Undergraduate Programme Handbook
BSc Information Systems

2016-2017

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Introduction

This programme specific handbook should be read in conjunction with the Undergraduate Handbook for the School of Mathematical and Computer Sciences (MACS), which can be found on the School website http://www.macs.hw.ac.uk/students/.

This handbook contains information on the programme structure, notes, description and the courses offered on the BSc Information Systems degree.

Further information for current undergraduate students can be found at:
http://www.macs.hw.ac.uk/students/cs/
http://www.hw.ac.uk/registry/
http://www.hw.ac.uk/students.htm

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.

Degree Specialism

The degree can also be offered as BSc Information Systems (*Management*), BSc Information Systems *(Internet Systems)* or BSc Information Systems *(Interaction Design)* by specialising in courses in these areas in the final year.

To graduate with the degree BSc Information Systems (*Management)* candidates must take Information Systems Methodologies (F20IF) plus any C1 coded course from the approved list on the programme structure and do an approved dissertation topic suitable for this specialism.

To graduate with the degree BSc Information Systems (*Internet Systems)* candidates must take Design for Online Learning (F20DO) plus one of: E-Commerce Technology (F20EC) or Digital Marketing (C10DM) and do an approved dissertation topic suitable for this specialism.

To graduate with the degree BSc Information Systems (*Interaction Design)* candidates must take Design for Online Learning (F20DO) and Advanced Interaction Design (F20AD) and do an approved dissertation topic suitable for this specialism.

You must inform the 4th Year Supervisor, at the start of the honours/4th year if you want to exit with a degree specialism

Diploma in Industrial Training / Industrial Placements
The Department encourages students to undertake up to a year-long paid study-relevant work-placement during their studies. This can be done through the Diploma in Industrial Training (for eligible students only) or by temporarily suspending your studies. More information about the Diploma in Industrial Training can be found at: http://www.macs.hw.ac.uk/students/cs/ug-programmes/

In all cases the student is responsible for securing a work placement. The University's Careers Advisory Service and the DIT Programme Director, Dr Lilia Georgieva, can advise anyone interested on how to go about researching and applying for a placement. You are strongly advised to contact the Careers Advisory Service for help on writing CVs, online tests and assessment centres.

Go Global
At Heriot-Watt, you have the opportunity to become a global student by taking part in an Inter-Campus Transfer, Erasmus+ or Exchange. Studying abroad is a unique opportunity and likely to provide some of your most memorable life experiences. Further information can be found at: https://www.hw.ac.uk/students/studies/go-global.htm

Graduate Attributes
As a student of Heriot-Watt University, you are part of our global community. You will meet new people, discover new interests, develop your life skills and enhance your employability and career prospects.

The University will provide you with opportunities to develop skills, qualities and academic abilities during your time as a Heriot-Watt student. These are known as the **Four Heriot-Watt Graduate Attributes**:

- *Specialist*
- *Creative*
- *Global*
- *Professional*

Further information can be found at:
https://www.hw.ac.uk/students/doc/StudentGraduateAttributes.pdf

Programme Structure
Our academic year is divided into 2 semesters corresponding to 30 weeks. There will be 12 weeks teaching in each semester. You are expected to study 4 courses each semester, giving a total of 8 courses in a full year. 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. The average student is expected to put in a total effort of 150 hours per course. These 150 hours

includes all lectures, tutorials, computing labs, workshops, background reading, writing up notes, coursework, revision and examinations for the course.

How to Use This Catalogue

The course information, which appears in the format below, is designed to provide you with sufficient details about courses, their content and assessment methods and will help you choose your optional courses.

Course Code:	Course Title:		Course Co-ordinator:
Pre-requisites:			
Aims:			
Syllabus:			
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)*		
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT*		
Assessment Methods:	Assessment:	Re-assessment:	

Many of the courses have on-line material available at the University's Virtual Learning Environment (VISION) which can be found at: http://vision.hw.ac.uk/

Terminology

Course Code   The first character identifies the School (F = MACS)

The second digit identifies the discipline area (2=Computer Science).

The next digit is the SCQF level of the course:

SCQF Level 7 normally studied in Year 1

SCQF Level 8 normally studied in Year 2

SCQF Level 9 normally studied in Year 3

SCQF Level 10 normally studied in Year 4 (A zero in course codes)

SCQF Level 11 normally studied in Year 5/Postgraduate (A one in course codes)

The next 2 letters identify the topic.

Courses coded C are delivered by the School of Management & Languages

Course Co-ordinator: The name of the member of staff who is responsible for delivery of the course

Pre-requisites: Students *must have gained Grade D* or above in the courses listed here in order to gain entry to the course.

Aims: A brief statement of what the course aims to do

Syllabus: A brief summary of what is included in the course

Learning Outcomes: Subject Mastery   These will include Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)

Learning Outcomes: Industrial, Commercial & Professional Practice; Autonomy, Accountability &
Personal Abilities   Working with Others; Communication, Numeracy & ICT

Assessment Methods: Details of the weighting and type of assessment(s) and re-assessment (if
                         any) for the course

Timetable
A timetable of classes will be available online at:
https://www.hw.ac.uk/students/studies/timetables.htm

Any timetable problems should be notified to Jill Gunn (Room EM1.20)

Session Dates

Dates	Activity
5 - 9 September 2016	Welcome Week
12 September – 2 December 2016	Semester 1 teaching
5 – 16 December 2016	Semester 1 exams
19 December 2016 – 6 January 2017	Semester 1 break
9 January – 31 March 2017	Semester 2 teaching
3 – 21 April 2017 (Easter: 16 April)	Semester 2 break
24 April – 19 May 2017	Semester 2 exams
22 May – 11 August 2017	Resit Revision
20 – 23 June 2017 (Edinburgh Campus)	Graduations
3 – 11 August 2017	Resits
16 – 17 November 2017	Graduations

Staff/Student Expectations

What you can expect from staff
Teaching is one of the most important duties for staff. Although we have research and admin
duties which need our attention too, we promise students:

- ♦ Commitment to helping you learn
- ♦ Politeness and respect
- ♦ A regular office hour slot for face to face meetings
- ♦ Written feedback and a mark for coursework within 3 teaching weeks after the hand-in time.
- ♦ A reply to general email questions within 5 working days
- ♦ A response from your Personal Tutor within 2 working days
- ♦ If you would like to see your exam script to see where you went wrong, go along to the school office and ask for a form to request this. (It'll take a bit of time to get the paper out of archives). You can also make an appointment with the lecturer to get further advice on how to improve your work.

- Sometimes staff members are away on university business (for example at a research project meeting outside the UK), and won't be able to respond as quickly as normal. If this happens, they will tell you about it (e.g. on an "out of office" message) and will advise you who to contact instead.

What staff can expect from students

Most importantly, we expect you to take charge of your own learning. This is your degree! To get the most of your time at university you need to be independent and proactive. We understand that you have other demands on your time, such as paid employment, but as full time students, your studies should come first.

- Commitment to your learning
- Politeness and respect
- Attendance at classes, unless they are specifically identified as voluntary. During semester it is your responsibility to be available on campus to attend classes and in particular class tests.
- Attention, courtesy and participation during classes
- Preparation and practice for classes as specified by the lecturers, such as reading or coding. For every hour of timetabled class, we expect you to spend 2-3 hours in private study.
- Practice, practice, practice! In order to become a good programmer, you need to program regularly. If you are having trouble we will help, but the most useful thing you can do for yourself is devote time to programming.
- Basic organisation skills, such as coming to classes with pen and paper ready to take notes, and using a calendar so you don't forget deadlines and appointments
- If you can't make a scheduled meeting with a staff member, please notify them in advance rather than just not turning up
- Check your email and logging into Vision at least every other day
- A reply to email from staff within 5 working days (if it requires a reply!)
- We expect you to pay attention to the feedback we give you, and to attempt to improve your work based on that feedback.
- We encourage you to keep yourself informed about new and interesting developments in computer science above and beyond what you learn in the taught courses. The department is full of experts in a wide range of areas who would love to chat to keen students about their research. Seek them out!
- If you have a problem which is interfering with your studying, please discuss it with your Personal Tutor. We are here to help.

Personal Tutor

You will be allocated a Personal Tutor when you arrive at the University and, normally, you will retain the same Personal Tutor as long as you are registered in the Department of Computer Science. The Personal Tutor is your main academic link with the University, and is there to provide you with help and advice about your studies.. Under certain circumstances, with the permission of the Head of Computer Science, it may be possible to change your Personal Tutor. A list of Personal Tutors can be found on the internal departmental web pages.

Every year a few students run into personal difficulties (e.g. family illness, accommodation, financial, etc.). As well as being generally supportive, Personal Tutors can help in a number of practical ways. For example, if illness prevents you from completing project work or sitting examinations, your Personal Tutor can sometimes help with re-scheduling or making alternative arrangements for assessment. However, you _must_ notify your Personal Tutor as soon as possible, or there is very little that can be done. This is particularly important if illness affects your Examinations. Also, it is essential to provide a medical certificate (see **Notification of Mitigating Circumstances**, p 10). With other problems, your Personal Tutor can put you in touch with the appropriate University support service (Chaplaincy, Medical Centre, Student Welfare Services or Student Association). ***Personal Tutors are there to help; do not hesitate to contact yours if you need them.***

Our Personal Tutoring team have been selected because they specialise in different areas of expertise. If you have a problem you can go to see your allocated Personal Tutor, or contact one of the others depending on the nature of your difficulty.

Further information on the role of personal tutors can be found at:
https://www.hw.ac.uk/students/studies/personal-tutors.htm

Personal Tutor Contact Details
To direct dial a member of staff: (0131) 451 plus extension number

Dr Tessa Berg	T.Berg@hw.ac.uk	Ext 8223
Ms Jenny Coady	J.Coady@hw.ac.uk	Ext 4178
Dr Frank Broz	F.Broz@hw.ac.uk	Ext 3430
Dr Peter King	P.J.B.King@hw.ac.uk	Ext 3433
Dr Stefano Padilla	S.Padilla@hw.ac.uk	Ext 3424
Dr Manuel Maarek	M.Maarek@hw.ac.uk	Ext 3287
Dr Fiona McNeill	F.McNeill@hw.ac.uk	Ext 3435
Prof Ruth Aylett	R.S.Aylett@hw.ac.uk	Ext 4189
Dr Diana Bental	D.S.Bental@hw.ac.uk	Ext 4196

Key Contacts

To direct dial a member of staff: (0131) 451 plus extension number

Jenny Coady	IS degree specific Issues	J.Coady@hw.ac.uk	Ext 4178
Dr Michael Lones	First Year Issues	M.Lones@hw.ac.uk	Ext 8434
Prof Nicholas Taylor	Second Year Issues	N.k.taylor@hw.ac.uk	Ext 3436
Helen Hastie	Third Year Issues	H.Hastie@hw.ac.uk	Ext 4160
Peter King	Fourth and fifth Year Issues	P.J.B.King@hw.ac.uk	Ext 3433
Greg Michaelson	Help for students in crisis	G.Michaelson@hw.ac.uk	Ext 3422

Staff-Student Liaison
Students are asked to elect a class representative at the start of every academic year. Your representative will keep the staff up to date with any problems which students in the year have identified, and they also keep students informed of actions taken by staff to address these problems. The School Officer is a student appointed by the Heriot Watt Student Union to work closely with the class representatives and staff to make sure that the students' needs are met.

If you have a request or suggestion about a course, the first thing to do is to talk to the lecturer in question, or ask the class representative to do this for you. If that doesn't work, you can talk to the year supervisor, Hans-Wolfgang Loidl (staff student officer) or Jenny Coady (Programme Director for IS).

Enrolment for Courses
You must be enrolled for the courses which you are studying. This will be done initially during on-line enrolment.

Any subsequent changes to optional choices must be agreed between you and your Director of Studies or Personal Tutor, and then recorded on a Change of Course Form available from MACS School Office (EM1.25). The form must then be returned to Room EM1.25 for processing.

All course changes must be made by the end of week 3 of each semester. Any changes submitted after this will incur a charge of £10 per course. No changes can take place after week 5 of each semester.

Course Requirements

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 missed 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 https://www.hw.ac.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).

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.

Students are responsible for familiarizing themselves with University policy on these matters. For more detail, see the School Undergraduate Handbook (http://www.macs.hw.ac.uk/students/wp-content/uploads/UG_Handbook.pdf), and the sections on Plagiarism and Regulation 9 on the Registry's website.

Submission of Coursework

All courses will include some coursework which must be done during the semester. Coursework Submission front sheets are available in the first floor corridor between the Earl Mountbatten Building and Colin Maclaurin (Near the MACS School Office). The coursework submission front sheets are printed on **lilac** coloured paper. The **CS/IS coursework box** can be found at the same location.

