional Course(s)					
F27PX	Praxis	Mandatory	1	1	Sept 2022 To
F17CA	Calculus A	Mandatory	1	1	

F27SP	Soft Dev for Data Sci 1	Mandatory	1	1	Dec 2022
F17LP	Logic & Proof	Optional	1	1	
F77SA	Introduction to Statistical Science A	Optional	1	1	
Semester Two – 4 Mandatory Courses					
F27SQ	Soft Dev for Data Sci 2	Mandatory	1	2	Jan 2023 to Apr 2023
F17SC	Discrete Mathematics	Mandatory	1	2	
F77SB	Intro to Statistical Science B	Mandatory	1	2	
F17CB	Calculus B	Mandatory	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 3 Mandatory and 1 Optional Course(s)					
F18CF	Linear Algebra	Mandatory	2	1	Sept 2022 To Dec 2022
F78PA	Probability and Statistics A	Mandatory	2	1	
F18CD	Calculus & Real Analysis A	Mandatory	2	1	
F28SH	Programming for Data Analysis (mentioned on Hadj's document)	Optional	2	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					
F28DB	Data Structures and Algorithms	Mandatory	2	2	Jan 2023 to Apr 2023
F78PB	Probability and Statistics B	Mandatory	2	2	
F28DM	Database Management Systems	Mandatory	2	2	
F18NA	Numerical Analysis	Optional	2	2	
Year 3					
Semester One – 4 Mandatory Courses					
F79AS	Advanced Statistical Methods	Mandatory	3	1	Sept 2022 To Dec 2022
F29AI	Artificial Intelligence and Intelligent Agents	Mandatory	3	1	
F29SO	Software Engineering	Mandatory	3	1	
F20ML	Statistical Machine Learning	Mandatory	3	1	
Semester Two – 2 Mandatory and 2 Optional Course(s)					
F29PD	Professional Development	Mandatory	3	2	Jan 2023 to Apr 2023
F79BI	Bayesian Inference & Computation Methods	Mandatory	3	2	
F79MB	Statistical Models B	Optional	3	2	
F20DV	Data Visualisation Analytics	Optional	3	2	
Year 4					
Semester One – 2 Mandatory and 1 Optional Courses					
F90XA	Dissertation A	Mandatory	4	1	Sept 2022 To Dec 2022
F20EP	Data Engineering Pipelines	Mandatory	4	1	
F10MM	Optimisation	Optional	4	1	
F79SP	Stochastic Processes	Optional	4	1	
F70SC	Statistical Computing	Optional	4	1	
F20SC	Industrial Programming	Optional	4	1	
Semester Two – 3 Mandatory and 2 Optional Courses					
F90AM	Advanced Machine Learning	Mandatory	4	2	Jan 2023 to Apr 2023
F20BD	Big Data Management	Mandatory	4	2	
F90XB	Dissertation B	Mandatory	4	2	
F21AA	Applied Text Analytics	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F70TS	Time Series	Optional	4	2	