Please ensure that you:

1.	state which **degree programme** you are studying and **year of study**
2.	Complete your **personal details** on the form, i.e., your name, matriculation number.
3.	Write the **course code** and **course title** on the front sheet.
4.	**Sign** and **date** the front sheet to confirm that it is your "sole and original work ...."
5.	**Staple** the front sheet to your coursework **before** you put it in the CS/IT coursework box.

All coursework must be submitted by **3.30pm** on the deadline date unless otherwise specified by the lecturer. A list of coursework deadlines will normally appear on the undergraduate student website from week 3 each semester, which will also detail the amount of effort that is expected for each piece of coursework. Penalties may be imposed for late submission of coursework.

Late submission of Coursework

Coursework that is submitted late will normally be subject to a penalty. The standard penalty system is that 10% of the maximum available mark is deducted from the mark awarded for each day late. Days are counted as working days for the School Office. Any coursework submitted more than five days late will be awarded a mark of zero.

A Course Leader may decide to adopt a different penalty system for a particular course. In this case the penalty system to be applied will be set out in the course documentation or in the coursework specification.

Extensions to submission dates

Students who have serious concerns about meeting submission dates for coursework should consult the Course Leader as soon as possible. Any extension to the submission deadline must be approved by the Course Leader, and the reason for the extension will be recorded. Applications for extensions made **after** the due submission date will not normally be approved.

Examinations

It is the student's responsibility to check all relevant examination timetables (including resits) on the University web page https://www.hw.ac.uk/students/studies/examinations.htm.

Should you be required to be re-assessed in any examinations, you *must* make yourself available to take them. All examinations must be taken at the Edinburgh Campus.

Past examination papers for F2 courses can be found at:
http://www.macs.hw.ac.uk/students/cs/cs-first-year-past-exam-papers/

THESE ARE ONLY ACCESSIBLE ON-CAMPUS OR IF YOU USE THE VPN
(https://hwvpn.hw.ac.uk/workplace/access/home)

Calculators, Dictionaries & Electronic Devices

Where a calculator is required for the completion of an examination, a student may use any basic scientific calculator, except the following: graphics calculator, programmable calculator and a calculator which features text storage or retrieval facilities.

No translation dictionaries are permitted in any of the University's examinations. The only exception to the policy is in the case of individual students who had been assessed by the University's Disability Service as requiring access to a translation dictionary.

Students are not allowed to have mobile phones or other communication devices on or about their person during examinations. Phones may be left at the front of the examination room but must be switched off.

Unauthorised Material

You must not have any unauthorised pre-printed materials or electronic devices including mobile phones in the examination room. Cheating in an examination is treated very seriously by the University. If you do have any material relevant to the exam which you have brought in by mistake, you must hand it over to an invigilator before the start of the examination. Invigilators will carry out checks on authorised materials and calculators.

Grades & Assessments

Grades for each course are awarded as follows:

Grade A	Excellent	Overall mark of approximately 70% or more
Grade B	Very Good	Overall mark of approximately 60% to 69%
Grade C	Good	Overall mark of approximately 50% to 59%
Grade D	Satisfactory	Overall mark of approximately 40% to 49%
Grade E	Adequate	Minimum required for the award of credits but at least a grade D is needed for progression to subsequent courses
Grade F	Inadequate	Fail

Feedback

Feedback is a two-way process. Feedback is provided to students in a variety of ways in order to help you to reflect on and to evaluate your progress and to 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.

Assessment Results and Progress Decisions

You will get your assessment results on-line 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 this information on-line from the University along with a summary of your results for the year and the Board's

progression decision, and whether you must resit any courses. If you successfully pass the year, you will be able to enrol for the following academic year from early August.

In Years 1, 2 and 3 if you do not pass a course at the first attempt, you have one opportunity to resit the course during the resit diet in early August. 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 for medical reasons. There are no re-sit opportunities for courses in Year 4.

If you receive a pass/proceed decision that allows you to progress at the Summer Progression Board you can enrol online from mid-August. If you have resits, and are able to progress following the Resit Progression Board you may enrol on-line at the beginning of September.

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 Information Systems honours degree, the Examiners 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, 50% from the 5 taught courses in 4th year and 30% from the individual dissertation in 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 Examiners. (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 at: https://www.hw.ac.uk/students/studies/graduation.htm. This website also includes details of gown hire and guest tickets.

University Prizes
<u>Final Year Awards</u>

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.

Don Godfrey Prize (£200)
For the best student in the fourth year of the BSc Information Systems degree.

Cooper-Walker Engineering Ltd Prize (£200)
For outstanding project work in a degree course in the Department of Computer Science.

Andrew Stewart Prize 1 (£200)
For the most deserving student in the **fourth year** of a degree course in the Department of Computer Science.

<u>Continuing Years Awards</u>

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.

Andrew Stewart Prize 2 (£200)
For the most deserving student in the **second year** of a degree course in the Department of Computer Science.

Lockheed Martin/Santander Prize
For the best Group Project in the third year of a degree programme. Each member of the winning group will be awarded £75.00, and each member of the 2 runner up groups will be awarded £50. Students who have contributed so little that their individual grade is below E are not eligible for this prize.

Notification of Mitigating Circumstances
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 at: and then complete the application form at: http://www.hw.ac.uk/students/studies/examinations/mitigating-circumstances.htm. This form along with any relevant evidence should be submitted to the School Office.

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 (EM1.25). 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 and the School Undergraduate Handbook.

Thinking of Leaving
Many students think about leaving university at some stage during their studies. If anything is bothering you or you are thinking about leaving, please speak to a member of staff to explore and understand what you can do.

There may be other options such as additional help (perhaps advice on how to improve your academic skills), a temporary suspension of studies or transferring to another programme.

Further information is available at: https://www.hw.ac.uk/students/studies/leaving.htm

Complaints and Appeals

Our aim at Heriot-Watt is to ensure that your experience while studying with us is of the highest quality. However, we recognise that during your time at the University there may be circumstances that occur where you feel you need to make a complaint or to appeal a decision.

Further information is available at: https://www.hw.ac.uk/students/studies/complaints-appeals.htm

Miscellaneous

Lockers and Buildings Access Cards

All students may get access cards to enable them to enter the Earl Mountbatten Building until 10pm on a weekday and also during the weekends. In addition, lockers for use by students are available at a number of sites in the Earl Mountbatten Building. They are allocated for the duration of each academic year on a first-come first-served basis. Keys for lockers in the EM Building are available for a deposit of £10. Please see Alistair Houstin in room EM 1.31 for cards and keys

Mail

Mail (internal and external) to students is delivered to pigeon holes on the first floor of the Earl Mountbatten Building, inside the School Office (EM1.25). Check yours regularly.

Noticeboard

Various notices are posted on the noticeboard in the corridor along from the School Office.

Courses in the School of Management & Languages

For further information go to their undergraduate portal:
http://www.sml.hw.ac.uk/undergraduate/

Departmental Contacts

To direct dial a member of staff: (0131) 451 plus extension number

Head of School	Beatrice Pelloni	B.Pelloni@hw.ac.uk	Ext 8306
Head of Computer Science	Andrew Ireland	A.Ireland@hw.ac.uk	Ext 3409
Director, Undergraduate Study and Computer Science/Software Engineering degree	Hans-Wolfgang Loidl	H.W.Loidl@hw.ac.uk	Ext 3421
Director, Information Systems Degree	Jenny Coady	J.Coady@hw.ac.uk	Ext 4178
Director of Studies, Year 1	Michael Lones	M.Lones@hw.ac.uk	Ext 8434
Director of Studies, Year 2	Nick Taylor	N.K Taylor@hw.ac.uk	Ext 3436
Director of Studies, Year 3	Helen Hastie	H.Hastie@hw.ac.uk	Ext 3344
Director of Studies, Year 4	Peter King	P.J.B.King@hw.ac.uk	Ext 3433
Special Needs Advisor	Tessa Berg	T.Berg@hw.ac.uk	Ext 8223
Administrator until Jan 2017	Oliwia (Olivia) Kupinska	O.Kupinska@hw.ac.uk	Ext 3432
Administrator from Jan 2017	Lisa Kinnaird	L.M.Kinnaird@hw.ac.uk	Ext 3432

Lecturers	**E-Mail**	**Room**	**Extension**
Prof Ruth Aylett	R.Aylett@hw.ac.uk	EM1.59	4189
Prof Lynne Baillie	L.Baillie@hw.ac.uk	EMG.30	4160
Dr Phil Barker	Phil.Barker@hw.ac.uk	EMG.41	3278
Dr Diana Bental	D.S.Bental@hw.ac.uk	EM1.67	8338
Dr Tessa Berg	T.Berg@hw.ac.uk	EMG.35	8223
Mr Frank Broz	F.Broz@hw.ac.uk	EM1.46	3430
Prof Albert Burger	A.G.Burger@hw.ac.uk	EMG.36	3428
Prof Mike Chantler	M.J.Chantler@hw.ac.uk	EM1.48	3352
Dr Jessica Chen-Burger	Y.J.Chenburger@hw.ac.uk	EMG.38	3434
Dr Santiago Chumbe	S.Chumbe@hw.ac.uk	EMG.41	3762
Ms Jenny Coady	J.Coady@hw.ac.uk	EMG.37	4178
Prof David Corne	D.W.Corne@hw.ac.uk	EMG.39	3410
Dr Chris Fensch	C.Fensch@hw.ac.uk	EMG.29	3416
Dr Jamie Gabbay	M.Gabbay@hw.ac.uk	EMG.50	3425
Dr Lilia Georgieva	L.Georgieva@hw.ac.uk	EMG.54	8159
Dr Alasdair Gray	A.J.Gray@hw.ac.uk	EM1.39	3429
Dr Gudmund Grov	G.Grov@hw.ac.uk	EMG.49	3412
Dr Helen Hastie	H.Hastie@hw.ac.uk	EM 1.42	3344
Prof Andrew Ireland	A.Ireland@hw.ac.uk	EMG.57	3409
Dr Mike Just	M.Just@hw.ac.uk	EM1.37	3336
Prof Fairouz Kamareddine	F.D.Kamareddine@hw.ac.uk	EM1.65	3868
Dr Peter King	P.J.B.King@hw.ac.uk	EMG.51	3433
Dr Ekaterina (Katya) Komendantskaya	E.Komendantskaya@hw.ac.uk	EMG26	8283
Prof Oliver Lemon	O.Lemon@hw.ac.uk	EM1.40	3782
Dr Katrin Lohan	L.Lohan@hw.ac.uk	EM1.44	8338

Dr Hans-Wolfgang Loidl	H.W.Loidl@hw.ac.uk	EMG.48	3421
Dr Michael Lones	M.Lones@hw.ac.uk	EMG.31	8434
Dr Manuel Maarek	M.Maarek@hw.ac.uk	EM1.63	3287
Dr Fiona McNeill	F.McNeill@hw.ac.uk	EMG.52	3435
Prof Greg Michaelson	G.Michaleson@hw.ac.uk	EMG.56	3422
Dr Stefano Padilla	S.Padilla@hw.ac.uk	EM1.38	4166
Dr Ron Petrick	R.Petrick@hw.ac.uk	EM1.05	3943
Dr Verena Rieser	V.T.Rieser@hw.ac.uk	EM 1.36	4129
Prof Sven Bodo Scholz	S.Scholz@hw.ac.uk	EM G.27	3814
Dr Hamish Taylor	H.Taylor@hw.ac.uk	EM1.43	3427
Prof Nick Taylor	N.K.Taylor@hw.ac.uk	EM1.62	3436
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In the first instance all undergraduate enquiries should be directed to the School Office room EM 1.25, email to macs-schooloffice@hw.ac.uk

Non Departmental Contacts

School of Management & Languages
Department of Business Management (C1 coded courses)

For contact information for staff from the Department of Management please see:

http://www.sml.hw.ac.uk/staff-directory/business-management.htm

Programme Structure & Notes – Information Systems

1. Programme Code(s) (recruitment & exit awards) **F2IS-ISY**	2. Programme Titles for all awards (unabbreviated) **Information Systems**	
3. Main Award(s) (to be recruited to) **BSc Honours**	4. Exit Awards (graduation only) **BSc Honours, BSc Ordinary**	5. Date of Production **05 April 2016**

6. MANDATORY COURSES

Edinburgh/ Orkney/SBC	HWUM	Dubai	ALP	IDL	Collaborative Partner	Stage	Semester	Phase (Part-time only)	Code	Course Title	SCQF	MQA	SCQF Level	Notes
STAGE 1														
√						1	1		F27SA	Software Development 1	15		7	
√						1	1		F27IS	Interactive Systems	15		7	
√						1	1		F27PX	Praxis	15		7	
√						1	2		C17EC	Enterprise and its Business Environment	15		7	
√						1	2		F27TS	Technology in Society	15		7	
√						1	2		F27CS	Introduction to Computer Systems	15		7	
√						1	2		F27WD	Web Design & Databases	15		7	
STAGE 2														
√						2	1		F28IN	Interaction Design	15		8	
√						2	1		C18FM	Fundamentals of Marketing	15		8	
√						2	1		C17EB	Management in a Global Context	15		7	
√						2	1		C19PT	Project Management	15		9	
√						2	2		F28SD	Software Design	15		8	
√						2	2		F28DM	Database Management Systems	15		8	
√						2	2		F28CD	Creative Design Project	15		8	
√						2	2		C18OP	Operations Management	15		8	
STAGE 3														
√						3	1		F29SO	Software Engineering	15		9	
√						3	1		F29KM	Knowledge Management	15		9	
√						3	1		F29CT	Critical Thinking	15		9	
√						3	1		C18HM	Human Resource Management	15		8	
√						3	2		F29PD	Professional Development	15		9	
√						3	2		F29SS	Sociotechnical & Soft Systems	15		9	
√						3	2		C18OB	Organisational Behaviour	15		8	
√						3	2		C19MC	Marketing Communications	15		9	
STAGE 4														
√						4	1		F20PA	Project: Research Methods & Requirements Engineering	15		10	
√						4	2		F20PB	Project: Design & Implementation	15		10	
√						4	2		F20PC	Project: Testing & Presentation	15		10	

7. OPTIONAL COURSES

Edinburgh/ Orkney/SBC	HWUM	Dubai	ALP	IDL	Collaborative Partner	Stage	Semester	Phase (Part-	Courses: (Please highlight any new courses and include the course descriptors) Code / Course Title		Credit Value SCQF	MQA	SCQF Level	Notes
									STAGE 4					
√						4	1		F20CL	Computing in the Classroom	15		10	Student choose
√						4	1		F20DO	Design for Online Learning	15		10	3 courses in
√						4	1		F20IF	Information Systems Methodologies	15		10	semester 1 and
√						4	1		C10CW	The Contemporary Workforce	15		10	2 courses in
√						4	1		C10RS	Retail Marketing	15		10	semester 2
√						4	2		C10SR	Business Ethics	15		10	
√						4	2		F20AD	Advanced Interaction Design	15		10	
√						4	2		F20DE	Digital & Knowledge Economy	15		10	
√						4	2		F20EC	E-Commerce Technology	15		10	
√						4	2		C10DM	Digital Marketing	15		10	
√						4	2		C10SM	Marketing & management in SME's	15		10	
√						4	2		F20BD	Big Data Management	15		10	

8. ELECTIVES (please provide a detailed description and course lists where possible)

Stage 1:	Any SCQF Level 7 course, which must be approved by the Board of Studies
Stage 2:	
Stage 3:	
Stage 4:	
Stage 5:	

PROGRAMME NOTES

9. COMPOSITION & STAGE NOTES e.g. xx taught Courses (xx mandatory & xx optional)

Stage 1:	8 taught courses, 7 mandatory plus one elective
Stage 2:	8 taught courses, all mandatory. Direct entrants to Stage 2 and internal transfers from other degrees will be expected have an appropriate background in programming and database technology
Stage 3:	8 taught courses, all mandatory Direct entrants to Stage 3 will be expected have appropriate programming experience and background knowledge. Candidates shall pursue a group project throughout the year, which shall be synoptically assessed in conjunction with material from the associated courses (F29SO and F29PD).
Stage 4:	8 taught courses , 3 mandatory and 5 optional In any one year not all optional courses may be offered. Guidance in course choice will be given by academic Personal Tutors. Students must apply to take the course F20CL Computing in the Classroom prior to the end of Stage 3 to allow time for placements to be organised. Candidates are required to undertake an individual dissertation project which shall run throughout the year.

10. NOMINAL PASS MARK/GRADE			11. SUMMARY OF ASSESSMENT METHODS *(Expressed as a percentage)*			
(Highlight any changes)	**Mark**	**Grade**	**Coursework:**	Varies in courses from 100% to 20%	**Examination:**	Varies in courses from 0% to 80%
Integrated Masters			**Variations in assessment methods across campuses/modes of study are as follows:**			
Honours	40%	D				
Ordinary	40%	D				
Diploma	40%	D				
Certificate	40%	D				

12. PROGRESSION REQUIREMENTS	
Part A. Minimum number of credits required to progress through each stage are as follows	
Stage 1 to 2:	120 credits (8 courses)
Stage 2 to 3:	240 credits (16 courses)
Stage 3 to 4:	360 credits (24 Courses) and an overall exam average of 50% or above at the first attempt
Stage 4 to 5:	
Part B. Minimum grade D required in the following courses: *(progression requirements exceeding a grade D must be qualified)*	
Stage 1:	Software Development (F27SA), Interactive Systems (F27IS), Web Design & Databases (F27WD), Introduction to Computer Systems (F27CS), Enterprise and its Business Environment (C17EC)
Stage 2:	Interaction Design (F28IN), Database Management Systems (F28DM), Software Design (F28SD), Management in a Global Context (C17EB), Project Management (C19PT), Operations Management (C18OM), Fundamentals of Marketing (C18FM)
Stage 3:	6 courses including Software Engineering (F29SO) & Professional Development (F29PD). Re-assessment in Stage 3 is available for credit only and not to improve overall average
Stage 4:	

13. RE-ASSESSMENT OPPORTUNITIES				
The re-assessment policy for this programme is in line with University Regulations as set out below *(please tick)*	**Yes**	√	**No**	

If you have selected "No" please amend the statement below and highlight changes.

- ♦ A student who has been awarded a Grade E or a Grade F in a course may be re-assessed in that course.
- ♦ A student shall be permitted only one re-assessment opportunity to be taken at the Resit diet of examinations following the first assessment of the course.
- ♦ A student shall not be re-assessed in any qualifying course taken in the final stage of a course of study.
- ♦ The Progression Board may permit a student to be re-assessed in any qualifying course not taken in the final stage in order to gain credits for the course, provided that the mark or grade obtained in the first assessment of any such course is used in determining the classification of the degree to be awarded.

14. AWARDS, CREDITS & LEVEL				
The awards, credits and level for this programme is in line with University Regulations as set out below *(please tick)*	**Yes**	√	**No**	

If you have selected "No" please amend the statement below and highlight changes.

Part A. Credit Requirements	
Integrated Masters	N/A
Honours Degree *(inc MA)*	480 SCQF credits including a minimum of 180 credits at Level 9 and 10 of which at least 90 credits at Level 10
Ordinary or General Degree	360 SCQF credits including a minimum of 60 credits at Level 9
Diploma of Higher Education	240 SCQF credits including a minimum of 90 credits at Level 8
Certificate of Higher Education	120 SCQF credits including a minimum of 90 credits at Level 7

Part B. Mark/Grade Requirements	
Integrated Masters	N/A
Honours Degree *(inc MA)*	1st: Weighted Average >=70% over all qualifying courses at grades A-D 2.1: Weighted Average >=60% over all qualifying courses at grades A-D 2.2: Weighted Average >=50% over all qualifying courses at grades A-D 3rd: Weighted Average >=40% over all qualifying courses at grades A-D These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University Regulations
Ordinary or General Degree	Minimum of grade D in all pre-requisite courses These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University Regulations
Diploma of Higher Education	Minimum of grade D in all pre-requisite courses These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University Regulations
Certificate of Higher Education	Minimum of grade D in all pre-requisite courses These are default marks/grades. The Board of Examiners may exercise some discretion in accordance to University Regulations

Part C. Additional Award Requirements

A candidate who accumulates 360 credits at the appropriate SCQF levels from the 24 courses specified in the programme structure shall be eligible for the award of the Ordinary degree.

Honours degree classification is determined by performance in:
- ♦ Stage 3 averaged over all 8 courses (20%) at the first attempt
- ♦ The 5 assessed courses in Stage 4 (50%)
- ♦ The individual dissertation project in Stage 4 (30%)

15. ADDITIONAL PROGRAMME INFORMATION

16. Programme Accredited by	**British Computer Society**	**17. QAA Subject Benchmarking Group(s)**	Computing	**18. UCAS Code(s)**	G560

1. Programme Code(s) (*recruitment & exit awards*)		2. Programme Titles for all awards (*unabbreviated*)		3. Main Award(s) (*to be recruited to*)	4. Exit Awards (*for graduation only*)
F2IS-ISY/YYY/ZZZ *F2IR-IND/YYY* *F2II-INI/YYY* *F2IN-INM/YYY*		**Information Systems** *Information Systems (Interaction Design)* *Information Systems (Internet Systems)* *Information Systems (Management)*		**BSc (F2IS-ISY)** BSc (F2IR-IND) BSc(F2II-INI) BSc (F2IN-INM)	**BSc (Hons) (F2IS-YYY)** BSc (Hons)(F2IR-YYY) BSc (Hons)(F2II-YYY) BSc (Hons) (F2IN-YYY) BSc (Ord) (F2IS-ZZZ)

5. Type	6. Programme Accredited by	7. UCAS Code	8. School	9. QAA Subject Benchmarking Group(s)	10. Date of Production/ Revision
School specialist degree	British Computer Society	G560 & G590/G501/GN52	Mathematical & Computer Sciences	Computing	6 January 2009

Educational Aims of the Programme

The educational aim is to provide students with a unique blend of computer science, management and socio-technical systems. The course will prepare students with the technical, interpersonal, managements and design skills required for IS management within organisations. They will also be provided with professional skills which will enable graduates to communicate clearly, work independently and co-operate effectively. The balance of skills will enable graduates to work effectively and efficiently in industry, commerce and the public sector, and will prepare them for postgraduate study.

The Programme provides opportunities for learners to achieve the following outcomes:

Subject Mastery

Understanding, Knowledge and Cognitive Skills
- To develop knowledge and skills in the elicitation and analysis of user requirements, design and evaluation of solutions, and the implementation and quality assurance of the chosen solution.
- To develop skills in working with technology users and members of organisations to find tailored technological solutions.
- To know what general classes of problems are amenable to computer solution and be able to select the appropriate tools required for particular problems.
- To develop the knowledge and skills required to meet the challenges of emerging technologies and methodologies.
- To be aware of, and be able to respond to, statute law, directives, standards and emerging common law relating to the use of computers.
  To develop knowledge of the aspects of management required to understand the commercial and business contexts within which information systems are used.
- To develop the entrepreneurial skills required to identify and exploit opportunities which arise as a result of technological developments and new business paradigms.

Scholarship, Enquiry and Research
- To be able to identify and exploit new opportunities; to analyse problem spaces and design creative solutions; to appraise material and ideas; to apply a methodical and innovative approach to problem solving; to integrate theory and practice.

Personal Abilities	*Industrial, Commercial and Professional Practice* ♦ To maintain and update technical knowledge; to take responsibility for personal and professional development. ♦ To appraise the impact of computers on society and the influence of society on the development of the technology and use of computers. ♦ To assess aspects of the law related to computer-based information, or the role of standards in safety, quality and security, of security issues and of the BCS Codes of Practice and Conduct. *Autonomy, Accountability and Working with Others* ♦ To apply subject-mastery outcomes to monitor, analyse, model, specify, design, communicate, implement, evaluate, control and plan. ♦ Exercise autonomy and initiative by planning and managing their own work; develop strategies for independently solving problems and taking the initiative. ♦ Take responsibility for their own and other's work by contributing effectively and conscientiously to the work of a group, actively maintaining good working relationships with group members, and leading the direction of the group where appropriate. ♦ Reflect on roles and responsibilities by critically reflecting on their own and others' roles and responsibilities. ♦ Deal with complex professional and ethical issues including working with human subjects and wider issues relating to technology in society ♦ To be aware of, and be able to respond to, the social and legal implications and consequences of the use of computers. *Communication, Numeracy and ICT* ♦ Use discipline appropriate software for data analysis, prototyping and learning. ♦ Present, analyse and interpret numerical and graphical data ♦ Communicate effectively, informally or formally, to knowledgeable or lay audiences.

Approaches to Teaching and Learning:

Active group based classes, lectures, tutorials, practical classes, laboratories. Coursework, (assignments, individual projects, group projects, essays, reports, presentations, log/journals, dissertation). The course has been designed around a social constructivist approach to learning and will be based on active, experiential learning.

Approaches to teaching and learning are continually reviewed and developed with the aim of matching them to the abilities and experiences of students, with regard also for the subject area. Specific details about teaching and learning methods are provided in the appropriate course descriptors.