BSc Statistical Data Science

Programme Name	: BSc Statistical Data Science				
Programme Code	: F740-SDS				
Mode of Study	: Full Time				
Key Contacts					
Designation	Name	Contact Email			
Programme Director	Dr. Haslifah Hasim	h.hasim@hw.ac.uk			
Year 1 Coordinator	Dr. Nasreddine Megrez	n.megrez@hw.ac.uk			
Year 2 Coordinator	Dr. Haslifah Hasim	h.hasim@hw.ac.uk			
Year 3 Coordinator	Dr. Andres Barajas Paz	A.Barajas_Paz@hw.ac.uk			
Course Code	Course Title	Mandatory /Optional	Year	Semester	Semester Dates
New Students					
Year 1					
Semester One – 2 Mandatory and 2 Optional Courses					
F17CA	Calculus A	Mandatory	1	1	Sept 2022 To Dec 2022
F77SA	Introduction to Statistical Science A	Mandatory	1	1	
F17LP	Logic and Proof	Optional	1	1	
F27SA	Software Development 1	Optional	1	1	
Semester Two – 2 Mandatory and 2 Optional Course(s)					
F77SB	Introduction to Statistical Science B	Mandatory	1	2	Jan 2023 to Apr 2023
F17CB	Calculus B	Mandatory	1	2	
F17SC	Discrete Mathematics	Optional	1	2	
F27SB	Software Development 2	Optional	1	2	
Direct Entry & Continuing Students					
Year 2					
Semester One – 5 Mandatory Courses [F78AA & F78AP has only 7.5 credits each]					
F78PA	Probability and Statistics A	Mandatory	2	1	Sept 2022 To Dec 2022
F18CD	Calculus & Real Analysis A	Mandatory	2	1	
F78AA	Actuarial & Financial Maths A	Mandatory	2	1	
F78AP	Algorithmic Scientific Prog	Mandatory	2	1	
F18CF	Linear Algebra	Mandatory	2	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					
F18CE	Calculus & Real Analysis B	Mandatory	2	2	Jan 2023 to Apr 2023
F78AB	Actuarial & Financial Maths B	Mandatory	2	2	
F78PB	Probability and Statistics B	Mandatory	2	2	
F27WD	Web Design and Databases	Optional	2	2	
F28SD	Intro to Software Eng	Optional	2	2	
F28DM	Database Management Systems	Optional	2	2	
Year 3					
Semester One – 3 Mandatory and 1 Optional Course(s)					
F79SP	Stochastic Processes	Mandatory	3	1	Sept 2022 To Dec 2022
F79MA	Statistical Models A	Mandatory	3	1	
F79PS	Statistics for Social Science	Mandatory	3	1	
F29AI	Artificial Intelligence	Optional	3	1	
Semester Two – 3 Mandatory and 1 Optional Course(s)					

F79MB	Statistical Models B	Mandatory	3	2	Jan 2023 to Apr 2023
F79BI	Bayesian Inference & Computation Methods	Mandatory	3	2	
F79SU	Survival Models	Mandatory	3	2	
F28DM	Database Management Systems	Optional	3	2	
Year 4					
Semester One – 3 Mandatory and 1 Optional Course(s)					
F70DA	Statistics Dissertation A	Mandatory	4	1	Sept 2022 To Dec 2022
F10MM	Optimisation	Mandatory	4	1	
F20ML	Statistical Machine Learning	Mandatory	4	1	
F29AI	Artificial Intelligence	Optional	4	1	
Semester Two – 2 Mandatory and 2 Optional Courses					
F70DB	Statistics Dissertation B	Mandatory	4	2	Jan 2023 to Apr 2023
F70TS	Time Series	Mandatory	4	2	
F70ST	Statistics Special Topic	Optional	4	2	
F20DV	Data Visualisation Analytics	Optional	4	2	
F20BD	Big Data Management	Optional	4	2	

A7. Programme Study and Delivery

Course Delivery and Assessment

In 2022/23, learning, teaching and assessment will be on-campus. Students will need to attend campus-based learning events and undertake all assessments and examinations scheduled on campus. Some online activities might be delivered through Canvas, the University's VLE. **Prompt course registration will ensure that you are able to participate in all activities.**

Enrolment for Courses

You must be enrolled on the courses which you are studying. This will be done initially during online enrolment. If you want to change your courses or programme, you need to do so before the end of Week 2. Swapping optional courses can be done online through [Student Self Service](#). Contact your programme director for other changes. Programme changes must be agreed between you and the Programme Directors, and then recorded on a Change of Programme form (<https://www.hw.ac.uk/uk/students/studies/record/change-course-programme.htm>). All course changes must be made by the **end of week 2 of each semester.**

Virtual Learning Environment

All courses have on-line material available at the University's Virtual Learning Environment (Canvas) which can be found at: <https://canvas.hw.ac.uk/>

Course Descriptors

Course descriptors can be found at: <https://www.macs.hw.ac.uk/students/cs/courses/>

Attendance

In order to achieve course and programme learning outcomes, students are expected to attend all scheduled course learning sessions (e.g., timetabled lectures, tutorials, lab sessions, etc.). Should you have to miss a timetabled session due to ill health or other legitimate reasons, you should submit a self-certification or medical certification or an application for consideration of Mitigating Circumstances. Please ensure you submit your application in time: <https://www.hw.ac.uk/uk/students/studies/examinations/mitigating-circumstances.htm> Students

who fail to satisfy course attendance requirements may, after due warning, be disallowed from presenting themselves for examination in the course, see: <http://www.hw.ac.uk/students/doc/withdrawalprocedures.pdf>).