Assessment Policies:

The following assessment methods are used:

Understanding, knowledge and subject specific skills are assessed through the range of methods reflected by *written examinations, coursework assignments, software artefacts, group and individual projects, written reports and oral presentations. Diagnostic, formative, continuous and summative* types of assessment aim to correlate with methods of assessment.

Approaches to assessment are continually reviewed. Specific details about methods of assessment are provided in the appropriate course descriptors.

Information Systems

Course Descriptors

Year 1, Semester 1

The University reserves the right to withdraw or modify
the content of any course

Course Code: F27SA	Course Title: **Software Development 1**		Course Co-ordinator: **Katrin Lohan/Peter King**
Pre-requisites:			
Aims:	To introduce the object-oriented paradigm and the use of an object-oriented language		
Syllabus:	♦ Objects and classes ♦ Class definitions: fields, constructors, methods, parameters ♦ Selection and iteration ♦ Object interaction: abstraction, modularisation, types ♦ Grouping objects: collection classes, iterators, arrays ♦ Library classes, documentation ♦ Testing and debugging ♦ Designing classes: coupling, cohesion, main method		
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Understanding the object-oriented paradigm ♦ Awareness of the contrast with other programming paradigms ♦ Manipulating objects in an IDE ♦ Understanding and using documentation in an API - Reading, understanding, adapting, creating, and documenting object-oriented code		
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Sharing work with random partners in laboratories (pair programming) ♦ Deriving and creating own solutions to problems (PDP) ♦ Competence in the use of a command-line shell (PDP) ♦ Reading and evaluating code, and modifying it		
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)		Re-Assessment: Examination (weighting – 100%)

Course Code: **F27IS**	Course Title: **Interactive Systems**	Course Co-ordinator: **Frank Broz/Phil Barker**
Pre-requisites:	None	
Aims:	To give students an opportunity to explore current technological media and creative approaches	

Syllabus:	♦ Basic comparison and evaluation of designs and prototypes
	♦ Reflecting on one's own learning and progress
	♦ Development of Interactive Systems, for example
	  - Web site development: page layout, navigation, graphics, animation/interaction
	  - Game development using a current game authoring tool: level design, storyline, game mechanics	

Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ To give students experience of designing and developing an interactive system. ♦ To give students experience of evaluating and critiquing interactive systems.	
Learning Outcomes:: **Personal Abilities**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ To gain an awareness of the benefits and pitfalls of different approaches to multimedia project work ♦ To raise awareness of the legal and ethical responsibilities within the discipline ♦ To appreciate and enjoy the challenges of creative work (PDP) ♦ To take responsibility for one's own learning and managing workload (PDP) ♦ For students to appreciate their own strengths and weaknesses, and what is possible within time constraints (PDP) ♦ To develop skills in written, oral and media based communication (PDP) ♦ To present solutions to design challenges in the subject area (PDP) ♦ To develop experience and skills in giving and receiving constructive criticism (PDP)	
Assessment Methods:	Assessment: Coursework: (weighting – 100%)	Re-assessment: Examination: 100%

Course Code: F27PX	Course Title: Praxis		Course Co-ordinator: Tessa Berg

Pre-requisites:	None
Aims:	♦ To instruct students in undertaking self-directed study ♦ To instruct students in presenting their findings ♦ To acquaint students with the work of the department ♦ To deepen students' understanding of the degree courses for which they are registered ♦ To familiarise students with the computer systems used by the department ♦ To present skills that students could useful use to become successful students
Syllabus:	♦ Writing reports; sources and referencing; group presentation; the matter of plagiarism ♦ Current departmental research ♦ Exploration of the departmental computer system ♦ Study skills
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Acquaintance with new research in computing ♦ Consideration of difficult and even perplexing ideas in their chosen field of study ♦ Knowledge of and ability to use departmental computer systems
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Undertaking responsibility for self-directed research ♦ Assimilating information from multiple sources ♦ Analysing results to formulate conclusions ♦ Writing reports to professional standards ♦ Constructively evaluating the work of peers ♦ Reacting sensibly to peer evaluation ♦ Re-writing work in response to criticism ♦ Co-operating in a group to investigate a complex topic ♦ Making spoken and visual presentations ♦ Acquiring study skills that can be used for both academic studies and later in a professional context
Assessment Methods:	Assessment: Coursework: (weighting – 100%)	Re-assessment: Coursework: 100%

Elective

You should choose one of the following courses to take in semester 1:

Course Code	Semester	Course Title
A17IB	1	Introductory Biology
C97NY	1	Introduction to Psychology 1
C27OA	1	Introductory Economics
C47AX	1	Arabic Beginners Elective 1
C47BX	1	British Sign Language 1
C47CE	1	Chinese Beginners Elective 1
C47FI	1	French Intermediate Elective 1
C47FX	1	French Post-Beginners Elective 1
C47GE	1	Gaelic Beginners Elective 1
C47GP	1	German Post-Beginners Elective 1
C47GX	1	German Beginners Elective 1
C47SP	1	Spanish Post-Beginners Elective 1
C47SX	1	Spanish Beginners Elective 1
F17LP	1	Logic & Proof

For further information on electives, see the links below:

C-Coded courses
http://www2.hw.ac.uk/sml/undergraduate/2016-2017/courses/index.html

F17LP
http://www.ma.hw.ac.uk/maths/courseinfo/F17LP1

You will need to physically input the code for this elective in your online registration!

Information Systems

Course Descriptors

Year 1, Semester 2

Course Code: **C17EC**	Course Title: **Enterprise and its Business Environment 1**	Course Co-ordinator: **Norin Arshed/Julie MacFarlane**
Pre-requisites:	None	
Aims:	In line with QAA subject benchmarks on Business and Management, the aim of this course is to examine both the interface between and influence upon organisations and their external environment. In addition the course also has aims to meet other QAA benchmarks on business notably that students are able to `demonstrate relevant knowledge and understanding of organisations, the external environment in which they operate'. The field of study is line with the definition offered within paragraph 3.5 of the QAA benchmark document which defines the external environment as the 'wide range of factors, including economic, environmental, ethical, legal, political, sociological and technological, together with their effects at local, national and international levels upon the strategy, behaviour and management of organisations'. In meeting this objective the course will also address a range of `contemporary and pervasive issues' that will inform the interface between the organisation and its external environment	
Syllabus:	This course will cover the following: ♦ The organisation and its political environment (e.g. the role of political stability, etc.) ♦ The organisation and its economic environment (e.g. Economic systems etc) ♦ The organisation and its social environment and context (e.g. Demographics, etc) ♦ The organisation and its technological environment (e.g. The rise of internet based commerce, innovation, etc) ♦ The organisation and the natural environment (e.g. Issues of sustainability, etc) ♦ The organisation and its legal environment (e.g. regulations, etc) This will look at a range of issues that will shape the enterprise and its interface with the contemporary business environment. The syllabus will be flexible and responsive to changing events, themes and processes.	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Appreciate the role of the organisation in the context of its external environment ♦ Demonstrate an awareness of the external environment ♦ Understand core frameworks for assessing, managing and coping with change in the External environment ♦ Demonstrate a knowledge of markets, and a range of pervasive issues ♦ Ability to examine evidence of the business/environment interface	
Learning Outcomes:: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Demonstrate effective oral and written communication ♦ Undertake problem solving with regards to business environments ♦ Demonstrate the potential to undertake critical thinking ♦ Ability to undertake self-directed study ♦ Effective self-management	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: **F27TS**	Course Title: **Technology in Society**	Course Co-ordinator: **Lilia Georgieva/Fiona McNeill**

Pre-requisites:	
Aims:	This course explores a range of issues concerning the impact of technology on society. It uses writing and film to provoke and express debate. Students will read and critically assess books, essays, short stories, and films which describe issues in the field. In reports, small group discussions and stories of their own, students will explore ways of expressing complex ideas in writing ♦ To survey some of the issues relating to the development of technology in a social context ♦ To develop analytic and critical approaches to reading and viewing ♦ To develop an ethical view of technology
Syllabus:	♦ Literature engaging with technology in society ♦ Reading and viewing critically ♦ Fiction as a vehicle for ideas ♦ Presenting ideas in writing and story telling
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Knowledge of some of the literature and films discussing ethical and moral issues relating to technology ♦ Techniques for critically evaluating works of literature and films ♦ Construction of narrative to convey issues ♦ Key moral, ethical and social issues relating to technology
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Critical reading and viewing (PDP) ♦ Understanding the importance of morally guided decision making (PDP) ♦ Debating skills to examine issues.(PDP) ♦ Structuring an argument (PDP) ♦ Use of VLE as a means of learning, contributing and discussing

Assessment Methods:	Assessment: Coursework: (weighting – 100%)	Re-assessment: Coursework: (weighting – 100%)

Course Code: **F27CS**	Course Title: **Introduction to Computer Systems**	Course Co-ordinator: **Peter King**
Pre-requisites:		
Aims:	♦ To introduce students to modern computer systems architecture ♦ To give students an appreciation of logical design and data representation	
Syllabus:	♦ Overview. ♦ Hardware components - peripherals, memory & CPU. ♦ Boolean algebra. ♦ Low-level information representation. ♦ CPU organisation. ♦ Introductory assembly language programming. ♦ Operating system: I/O; interrupts; scheduler; virtual memory; file system. ♦ Concurrency: processes; threads; synchronisation; shared & distributed memory; distributed & parallel architectures. ♦ Language processors: compiler; interpreter; assembler; loader. ♦ Linux shell scripting	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Overview of hardware/software hierarchy in contemporary computer systems; ♦ Understanding of purpose and function of major system hardware and software components; ♦ Understanding of information representation in computer systems; ♦ Ability to write Linux shell scripting	
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ To be able to express arguments/problems in propositional and predicate calculus. ♦ To be able to communicate in using formal notations	
Assessment Methods:	Assessment: Examination: (weighting – 70%) Class Tests: (weighting – 20%) Coursework: (weighting - 10%)	Re-assessment: Examination: (weighting – 100%)

Course Code: F27WD	Course Title: Web Design and Databases	Course Co-ordinator: Santiago Chumbe/ Frank Broz

Pre-requisites:	
Aims:	To develop knowledge and understanding of fundamental web design concepts and combine these with database structuring and querying techniques applying this knowledge by implementing an easy-to-use website.
Syllabus:	♦ Introduction to web development. ♦ Information architecture. ♦ Web design and usability. ♦ Fundamentals of Mark-up and CSS. ♦ Introduction to database systems. ♦ Databases and Information Systems. ♦ Modelling of data/entity-relationship modelling. ♦ The relational data model. ♦ The Structured Query Language (SQL). ♦ Web-based database applications including the use of PHP.
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ To explain fundamental web design concepts including usability. ♦ To implement a simple web site which satisfies current standards and uses a database. ♦ To describe the use of CSS and mark-up within a web site and the advantage this gives the developer. ♦ To describe the need for standard XHTML and how this aids cross browser compatibility. ♦ To have knowledge and understanding of data analysis and structuring techniques. ♦ To design database structures as a relational data model. ♦ To implement and query a designed database structure through a web site.
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ To analyse complex information and organise it in a structured way for a web site. ♦ To understand stakeholders' requirements and address them. ♦ To design a web site that is easy and cost efficient to manage. ♦ To analyse data sources and represent them in an efficient structured form. ♦ Problem solving (PDP). ♦ Paired work (PDP). ♦ Time management (PDP). ♦ Reflection, constructive criticism and learning from peers (PDP).
Assessment Methods:	Assessment: Examination:(weighting – 60%) Coursework: (weighting – 40%)	Re-Assessment: Examination: (weighting – 100%)

Information Systems

Course Descriptors

Year 2, Semester 1

Course Code: F28IN	Course Title: Interaction Design	Course Co-ordinator: Diana Bental/Helen Hastie
Pre-requisites:	F27IS Interactive Systems or other prior learning approved by MACS	
Aims:	The course aims to give students the opportunity to develop: ♦ A broad knowledge and understanding of requirements gathering, design and evaluation theory and techniques in interaction design. ♦ An introduction to commonly used design techniques and pattern for user interfaces. ♦ A selection of routine skills and methods involved in working with users.	
Syllabus:	Current topics in Interaction Design including: interaction design lifecycles, user interface design patterns, basic qualitative and quantitative data gathering and presentation techniques, accessibility.	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Critically analyse interaction design and interfaces. ♦ Propose solutions in response to interface design problems ♦ Evaluate the effectiveness of user interfaces with respect to user requirements.	
Learning Outcomes:: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Use discipline appropriate software for data analysis, ♦ Present, analyse and interpret simple numerical and graphical data gathered as part of evaluation studies. (PDP) ♦ Communicate effectively to knowledgeable audiences by preparing informal presentations and written reports. (PDP) ♦ Exercise autonomy and initiative by planning and managing their own work within a specified project; (PDP) ♦ Take responsibility for their own and other's work by contributing effectively and conscientiously to the work of a group (PDP)	
Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: Examination: (weighting – 100%)

Course Code: **C18FM**	Course Title: **Fundamentals of Marketing**	Course Co-ordinator: **Norin Arshed**

Pre-requisites:	None	
Aims:	This course aims to provide foundational knowledge of marketing theory and practice. Students will be encouraged to critically reflect on the role played by marketing within society and within the field of management practice. The course reading, lectures and tutorials combine to develop awareness of UK and International marketing problems and the role of marketing theory in developing solutions to those problems.	
Syllabus:	The syllabus will cover a range of issues concerning the course topic. An indicative syllabus is as follows: Examination of the key principles behind marketing practice; defining marketing activity and exploring the application of marketing frameworks and models (i.e. product management, promotional activity, distribution and pricing) and the potential consumer response.	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Define and explain the marketing terms and concepts addressed in the course ♦ Critically assess the role of marketing within the wider business environment ♦ Demonstrate a knowledge of current marketing issues and problems faced by organizations ♦ Understand the issues involved in the implementation of marketing programmes ♦ Apply principles and theoretical concepts to problems faced by marketing managers, and also explore potential remedies through the use of case study analysis ♦ Undertake independent research of trends within identified industry sectors ♦ Undertake independent reading and evaluation of a range of academic and practitioner literature both on and offline.	
Learning Outcomes:: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* The student should be able to: ♦ Transfer theoretical and practical problem-solving skills to identify solutions for problems found within marketing contexts ♦ Demonstrate an interest and awareness in current developments in marketing ♦ Work effectively independently to fulfil coursework assignment ♦ Work as part of a small team to fulfil tutorial assignments. ♦ Be able to use ICT resources to produce presentations, communicate and gather information ♦ Communicate and present ideas effectively by verbal and written means	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: C17EB	Course Title: Management in a Global Context	Course Co-ordinator: Kevin Gorman
Pre-requisites:	None	
Aims:	♦ To enable students to acquire and develop understanding, knowledge and skills related to business management ♦ To develop student knowledge of the internal environment of the enterprise and its operations ♦ Based on a value chain framework the course examines how businesses are organised to seek to fit internal and external operating environments. ♦ To develop understanding of organisational forms and structures ♦ To introduce students to the marketing function and business planning. ♦ To develop student understanding of the interconnectedness between core elements of the business and its operation ♦ To enhance business skills via an understanding of the practical application of theoretical knowledge through assessment and guest speakers (As available). ♦ To assist the development of skills (particularly critical evaluation of academic research, diagnostic, problem solving, team/group working, communication, written, presentation and IT skills) through the both formative classroom based work and summative assessment	
Syllabus:	The indicative syllabus includes but is not limited to the following: ♦ Business plans ♦ The marketing function ♦ The entrepreneur ♦ Innovation ♦ The human element ♦ Operations, logistics and the value chain	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ The ability to analyse, evaluate, and report on the internal organisation of business and to contextualise this knowledge within the broader market. ♦ The development and application of problem-solving skills to a range of theoretical and practical challenges ♦ The ability to apply management frameworks and theoretical concepts to a case study organisation (linking theory to practice). ♦ The ability to research and select secondary research into business management trends both independently and in groups (specifically through the coursework component of the course) ♦ The ability to critically evaluate and assess empirical and theoretical evidence from management research.	
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* Students gain the opportunity to develop their personal ability in the following areas: ♦ The opportunity to develop insight into a range of business practice through case study and practitioner talks ♦ The ability to transfer theoretical and practical problem-solving skills to a variety of contexts. ♦ The ability to work independently and as part of a group. Tasks might include tutorial discussion and debate. ♦ The ability to communicate and present ideas effectively by verbal and written means.	

	♦ The ability to develop an interest in current developments in business management ♦ The ability to know how to use a range of online sources of knowledge through both library databases and WWW.	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: C19PT	Course Title: Project Management	Course Co-ordinator: Amos Hanif
Pre-requisites:	None	
Aims:	♦ To provide students with the a basic understanding of the principles, concepts and theory of modern project management ♦ To equip students with a generic set of quantitative and qualitative project planning and control tools and techniques ♦ To demonstrate the importance of project management as specialism in its own right, and the potential contribution that it can make to an organization ♦ To provide a source of ideas and a guide to new approaches that can be used by individuals in the execution of their work ♦ Define the role and current issues faced by project managers ♦ To provide basic training in the Microsoft Project scheduling software package	
Syllabus:	The syllabus covers a range of issues regarding the course topic. An indicative syllabus is: ♦ Introduction to project management ♦ Projects, definition and scoping ♦ Project breakdown structures and project organisation structures ♦ Project scheduling ♦ Project estimating and budgeting ♦ Project control and monitoring ♦ Team-building and leadership ♦ Project quality, risk management and contingency planning ♦ Project closure	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* Students will be able to: ♦ Critically apply project tools to control and manage projects ♦ Understand and analyse risks ♦ Effectively contribute to and lead teams ♦ Develop analytical and problem-solving skills ♦ Develop contingency planning skills	
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* Students will be able to: ♦ Demonstrate ability to apply project management skills ♦ Demonstrate team-working abilities. ♦ Demonstrate leadership skills ♦ Develop knowledge and application of project management software ♦ Develop communication and presentation skills	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Information Systems

Course Descriptors

Year 2, Semester 2

Course Code: **F28SD**	Course Title: **Software Design**	Course Co-ordinator: **Patricia Vargas/tbc**

Pre-requisites:	
Aims:	♦ An introduction to a range of processes and methods that promote the design of high quality software systems. ♦ A perspective of where design sits within the development life-cycle.
Syllabus:	♦ Software process models; ♦ Architectural styles; ♦ Design methods and associated notations – including function-oriented, object-oriented and component-based design; design patterns; ♦ Software development life-cycle issues, with particular focus on requirements engineering, validation and verification (testing).
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ To demonstrate a critical understanding of software process models and design methods. ♦ To be able to develop design solutions using a range of structured notations. ♦ To demonstarte a critical understanding of the context in which software design takes place, in particular requirements engineering and the activities of validation and verification (testing).
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Take responsibility for own work and exhibit critical reflection on development process. (PDP) ♦ To be able to use appropriate methods and standards for practice and documentation in software engineering and information systems. ♦ Demonstrate evidence based approaches to problem solving. ♦ Use a range of numerical and graphical skills in evaluating and communicating ideas, as well as measuring progress toward achieving goals.

Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: Examination: (weighting – 100%)

Course Code: F28DM	Course Title: **Database Management Systems**	Course Co-ordinator: **Alasdair Gray**
Pre-requisites:	F27WD Web design & Databases *or equivalent*	
Aims:	To familiarise students with the principles of database management systems, to enable them to design and implement databases for specific applications and to integrate databases with application programs.	
Syllabus:	**Database Design:** data requirements, entity relationship diagrams, relational data model, integrity constraints, key constraints, types, integrity maintenance **Relational Queries:** SQL, Boolean combinations of queries, aggregation, duplicate elimination, nested queries, negation, views, insertions, deletions, updates, command level interfaces, integration with programming application **Query execution and optimisation:** data storage principles, file organisation, indexing, indexes in commercial DBMSs, relational algebra, query execution plans, cost estimation of plans, interpretation of plans, physical database design **Concurrency:** transactions, schedules, serialisability, concurrency control protocols, locking, two-phase-locking, time stamp based concurrency control. **Emerging Database Trends:** data warehousing, distributed databases, and alternative database models such as XML, document, object, and graph stores	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Broad knowledge and understanding of the concepts and formalisms of database design ♦ Detailed knowledge of the building blocks and meaning of relational database queries ♦ Critical understanding of the principles of query evaluation and concurrency control underlying database applications ♦ Practice in the collection of data requirements and the design of conceptual database schemas ♦ Evaluation of emerging database trends and ability to understand their benefits	
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Practice in working on a development project in small groups (PDP) ♦ Practice in defining the subject and scope of a development project (PDP) ♦ Deconstructing a problem and synthesizing a solution (PDP) ♦ Time management (PDP).	
Assessment Methods:	Assessment: Examination: (weighting – 70%) Coursework: (weighting – 30%)	Assessment: Examination: (weighting – 100%)

Course Code: F28CD	Course Title: Creative Design Project	Course Co-ordinator: Jenny Coady/tbc
Pre-requisites:	Interactive Systems (F27IS), Web Design & Databases(F27WD) *or equivalent*	
Aims:	♦ To consolidate multimedia design, prototyping and implementation skills through a realistic project. ♦ To develop an appreciation and experience of group processes	
Syllabus:	♦ Introduction to multimedia scenarios and prototyping ♦ Introduction to group processes ♦ Conduct multimedia project in structured stages: develop scenario, construct/evaluate prototype, iterative refinement to implementation, documentation, evaluation	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ To integrate multimedia design and programming knowledge. ♦ To develop proficiencies in multimedia application design.	
Learning Outcomes:: **Personal Abilities**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ To gain practical experience of design, integration and coordination in the context of a realistic project. ♦ To acquire group work skills (PDP). ♦ Developing personal responsibility for managing projects and updating course co-ordinator on progress (PDP). ♦ Understanding different perspectives on a project (PDP).	
Assessment Methods:	Assessment: Coursework: (weighting – 100%)	Re-assessment: Coursework: (weighting – 100%)

Course Code: C18OP	Course Title: Operations Management	Course Co-ordinator: Abhijeet Ghadge
Pre-requisites:	None	
Aims:	♦ To acquire knowledge about managing operations & resources in organisations of various sizes; private, public & not-for–profit. ♦ To explore basic strategic & managerial perspectives & frameworks of operating systems. ♦ To develop an understanding of the many internal & external factors that impact on the development of effective operating systems. ♦ To recognise & appreciate the role of technology & its impact on operations management. ♦ To appreciate the impact decisions made by operations managers have on an organisation's competitive performance. ♦ To evaluate the role of the Operations Manager. ♦ To explore the international dimension of Operations Management.	
Syllabus:	The syllabus covers a range of issues regarding the course topic. An indicative syllabus is: ♦ Operations management and strategy ♦ Social, environmental and economic performance ♦ Product and service design ♦ Process design ♦ Facilities location, layout and flow ♦ Supply network design ♦ Capacity management ♦ Inventory management ♦ Planning and control ♦ Lean synchronisation ♦ Quality and operations improvement	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* The learner will be able to: ♦ Describe & explain the operations management concepts and techniques which can be used to support management decision making. ♦ Understand and use new developments in operations management thinking. ♦ Solve real operational problems by the application of theoretical and analytical operational models. ♦ Develop the ability to research a particular dimension of operations management. ♦ Develop analytical & evaluation skills.	
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* The learner will be able to: ♦ Demonstrate an interest and awareness of current developments in operations management. ♦ Explain the subjective, ever-changing and uncertain nature of the environment within which operations managers operate ♦ Work independently and as part of a group. ♦ Develop time and project management skills ♦ Communicate and present ideas effectively by written and verbal means.	
Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: Examination: (weighting – 100%)

Information Systems

Course Descriptors

Year 3, Semester 1

Course Code: **F29SO**	Course Title: **Software Engineering**	Course Co-ordinator: **Helen Hastie**
Pre-requisites:	F28IN Interaction Design, F28DM Database Management Systems, F28SD Software Design, *or equivalent*	
Aims:	♦ To equip students with knowledge and skills for the effective management of a group project which encompasses the software development lifecycle ♦ To enable students to reinforce their knowledge and skills gained in software processes, internet technology, database management and interaction design ♦ To build students understanding, knowledge and skills in teamwork, software development in groups, and project planning. ♦ To enable students to develop a broader understanding of the interrelationship of development life-cycles and a critical capability in the selection of tools and methods to support project planning, systems analysis, requirements capture, and system specification.	
Syllabus:	♦ Review and extension of the components studied in earlier years which contribute to the group project ♦ Software project management including working in groups, project planning and costing, risk assessment ♦ Use of Industry-level Standards for software development and documentation, covering aspects such as change control and requirements traceability ♦ Further study of software development tools, especially version control	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ A broad and integrated understanding and knowledge of the various development and programming paradigms, software development life-cycles, teamwork and project planning ♦ Detailed theoretical and practical knowledge of the use of methodologies for requirements capture, iterative design, resource capture and management, deployment and evaluation of systems, at a basic level ♦ Practice in the use of object-oriented programming, databases, scripting and markup languages applied to a substantial project	
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Identification, critical analysis and evaluation of the development of a software system (PDP) ♦ Practice in working in a group, negotiating requirements, reaching a consensus, taking responsibility for own work, taking part in a presentation, and working with others to a deadline (PDP) ♦ Appreciation of the interrelationship of knowledge domains	
Assessment Methods:	Assessment: Group Project: (weighting - 50%) Examination: (weighting – 40%) Coursework: (weighting – 10%) Synoptic with F29PD Professional Development	Re-assessment: Coursework (individual): (weighting – 100%)