Digital submission of coursework

Most coursework will need to be submitted using [Canvas](#) or using GitLab. Please follow the instructions provided for each course. Please note, that you need to complete a **declaration of authorship** for each piece of coursework you submit.

Plagiarism & Cheating

Cheating in examination and plagiarism, which is, the presentation of another person's ideas or work as one's own, are very serious offences and are dealt with severely. They carry a range of penalties up to and including expulsion from the University. The University guidelines on plagiarism can be found here:

<https://www.hw.ac.uk/uk/students/studies/examinations/plagiarism.htm>

Submission of Coursework Policy

The University recognises that, on occasion, students may be unable to submit coursework and dissertations by the submission date. As such, the University has agreed on a new policy which states:

- No individual extensions are permitted under any circumstances (unless course coordinators decide to give an extension to an entire class in exceptional circumstances);
- Standard 30% deduction from the mark awarded (maximum of five working days);
- In the case where you submit coursework up to five working days late and you have valid mitigating circumstances, the mitigating circumstances policy will apply, and appropriate mitigation will be applied.
- Formative feedback will be provided on all coursework submitted up to five working days late. Any coursework submitted after five working days of the set submission date shall be automatically awarded a no grade with no formative feedback provided.

The policy can be found below:

<https://www.hw.ac.uk/uk/services/docs/learning-teaching/policies/submissionofcoursework-policy.pdf>

Examinations

It is the student's responsibility to check the relevant examination timetables (including resits) on the Registry pages (<https://www.hw.ac.uk/uk/students/studies/examinations.htm>) Some examinations are run as electronic exams, in particular in Years 1 and 2. Details on how these electronic exams are run will be announced in the course. Should you be required to be re-assessed in any examinations, you *must* make yourself available to take them. Past exam papers for courses might be found on their corresponding Canvas course pages.

Dissertation Information

All the information about your dissertation will be available in the **Research Methods & Requirements Engineering** course (F20PA).

Grades & Assessments

Grades for each course are awarded as follows:

Grade	Overall Range	Description	Notes
A	70% or more	Excellent	Please note that you can gain the Deputy Principal's Award in each year by attaining six Grade As with passed at Grade D in the other courses (in the first sitting).
B	60% to 69%	Very Good	
C	50% to 59%	Good	
D	40% to 49%	Satisfactory	Please note that you need an average of 50% at first attempt in your courses to progress to Y4
E	30% to 39%	Adequate	
F	Below 30%	Inadequate	Fail. You will be given an extra opportunity to resit in the summer.

Feedback

Feedback is a two-way process. Feedback is provided in a variety of ways in order to help you to reflect on, evaluate your progress and assist you to take steps to improve before the next relevant assessment. For most courses, students can **expect feedback on assessed coursework within three teaching weeks** of the coursework due date.

Feedback is sought from students via Student-Staff Liaison Committees and various surveys so that the School can continue to enhance the student learning experience. Your feedback is valued by the School, so please be sure to provide feedback whenever it is sought. Further information can be obtained from: T.A.G.Shaikh@hw.ac.uk

Degree Specialism

You must inform the 4th Year Co-ordinator at the start of the honours/4th year if you want to exit with a degree specialism.

- BSc Computer Science (*Artificial Intelligence*) candidates must take two of the following courses in Stage 4, Biologically Inspired Computation (F20BC), Data Mining & Machine Learning (F20DL), Intelligent Robotics (F20RO), and do an approved dissertation topic suitable for this specialism.
- BSc Computer Science (*Cyber Security*) candidates must take the following courses in Stage 4, Computer Network Security (F20CN), Advanced Network Security (F20AN), and do an approved dissertation topic suitable for this specialism.
- BSc Computer Science (*Computer Games Programming*) candidates must take the two mandatory courses in Stage 4, 3D Graphics & Animation (F20GA) and Computer

Games Programming (F20GP), take at least one of Industrial Programming (F20SC) or Advanced Interaction Design (F20AD), and do an approved dissertation topic suitable for this specialism.