Course Code: **F29KM**	Course Title: **Knowledge Management**	Course Co-ordinator: **Jenny Coady**

Pre-requisites:	None	
Aims:	♦ To provide students with an overview of information and knowledge management in organisations ♦ To critically evaluate a range of methods used to develop strategies for information and knowledge management ♦ To examine the role that knowledge and users play in the learning organisation ♦ To critically evaluate the value of knowledge and IT for competitive advantage	
Syllabus:	♦ Information and Knowledge Management in Organisations ♦ Principles of Knowledge Management: information mapping and information audits ♦ Knowledge elicitation and representation ♦ Information strategy development ♦ Knowledge and IT for competitive advantage and as a corporate resource ♦ The learning organisation ♦ Planning for Knowledge Management within an organisation and the ethical issues which arise	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Differentiating between Data, Information and Knowledge ♦ Understand and evaluate theories and practices of knowledge management in organisations ♦ Critically evaluate the value of knowledge and IT for competitive advantage ♦ Compare and contrast methods to develop strategies and planning for knowledge management within organisations ♦ Examine the rise of the concept of the Learning organisation and how it can aid in competitive advantage	
Learning Outcomes: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Evaluating policies and strategies ♦ Planning for large scale organisations ♦ Ability to manage directed reading with self research (PDP) ♦ Report writing and demonstrating argument development (PDP) ♦ Use of technology as a means of learning, contributing and discussing (PDP)	
Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: Examination: (weighting – 100%)

Course Code: **F29CT**	Course Title: **Critical Thinking**	Course Co-ordinator: **Phil Barker/Fairouz Kamareddine**

Pre-requisites:	None	
Aims:	The course aims to give students the opportunity to develop general thinking skills which will be useful to them throughout their studies and future lives. They will gain knowledge and experience of: ♦ *Critical thinking* including assessing credibility of evidence, assessing and developing arguments, resolving dilemmas and critical reasoning. ♦ *Cognitive strategies and meta-cognitive skills* including the capacity to evaluate and switch thinking strategies when appropriate.	
Syllabus:	Logical fallacies, critical thinking case studies drawn from topical media reports, effective strategies for problem solving, cognitive tools, flaws in human reasoning, experimental design, descriptive and inferential statistics. Use of solution techniques from other disciplines in problem solving. Reporting and explaining solutions using a wide range of formats and notations, including textual, graphical and symbolic forms.	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* Students will develop skills in the following areas: ♦ Critically analysing arguments in written or verbal form. ♦ Monitoring and evaluating the effectiveness of their thought processes and problem solving techniques ♦ Evaluating statistical and experimental methodologies ♦ Communicating ideas and solutions to others, including those from other disciplines.	
Learning Outcomes: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* Students will develop skills in the following areas: ♦ Analyse and interpret numerical and graphical as evidence for an argument ♦ Communicate critical thinking effectively to non-expert audiences. ♦ Exercise autonomy and initiative by planning and managing their own work (PDP); ♦ Take responsibility for their own and other's work by contributing effectively and conscientiously to the work of a group (PDP).	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: C18HM	Course Title: Human Resource Management	Course Co-ordinator: Robert Graham

Pre-requisites:	None
Aims:	♦ To introduce students to the role of managing people in organizations ♦ To enable students to develop an understanding of key human resource management functions ♦ To encourage critical understanding of current thinking and approaches in the field ♦ To critically evaluate the theory and reality of human resource management through practical case studies
Syllabus:	♦ Introduction to HRM ♦ Resourcing ♦ Performance Management ♦ Human Resource Development ♦ Reward Management ♦ Equality and Diversity ♦ Employee Relations
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Understand the key issues in Human Resource Management (HRM) from the perspective of senior and middle managers and employees ♦ Understand the role played by HRM in achieving business success ♦ Develop and understanding of the key HRM activities and functions in organizations ♦ Understand the key operational issues and problems which concern the HR specialist
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Apply analytical, communication and written skills through tutorials, assignment and exams ♦ Expand knowledge of key HR issues through practical case studies ♦ Work effectively in pairs and groups ♦ Analyse and provide solutions to practical human resource problems

Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: Examination: (weighting – 100%)

Information Systems

Course Descriptors

Year 3, Semester 2

Course Code: F29PD	Course Title: Professional Development	Course Co-ordinator: Nick Taylor

Pre-requisites:	F28IN Interaction Design, F28DM Database Management Systems, F28SD Software Design, *or equivalent*
Aims:	♦ To instil a professional and ethical attitude toward the application of computer technology ♦ To introduce methods for the rational resolution of ethical problems ♦ To provide an appreciation of the relevant professional and legal requirements concerning computer-based systems ♦ To ensure an awareness of, and encourage deliberation about, the social implications of information technology
Syllabus:	♦ **Professionalism -** British Computer Society. ♦ **Rules & Regulations -** Codes & Standards; Computer Law; Ethical Decision Making. ♦ **Risks & Threats -** Computer Crime; Viruses. ♦ **Privacy & Security** – Databases; Biometrics. ♦ **Dependence & Change -** Safety-Critical Systems; Technology & Society. ♦ **Brave New Worlds -** Co-operative Computing; *e*Life.
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ **British Computer Society Codes -** Conduct; Practice ♦ **ISO & BSI Standards -** Safety; Quality; Security ♦ **Statute Law -** Contracts, Torts, Restitution; Data Protection; Freedom of Information, Intellectual Property; Computer Misuse ♦ **Ethics -** Frameworks; Decision Making o Development life-cycle of a software system o Bi-directional influence between technological and societal trends o Current concerns over the application of computer technology o Current and potential remedies to abuse of computer technology
Learning Outcomes: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Practice in personal decision making and introspection ♦ Identification and analysis of justification of personal choices to others ♦ Critical analysis of rational reasoning, consequential reasoning and debate ♦ Practice and reflective analysis of communication skills using a variety of media ♦ Practice in working in a group, negotiating requirements, reaching a consensus, and working with others to a deadline
Assessment Methods:	Assessment: Group Project: (weighting - 50%) Examination: (weighting – 40%) Coursework: (weighting – 10%) Synoptic with F29SO Software Engineering	Re-assessment: Coursework (individual): (weighting – 100%)

Course Code: **F29SS**	Course Title: **Sociotechnical & Soft Systems**	Course Co-ordinator: **Jenny Coady**

Pre-requisites:	None
Aims:	The course aims to give students the opportunity to develop an understanding and an ability to apply Check land and Wilson's Soft Systems Methodology (SSM). They will be introduced to systems thinking as a means of analysing the whole context of an information system. The use of techniques such as rich pictures and other diagrammatical notations will be used to allow analysis to incorporate all stakeholders. Students will learn to adopt a critical approach of evaluating socio-technical systems based on an understanding of their role as a reflective fractioned. Examine the underlying frameworks, understand the issues that arise when characterizing problems and practical use of these skills will be developed through exercises based on case studies.
Syllabus:	♦ The problem situation unstructured ♦ The problem situation expressed ♦ Root definitions of relevant systems ♦ Making and testing conceptual models ♦ Comparing conceptual models with reality ♦ Identify feasible and desirable changes ♦ Action to improve the problem situation Systems thinking ♦ Socio-technical systems methods ♦ Modelling frameworks and issues ♦ People centred solutions ♦ Check land's theories and thinking
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Critically analyze system problems from a holistic perspective. Understand and evaluate the theory behind systems thinking and Checkland's theories ♦ Analysing problems using systems thinking ♦ Critically evaluate socio-technical systems methodologies ♦ Compare and contrast the frameworks and methods used within the field ♦ Propose and reflect on solutions to problems. ♦ Determine the effectiveness of conceptual models in capturing reality ♦ Examine the rise of people centred solutions in the modern organisation
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Identify stakeholders and their interests in solving a problem and evaluating methods and frameworks for solving problems ♦ Employ a range of modelling techniques to capture and communicate key aspects of a system ♦ Inform and guide the solution of problems within and improvements to systems ♦ Understanding the people / cultural aspects of the Information Systems field ♦ Ability to use directed reading, and critically evaluate articles and develop learning through case studies ♦ Report writing and demonstrating argument development ♦ Use of VLE as a means of learning, contributing and discussing
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: **C18OB**	Course Title: **Organisational Behaviour**	Course Co-ordinator: **Robert Graham**

Pre-requisites:	None
Aims:	The aim of this course is to introduce students to the field of study of Organisational Behaviour. Organisational Behaviour (OB) is concerned with human behaviour at work, at the individual, group and organisational level. The overriding purpose of OB is to enable organisations and their managers to improve productivity, reduce levels of absenteeism and staff turnover, and increase the satisfaction and motivation of employees. Organisational Behaviour can be defined as the systematic study of human behaviour within organisations and seeks to understand, influence, and predict human behaviour within organisations. Organisation Behaviour is a relatively new field of study that will enable managers and their employees to cope with the rapid changes that are occurring in organisations, and to find a best way to manage organisations**.**
Syllabus:	The syllabus covers a range of issues regarding the course topic. An indicative syllabus is: ♦ The background, history, study, development, and importance of organisational behaviour ♦ The role of individual differences such as personality, perception, job satisfaction, emotional intelligence, and organisational commitment ♦ How employees learn, and the techniques of reinforcing learning, including schedules of reinforcement, behaviour modification, the learning organisation and knowledge management ♦ The differences between power, politics and influence in organisations, their sources, how they are employed and controlled, and the ethics of organisational power ♦ Techniques of and ideas about leadership including transactional, transformational, and ethical leadership, and the importance of followership ♦ Group dynamics, the roles people play in groups, group norms, and group decision-making; the causes and management of conflict within organisations ♦ How the culture of an organisation develops and is maintained, international differences in organisational culture, and how the culture of an organisation might be changed ♦ Stress at work, its sources, outcomes, and management
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Understand the development of Organisational Behaviour. ♦ Understand and appreciate the problems facing managers at work. ♦ Develop an awareness of Organisational Behaviour as it currently affects organisations from newspapers, professional journals and the Internet. ♦ Understand the different research methods used in Organisational Behaviour. ♦ Examine the findings of researchers in Organisational Behaviour. ♦ Use the WWW to determine scholarship in Organisational Behaviour, and use VLE to communicate with colleagues.

Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT*	
	♦ Use the knowledge and skills covered by the course in a variety of situations. ♦ Know what 'people' challenges face managers at work, and how the manager can attempt to solve these challenges. ♦ Work independently ♦ Work as a team player ♦ Employ the statistics used in Organisational Behaviour. ♦ Offer practical solutions in problem solving through analysis and discussion	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Course Code: C19MC	Course Title: Marketing Communications	Course Co-ordinator: Geraldine Bell
Pre-requisites:	C18FM Fundamentals of Marketing	
Aims:	The aim of this course is provide students with a thorough grounding in the techniques, issues and relationships involved in communicating with target audiences. The focus will be on using an integrated marketing communications approach and achieving a two way dialog with your customers rather than sending them promotional messages. It aims to give students a critical view of this area and highlight the importance of client/agency relationships.	
Syllabus:	The syllabus covers a range of issues regarding the course topic. An indicative syllabus is as follows: ♦ Overview of Integrated Marketing Communications (IMC) ♦ How Marketing Communications works ♦ Marketing Communications Planning: Strategy and Messages ♦ Marketing Communications Planning: Media ♦ Branding and Positioning ♦ Evaluating IMC ♦ IMC media: Sales Promotion, PR and Personal Selling, Digital marketing communications ♦ Marketing Communications in context	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* Students will be able to: ♦ Understand Integrated Marketing Communications (IMC) concepts, frameworks and tools ♦ Understand the blend of ingredients in IMC such as advertising, sales promotion, and personal selling ♦ To be aware of important influences in selecting and in the measuring of media and communications effectiveness ♦ Analyse complex problems and make critically sound recommendations and plans ♦ Apply key analytical frameworks and tools to the analysis of IMC problems, situations or cases ♦ Locate and synthesise appropriate academic and practitioner resources on marketing topics	
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ To understand the reason for the stages in the agency selection process ♦ To be aware of the factors influencing advertising agency-client relationships ♦ To know the structure of a communications plan (or advertising plan) and to be able to construct a plan for a given situation/ problem scenario ♦ Work independently and as a group member ♦ Plan, organise and prioritise work effectively ♦ Work with others to utilise a range of resources ♦ Competently communicate and exchange ideas in both large and small group settings ♦ Interpret, use and evaluate numerical and graphical data to set and achieve goals/targets	
Assessment Methods:	Assessment: Examination: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: Examination: (weighting – 100%)

Information Systems

Course Descriptors

Year 4, Semester 1

More information about the Dissertation can be found on Vision under F20PA

Not all final year optional courses may run in a given year

Course Code: F20PA	Course Title: **Research Methods & Requirements Engineering**	Course Co-ordinator: **Alasdair Gray**
Pre-requisites:		
Aims:	Development of project research method and requirement analysis skills.	
Syllabus:	Requirements analysis of software development project Researching current state of art in this area Library resources and their use, Web and online database searching	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Understanding of research or development based problem related to a substantial software development topic ♦ Requirements specification and background research skills for it ♦ Ability to plan a significant project of research, investigation or development	
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Ability to research and undertake critical review and evaluation of data and supplied literature ♦ Project planning skills ♦ Written communication skills ♦ Time management	
Assessment Methods:	Assessment: Coursework: (weighting – 100%) Synoptic with F20PB & F20PC	Re-assessment: None

Course Code: F20CL	Course Title: Computing in the Classroom	Course Co-ordinator: Fiona McNeill/Tessa Berg
Pre-requisites:		
Aims:	This course runs under the Undergraduate Ambassadors Scheme (http://www.uas.ac.uk/) and provides an opportunity for students to act as ambassadors for their disciplines. **Aims are:** ♦ To develop a range of skills in the student and to offer an early taste of teaching to those interested in pursuing it as a career. ♦ To help students gain confidence in communicating their subject, develop strong organisational and interpersonal skills, and understand how to address the needs of individuals. ♦ To learn to devise and develop projects and teaching methods appropriate to engage the relevant age group they are working with. ♦ To help inspire a new generation of prospective undergraduates by providing role models for school pupils. ♦ To help teachers convey the excitement of their subject to their pupils by showing them the long-term applications of school studies. ♦ To help teachers by providing an assistant who can work with and support pupils at any point on the ability spectrum. ♦	
Syllabus:	This format is standard within the Undergraduate Ambassadors : ♦ Initial training to provide the student with an introduction to working with children and conduct in the school environment ♦ Competitive interview system to ensure students' suitability for the course. ♦ Student will be matched with an appropriate school and a specific teacher in the local area. ♦ Student will spend the equivalent of half a day a week in the school every week for a semester. ♦ No formal lectures. ♦ A supporting tutorial for one hour once a week for students to share experiences. ♦ Initial contact with the teacher and pupils will be as a classroom assistant - observing the teacher and offering practical support. ♦ The teacher will assign the student teaching tasks which will vary depending on the teacher's needs and the ability of the student. ♦ The student will design and deliver a special project on the basis of discussion with the teacher and their own assessment of what will interest the particular pupils they are working with. ♦ End of unit presentation of special project ♦	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Communicate and present computing topics to others. ♦ Develop a better understanding of, appreciation of, and confidence in computing through teaching it to others. ♦ Gain a broad understanding of many of the key aspects of teaching computing in schools	

Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT*	
	To experience working in a challenging and unpredictable environment.	
	Be able to assess and devise appropriate ways to communicate a difficult principle or concept	
	To master the following specific and transferable skills: ♦ Understanding the needs of individuals. ♦ Employ effective interpersonal skills when dealing with colleagues. ♦ To understand and support teaching staff responsibilities and conduct oneself accordingly. ♦ To be able to improvise and adapt to the responses of students in a classroom. ♦ To give (and take) feedback. ♦ To make effective use of organisational, prioritisation and negotiating skills. ♦ To handle difficult and potentially disruptive situations. ♦ To be able to use public speaking and communication skills, both one-to-one and when speaking to an audience ♦ Team-working. ♦ To understand and be able to make use of standard teaching methods. ♦ To prepare, use and reflect on the effectiveness of lesson plans and teaching materials.	
	To be able to reflect on the effectiveness of methods of teaching and learning both personally and in review with tutors.	
Assessment Methods:	Assessment: Coursework (weighting – 100%) Course will be spread over 2 semesters so students will have to work more on their project in Semester 1 to compensate for spending some time on it in Semester 2 (equivalent to half course)	Re-assessment: None

Course Code: **F20DO**	Course Title: **Design for On Line Learning**	Course Co-ordinator: **Phil Barker**
Pre-requisites:	None	
Aims:	To give a critical understanding of the issues of open and online learning. To develop knowledge & understanding of the principles of online course development. To support the development of design skills relating to technical and pedagogical requirements.	
Syllabus:	♦ Theories of learning and their application in the area of online learning. ♦ Models of learning online. The "conversational framework". ♦ Computer Mediated Communication. ♦ Training Needs Analysis. ♦ Design issues, Guidelines for developers of online learning resources. ♦ Practical design and development of Online learning resources.	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Critical understanding of theories of learning & principles of application. ♦ Theoretical & practical knowledge of methodologies for the analysis, design, implementation and evaluation of online learning courses. ♦ Critical awareness of the current issues in online and e-learning	
Learning Outcomes:: **Personal Abilities:**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Communication using computer mediated conferencing systems. (PDP) ♦ Ability to undertake Training Needs Analysis. (PDP) ♦ Ability to design & create a technology-based learning system. (PDP)	
Assessment Methods:	Assessment: Exam: (weighting – 70%) Coursework: (weighting – 30%)	Re-assessment: None

Course Code: **F20IF**	Course Title: **Information Systems Methodologies**	Course Co-ordinator: **Jenny Coady**
Pre-requisites:	F29SO – Software Engineering & F29PD – Professional Development *or equivalent*	
Aims:	This course explores a range of issues concerning advanced contemporary methodological approaches to information systems development. The aim is to enable students to develop critical faculties and techniques in relation to the selection and application of these methodological approaches.	
Syllabus:	There is a growing requirement in industry for engineers and scientists with good and appropriate analytical skills when considering the development and evolution of systems, in particular information systems. This course develops further the knowledge and skills students should have already gained in the Information Systems and Software Engineering courses in topics such as: ♦ General Systems Principles; ♦ Systems Classification and Taxonomy Models; ♦ Information Systems Life Cycle and Functions; ♦ Paradigmatic Approach to Methodology Classification; ♦ Framework for Analysis and Comparison of Methodologies (NIMSAD & Fitzgerald's); ♦ Process Improvement Models;	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* This course develops further the knowledge and skills students should have already gained in the Information Systems and Software Engineering courses. It will enable students to: ♦ Determine alternative approached to gathering requirements and systems development ♦ Compare methodologies for use in organisations using a standardised Framework ♦ Rationalise systems development to prepare a more relevant system ♦ Assimilate their knowledge and understanding of the ways in which Information Systems are developed, including a range of established techniques of enquiry or research methodologies	
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Critical reading and reviewing works in the field ♦ Evaluating Methods under an agreed Framework ♦ Structuring an argument (PDP) ♦ Use of VLE as a means of learning, contributing and discussing	
Assessment Methods:	Assessment: Exam: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: None

Course Code: **C10CW**	Course Title: **The Contemporary Workforce**	Course Co-ordinator: **Dr K Sang**

Pre-requisites:	C18HM Human Resource Management
Aims:	♦ Develop understanding of the issues affecting the contemporary workforce ♦ Develop critical awareness of the main theories and drivers of the contemporary workforce ♦ Encourage the identification and evaluation of organisational strategies for accommodating the dynamics of a changing workforce. ♦ Assess the challenges and the opportunities for organisations in managing the contemporary workforce ♦ Develop understanding of the methodological issues associated with researching the contemporary workforce and its needs
Syllabus:	♦ Theoretical underpinnings of the contemporary workforce, for example, intersectionality ♦ Demographic dynamics, for example, disability, ageing, LGBT ♦ Changing family structures and implications for organisations, for example, reproductive technologies, blended families ♦ Appearance, embodiment and the performance of professional identity ♦ The representation of the contemporary workforce in the media and the implications for employees and organisations
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Define and explain the issues affecting the contemporary workforce ♦ Have a critical understanding of the contemporary workforce and the underlying theoretical concepts ♦ Critically evaluate organisational strategies for addressing the dynamic needs of the contemporary workforce ♦ Demonstrate a critical awareness of the methodological challenges for investigating the contemporary workforce ♦ Demonstrate an ability to independently research one aspect of the issues salient to the contemporary workforce ♦ Demonstrate the ability to effectively analyse and research complex themes through essays and classroom discussions
Learning Outcomes: **Personal Abilities**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Demonstrate an awareness of and critical appreciation of the challenges in managing the contemporary workforce ♦ Use evidence to identify potential organisational strategies for managing the contemporary workforce ♦ Work independently ♦ Work effectively in small groups ♦ Manage their own work and time ♦ Effectively communicate using both written and verbal means to a range of audiences ♦ Use a range of ICT to effectively communicate their ideas

Assessment Methods:	Assessment: Coursework: (Weighting 100%)	Re-assessment: None

Course Code: C10RS	Course Title: Retail Marketing	Course Co-ordinator: Dr Julie McFarlane
Pre-requisites:	C18FM Fundamentals of Marketing	
Aims:	♦ Provide an overview of the key principles of retailing ♦ Evaluate the main factors which influence retail change ♦ Assess the conceptual models which have been formulated to explain retail change ♦ Evaluate the business strategies of retailers ♦ Discuss the evolution of supply chain management in retailing ♦ Understand the main operational issues facing retail management ♦ Evaluate future trends in retailing	
Syllabus:	♦ The changing retail environment – the changing consumer, the retail response, the theoretical constructs explaining retail change, formulating retail strategies. ♦ Managing the retail supply chain – retail buying, logistics, retail supply chain management and CSR. ♦ Managing retail operations – customer service in retailing, merchandising and display, retail security. ♦ Managing the future – internationalisation of retailing, e-commerce and multi-channel retailing	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ The changing retail environment – the changing consumer, the retail response, the theoretical constructs explaining retail change, formulating retail strategies. ♦ Managing the retail supply chain – retail buying, logistics, retail supply chain management and CSR. ♦ Managing retail operations – customer service in retailing, merchandising and display, retail security. ♦ Managing the future – internationalisation of retailing, e-commerce and multi-channel retailing ♦ Undertake critical reading for seminars to develop themes discussed in lectures. ♦ Undertake independent research into relevant and current retail-specific issues to inform individual coursework	
Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Review industry trends ♦ Gain insights into retail management through guest speakers ♦ Work independently (coursework) and as a small team to complete seminar tasks. ♦ Communicate ideas (orally) in seminars and by written means (coursework) ♦ Interpret qualitative and quantitative data as part of coursework requirements.	
Assessment Methods:	Assessment: Examination: (Weighting 50%) Coursework: (Weighting 50%)	Re-assessment: None

Information Systems

Course Descriptors

Year 4, Semester 2

Course Code: **F20PB**	Course Title: **Project: Design & Implementation**		Course Co-ordinator: **Alasdair Gray**
Pre-requisites:			
Aims:	Development of project design and implementation skills		
Syllabus:	♦ Software and/or experimental design and its documentation ♦ Relevant commercial practice in applied design of software		
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Software design and implementation skills		
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Time management ♦ Project Management		
Assessment Methods:	Assessment: Coursework (weighting – 100%) Synoptic with F20PA & F20PC		Re-assessment: None

Course Code: **F20PC**	Course Title: **Project: Testing & Presentation**		Course Co-ordinator: **Alasdair Gray**
Pre-requisites:			
Aims:	Development of knowledge and skills for testing and evaluating a software project		
Syllabus:	♦ Testing of Software ♦ Evaluation of Software ♦ Report Writing		
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Testing and evaluation of software development projects ♦ Documenting Software projects		
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Awareness and experience of methods and tools for validation and verification in professional practice ♦ Practical skills in testing and evaluation ♦ Documentation skills		
Assessment Methods:	Assessment: Coursework (weighting – 100%) Synoptic with F20PA & F20PB		Re-assessment: None