- BSc Computer Science (*Data Science*) candidates must take the three mandatory courses in Stage 4, Data Mining & Machine Learning (F20DL), Statistical Modelling & Analysis (F20SA), Big Data Management (F20BD), and do an approved dissertation topic suitable for this specialism.
- BSc Computer Science (*Software Engineering*) candidates must take the two mandatory courses in Stage 4, Rigorous Methods for Software Engineering (F20RS), Advanced Interaction Design (F20AD), and do an approved dissertation topic suitable for this specialism.
- BSc Computer Systems (*Computer Games Programming*) candidates must take the course F20GP Computer Games Programming and do at least one of F20SC Industrial Programming or F20AD Advanced Interaction Design and do an approved dissertation topic suitable for this specialism.

Assessment Results and Progress Decisions

The University operates the Heriot-Watt Assessment and Progression System (HAPS), which specifies minimum progression requirements. Schools have the option to apply progression requirements above the minimum University requirement, which are approved by the Studies Committees. Students should refer to the programme-specific information on progression requirements. This information is detailed later in this handbook. You can also contact your Personal Tutor for information.

You will get your assessment results online following the relevant Assessment Boards, which take place in January, May and August (resit diet). The Progression Board meets at the end of the academic year to decide which students will be allowed to proceed to the next year of their degree programme. You will receive an email from the University containing a link to a summary of your results for the year and the Board's progression decision on whether you must resit any courses.

In years 1, 2 and 3, if you do not pass a course on the first attempt, you have one opportunity to resit the course during the resit diet in early August. Please note, in Year 3, re-assessment is for credit only, and you cannot improve your overall average (which accounts for 20% of your final degree results) unless you are re-sitting because of mitigating circumstances. There are no resit opportunities for courses in Year 4.

Please note that the requirements to progress from year 3 to year 4 includes obtaining all the necessary credits plus having an overall assessment *average in year 3 of 50% or above at the first attempt*. Students that do not meet this requirement at the end of year 3 will not progress to year 4 and instead graduate with an Ordinary degree.

If you receive a pass/proceed decision that allows you to progress at the May Progression Board, you can enrol online on early August. If you have resat courses and can progress following the Resit Progression Board, you may enrol online once you have received your Assessment Results email confirming this.

Notification of Mitigating Circumstances (MC)

If you have been affected by mitigating circumstances which have affected your ability to complete your assessments, you must notify us as soon as possible.

You should read the University's Policy on Mitigating Circumstances in Relation to Assessment. Further details can be found [here](#)

It is very important that you also notify your Personal Tutor as soon as possible of any mitigating circumstances, such as illness or bereavement, which could adversely affect your assessment performance. In the case of illness, a medical certificate must be supplied to the School Office. The Examiners will always take such circumstances into account where appropriate, but the later the notification, the less scope there is to do so. In particular, notification should be before the results are announced. Late notification will mean that either no account can be taken, or that formal procedures have to be invoked. In the latter case, final year students will not be permitted to graduate until these procedures have been completed. For further details, see the University Regulations.

Heriot-Watt University reserves the right to update materials from time to time and will ensure that advance notification concerning changes to materials is provided to students on the relevant section of the University website. It is the responsibility of students to check the website, particularly if they are returning to studies after a period during which their studies have been suspended

Final Degree Assessment

The Award Board meets in the last week of May to consider the assessment marks and make recommendations on degree classifications.

For the BSc Computer Science, Computer Systems the Awards Board take into account 3rd and 4th-year course marks in deciding the class of Honours. The final mark is the average of those marks, weighted as:

- 20% from 3rd-year average (at first attempt),
- 50% from the 5 taught courses in 4th year, and
- 30% from the individual dissertation in the 4th year.

In broad terms, an average mark of over 70% for first-class honours, 60% - 70% for upper second-class honours, 50% - 60% for lower second-class honours, and 40% - 50% for third-class honours, would be required, subject to the agreement of the Awards Board. (Note that 480 credits are required for the award of an Honours degree.)

Graduation

When you have completed your degree, your award is conferred at a graduation ceremony. Details on graduation, including how to apply, deadlines for applying and the cost, can be found here (<https://www.hw.ac.uk/uk/students/studies/graduation.htm>). This website also includes details of gown hire and guest tickets.

University Prizes

The Department and University award prizes every year to exceptional students.

Final Year Awards

- Watt Club Medal: Awarded for exceptional merit and distinction in the final year of any degree course in the Department of Computer Science. No more than one medal can be awarded in each discipline within a School in any year.
- Systems Consultants Ltd Prize (£200): The best student in the final year of the course for the degree of BSc in Computer Science.
- Cooper-Walker Engineering Ltd Prize (£200): For outstanding project work in a degree course in the Department of Computer Science.

Continuing Years Awards

- University Prizes, Years 1, 2 & 3 (£100): For outstanding merit (In practice, an average mark of at least 70% is regarded as the minimum standard). Available to students on any undergraduate course in the Department of Computer Science. There is one prize per academic year per year of study.
- ICL Prize (£200): The best student in the first year for the degree of BSc in Computer Science.
- Vindhya Liyanage Citizenship Award (£100): Awarded to a student, or group of students, who have shown exceptional citizenship in their 1st year of study within the Department of Computer Science.

PART B: UNIVERSITY INFORMATION

B1. Programme and Course Content

The content of our programmes and courses is reviewed annually to make sure it is up-to-date and relevant. Individual courses are occasionally updated or withdrawn. This is in response to discoveries through our world-leading research; funding changes; professional accreditation requirements; student or employer feedback; outcomes of reviews; and variations in staff or student numbers. In the event of changes the University will consult and inform students in good time and will take reasonable steps to minimise disruption.

B2. Our Values

At Heriot-Watt, we have an established set of values that help us to nurture innovation and leadership and show our commitment to continuous development in all our activities. They are:

- **Belong** to a diverse, inclusive and international community working together across boundaries and cultures
- **Inspire** curiosity to learn and find solutions that transform lives
- **Collaborate** by working in partnership to shape the future whilst taking responsibility for our own actions
- **Celebrate** excellence and take pride in the achievements of our students, staff and alumni

Find out more about the [Heriot-Watt Values](#) and what they mean to us.

B3. Student Partnership Agreement

Heriot Watt University and the Heriot-Watt Student Union (UK), Heriot-Watt Student Association (Malaysia) and Heriot-Watt Student Council (Dubai) work in partnership to develop a Student Partnership Agreement (SPA) each year. The Agreement identifies the main, agreed priorities for working in partnership each academic year and outlines an associated action plan.

Heriot-Watt University has a long and proud tradition of student engagement in institutional governance and decision-making and the Student Partnership Agreement sets out our ambition to continue to work in partnership across all of our campus locations, with the aim of increasing engagement with the institution, enhancing the student experience and engendering a sense of belonging to the University community.

The Student Partnership Agreement is available [here](#).

B4. University Regulations

Heriot-Watt has a detailed set of rules that govern how the University operates, these are the University's [Ordinances and Regulations](#). Ordinances are set by the Court, which is the University's governing body, outline how the University is governed. University regulations

provide the framework for the University's academic work and the education of our students and they define the policies, procedures and support available to our students.

B5. Your Student Portal

The Student Portal brings together your services and relevant information in one place. Below is a summary of the services available to you via the portal:

- Office 365 suite: through single sign-on, all of your Office 365 services will be accessible through the Portal.
- Library: whether you want to search for books or view your loans & reservations, the Portal allows you to do this on your phone or desktop.
- Canvas: access your courses here, including announcements, tasks and assignments.
- Student Information: all university-level regulations and policies relating to your studies can be found on the Portal.
- Campus and School News: the Portal enables the University to promote events and experiences which will help you develop your skills.
- Personalised: You can hide, add and move tiles on your dashboard.
- AskHWU: You can find everything you need to help you navigate your time at HWU through the new AskHWU search tile. Ask questions of the University and enquire directly with members of staff to get information about ID cards, student finance, confirmation of studies letters, exams, enrolment, Careers, Wellbeing Services and much more.
- Appointments: book appointments with a range of different services (Student Wellbeing Services, Careers, Finance etc.) through your student portal.

You can access your student portal [here](#)

B6. Your Virtual Learning Environment

Heriot-Watt's Virtual Learning Environment (VLE) is called [Canvas](#). It is a vital learning and communication tool for you and your lecturers, so make sure you log in and check Canvas every day. For further support see the [Canvas Student Guides](#).

B7. A to Z Guide: Essential Student Information

This [A to Z guide](#) covers essential information about the support and resources available to you as a Heriot-Watt student.