Course Code: **F20AD**	Course Title: **Advanced Interaction Design**	Course Co-ordinator: **Lynn Baillie/tbc**
Pre-requisites:	F28IN Interaction Design *or equivalent*	
Aims:	The course aims to give students the opportunity to develop: ♦ A detailed and critical knowledge of requirements gathering, design and evaluation techniques in interaction design. ♦ An awareness of current research and emerging issues in the field of interaction design. ♦ A range of specialised skills, and research methods involved in working with users.	
Syllabus:	Current and emerging topics in Interaction Design including: user demographics, patterns in technology adoption, interaction design lifecycles, user interface design patterns, prototyping methods, a wide range of qualitative and quantitative data gathering and analysis techniques, accessibility, and a range of research case studies covering cutting edge issues in the field	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning* Students will develop skills in the following areas: ♦ Review, analyse, and evaluate previous research projects in the field of interaction design ♦ Propose solutions in response to analysis of users' requirements. ♦ Make informed judgements about appropriate methodologies for developing and evaluating technologies suitable for user demographics and background experience.	
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* Students will develop skills in the following areas: ♦ Use discipline appropriate software for data analysis, prototyping and learning. ♦ Present, analyse and interpret numerical and graphical data gathered as part of evaluation studies. ♦ Communicate effectively to knowledgeable audiences by preparing formal and informal presentations and written reports. ♦ Exercise autonomy and initiative by planning and managing their own work; develop strategies for independently solving problems and taking the initiative. ♦ Take responsibility for their own and other's work by contributing effectively and conscientiously to the work of a group, actively maintaining good working relationships with group members, and leading the direction of the group where appropriate. ♦ Reflect on roles and responsibilities by critically reflecting on their own and others' roles and responsibilities. ♦ Develop an awareness of professional and ethical issues including working with human subjects and wider issues relating to technology in society	
Assessment Methods:	Assessment: Exam: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: None

Course Code: **F20DE**	Course Title: **Digital Knowledge Economy**	Course Co-ordinator: **Jessica Chen-Burger**
Pre-requisites:	Fundamentals of logic, grasp of computational thinking	
Aims:	♦ To provide an overview of advanced topics in Digital and Knowledge Economy, including current developments and future trends in developed economies resulting from deploying new technologies and utilising emerging knowledge. ♦ To discuss e-Business, as a new breed of modern business model that leverages technical advancements to create economic growth. ♦ To provide a high level description of business and technological issues related to Digital and Knowledge Economy. ♦ To introduce technologies and methodologies so as to provide a deep understanding of the Digital and Knowledge Economy, including business, organisational, knowledge and technology based issues. ♦ To impart rigorous technical modelling and analytical methodologies for working with complex problems in this area. ♦ To facilitate the dialogue between business and computing personnel, and translate business requirements to computing ones and vice versa. ♦ To impart deep understanding of the motivation and rationale behind the conversations between business and IT, as well as other relevant technologies and future trends - so that students can recommend them and/or participate in the decision making process for future planning.	

Syllabus:	♦ Introduction to Digital and Knowledge Economy
	  o Introduction to Digital and Knowledge Economy
	  o Its relevance to e-Business
	♦ Topics in Digital Economy
	  o An overview of technologies and tools for e-Business
	  o What is a business model? What are the different types of business models?
	  o What are the relationships between business models and innovative/disruptive technologies?
	  o Current development and future trends in Digital and Knowledge Economy
	  o Relevant technology offerings, e.g. Bitcoin, IBM's cloud computing platform
	♦ Knowledge based technologies in Knowledge Economy
	  o introduction to knowledge management, knowledge modelling technologies, including ontologies
	  o Introduction to logic, Intelligent Systems and related technologies, including semantic web based technologies
	  o Case studies of Intelligent Systems and Future trends
	♦ Supply Chain Management and its relation to Digital Economy
	  o What is SCM? What are the standard practices in SCM, e.g. SCOR?
	  o Introduction to process modelling, business operations and SCM.
	  o What is global SCM? Case studies, e.g. IKEA's global SCM; Current and future trends
	♦ Business Intelligence: Fundamentals issues and technologies	

Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Subject-Specific Skills* ♦ Understanding of key issues in Digital and Knowledge Economy. ♦ Understanding of ontologies, conceptual and knowledge modelling technologies, in terms of design, critical evaluation and suitable practical uses. ♦ Understanding of issues in intelligent systems, supply chain management and business intelligence and the roles technologies may play. ♦ Understanding of issues and the motivation and rationale of business and technical problems in Digital and Knowledge Economy.	

	♦ Ability to select and construct conceptual models, including ontologies, and can create appropriate evaluation criteria to assess them. ♦ Ability to take self-initiatives to review relevant literature independently in Digital and Knowledge Economy.
Learning Outcomes: Personal Abilities	*Cognitive skills, Core skills and Professional Awareness* ♦ Analytical skills in conceptual modelling methods, including ontologies, process and knowledge modelling, for business problems. ♦ Ability to make well-informed evidence-based arguments towards supporting or rejecting technologies to solve business problems. ♦ Ability to deal with complex issues and make informed judgements, e.g. about ontologies, knowledge modelling, intelligent and business systems in the absence of complete or consistent data. ♦ Exercise autonomy and initiative in addressing digital and knowledge economy challenges. ♦ Demonstrate reflection on digital and knowledge economy. ♦ Ability to judge technology hypes and develop personal opinions on future trends.
Assessment Methods:	Assessment: Examination: (weighting – 70%) Coursework: (weighting – 30%)	Re-assessment: None

Course Code: F20EC	Course Title: E-Commerce Technology	Course Co-ordinator: Santiago Chumbe/ Jessica Chen-Burger

Pre-requisites:	None
Aims:	♦ To impart an understanding of e-Commerce technology and of how Information Systems play a fundamental role in shaping e-Commerce; ♦ To put e-Commerce technologies in a structural framework, show how they support e-Commerce operations, provide technical know-how for implementing e-Commerce platforms and analytical skills to examine the technical aspects of e-Commerce; ♦ To show how the B2B, B2C, C2B, C2C and P2P types of e-Commerce work; ♦ To introduce practical aspects in implementing and managing e-commerce websites; ♦ To provide a description of technological challenges and innovations in e-Commerce; ♦ To impart an understanding of the integration and the interoperability aspects of e-Commerce in the whole business system.

Syllabus:	♦ Introduction to e-Commerce and overview of its technology
	♦ Web related e-Commerce technologies:
	   o E-Commerce workflow and transactions
	   o Web architecture and E-Commerce development challenges
	   o Development of web applications (agile development, MVC pattern and web frameworks)
	   o Service Oriented Architecture (SOA), web services and cloud computing
	   o Databases in E-Commerce: SQL and NoSQL alternatives
	   o Data mining, augmented reality and product ontologies (GoodRelations)
	♦ Implementation and management of e-Commerce technologies
	   o Security in E-Commerce: External and internal attacks and, data protection at rest and in transit
	   o Mobile commerce
	   o E-Commerce business, marketing and revenue models
	   o Recommender systems and personalization
	   o Cloud computing deployment models for e-Commerce
	   o E-Commerce interoperability processes as part of a business system
	   o Merchant services and payment transactions

Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Recognise e-Commerce as a special type of business; while at the same time can relate its underlying business logic to that of conventional business operations, e.g. in different aspects of business systems ♦ Has in-depth knowledge and understanding of the different technologies that play crucial roles in enabling and enhancing business systems to meet e-Commerce requirements ♦ Critical understanding of the evolving methodological issues pertaining to e-Commerce system development ♦ In-depth understanding of Web technologies that enable e-Commerce applications ♦ Insights into real-world problems that are encountered when developing e-Commerce applications ♦ Analysis and development skills and knowledge of web technologies to create e-Commerce sites.

Learning Outcomes:: Personal Abilities	Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT	
	♦ Can deal with complex issues and make informed judgements about the use of Web based Technologies in e-Commerce	
	♦ Exercise substantial autonomy, initiative and creativity in the application of Web-based tools and services for the development of e-Commerce applications	
	♦ Can communicate with peers, more senior colleagues and specialists and demonstrate critical reflection (PDP)	
	♦ Can independently carry out research based on literatures in the field of e-Commerce Technology	
	♦ Can evaluate e-Commerce technologies and propose solutions to business scenarios based on a case study	
Assessment Methods:	Assessment: Examination: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: None

Course Code: C10SM	Course Title: **Marketing & Management in SME's**	Course Co-ordinator: **John Sanders**

Pre-requisites:	C17EB Management in the Global Context
Aims:	♦ To provide students with a managerial framework for decision-making in a SME ♦ To extend the knowledge and understanding of students in the study of SMEs ♦ To examine the unique issues relating to the operation and management of a SME ♦ To highlight the initiatives and experiences of some United Kingdom and overseas SMEs

Syllabus:	The syllabus will cover a range of issues concerning the course topic. An indicative syllabus is as follows:
	
	Introduction to Marketing & Management of SMEs
	    ♦ Course Introduction
	    ♦ Personal Goal Achievement
	The Business Plan
	    ♦ Introduction to Business Plans
	    ♦ Guest Presentation
	    ♦ Analyzing Business Plans
	Managing Growth
	    ♦ Small Business Model & Focus concept
	    ♦ Guest Presentation
	    ♦ Guest Presentation
	Integrative Video case studies
	    ♦ Analyzing Focus
	    ♦ Video case study 1
	    ♦ Video case study 2
	    ♦ Course Review

Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Appreciate the differences between small and large firms ♦ Define and explain terms and concepts addressed in the course ♦ Understand how to prepare and evaluate a business plan. ♦ Appreciate the challenges that growth creates for small firms. ♦ Evaluate a small firm's strategy and determine what activities need to be changed using the focus concept ♦ Demonstrate how the focus concept integrates and aligns a small firm's choices, so that actions in one activity are consistent with its activities in other areas ♦ Relate theoretical concepts to small firm case studies ♦ Enhance skills in defining and analysing problems within the small firm context ♦ Undertake independent reading and evaluation of small business management articles and textbooks ♦ Use the core concepts, frameworks, and techniques discussed in the course to perform in-depth evaluations of small firm case studies. ♦ Demonstrate analytical and problem-solving skills appropriate to a variety of subject and non-subject specific contexts.

Learning Outcomes: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT*	
	♦ Apply the core concepts, frameworks, and techniques addressed in the course to real-life organisations ♦ Promote a professional approach towards the presentation of written work ♦ Understand what managers must do to produce an acceptable business plan ♦ Evaluate a small firm's strategy and determine whether it needs improvement via the focus concept ♦ Appreciate the importance of goal setting and time management ♦ Demonstrate an ability to act as both an interdependent as well as an independent learner. ♦ Present written material ♦ Use Microsoft Word	
Assessment Methods:	Assessment: Exam: (weighting – 50%) Coursework: (weighting – 50%)	Re-assessment: None

Course Code: C10DM	Course Title: Digital Marketing	Course Co-ordinator: Kathryn Waite
Pre-requisites:	C18FM Fundamentals of Marketing	
Aims:	Course aims are to: ♦ Develop student understanding of the processes and techniques of digital marketing ♦ Assess the challenges and the opportunities of digital marketing ♦ Evaluate future trends in digital marketing ♦ Develop skills in critical judgement and opinion	
Syllabus:	A range of contemporary issues related to digital marketing will be presented and an indicative syllabus is as follows: ♦ Evolution and application of digital technologies and their applications to the practice of marketing ♦ Digital marketing management models ♦ User consumption behaviours and habits using new communication technologies ♦ Delivering the online consumer experience ♦ E-Customer Relationship Management and Social Media Engagement ♦ Evaluation and benchmarking of digital marketing performance	
Learning Outcomes: **Subject Mastery**	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* Students should be able to: ♦ Define and explain the digital marketing terms and concepts addressed in this module ♦ Critically evaluate digital marketing theories and concepts ♦ Understand the issues involved in the implementation and management of digital marketing programmes ♦ Undertake independent reading and evaluation of a range of academic and practitioner literature both on and offline ♦ Critically identify, define and conceptualise the complex nature of applying digital marketing approaches	
Learning Outcomes: **Personal Abilities**	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* Students should be able to: ♦ Demonstrate a knowledge of current digital marketing issues and challenges faced by organisations ♦ Generate appropriate solutions to organisational problems ♦ Work effectively as part of a small group ♦ Exercise autonomy and initiative through independent work ♦ Communicate and present specialised topics effectively by verbal and written means ♦ Use a range of ict applications to support and enhance work at this level and adjust features to suit purpose	
Assessment Methods:	Assessment: Exam: (weighting – 60%) Coursework: (weighting – 40%)	Re-assessment: None

Course Code: **F20BD**	Course Title: **Big Data Management**	Course Co-ordinator: **Albert Burger/Alasdair Gray**
Pre-requisites:	Academic knowledge of fundamentals of databases and logic.	
Aims:	♦ Review principle abstractions, methods and techniques for the management of large and complex data sets ("Big Data"). ♦ Develop an understanding of the foundations and tools of the Semantic Web. ♦ Enable students to appreciate critically a range of data integration solutions.	

Syllabus:	**Complex data sets:**
	   RDF, triple stores, SPARQL, Big Data vs Smart Data vs Broad Data, NoSQL, indexing data.
	Semantic Web Foundations:
	   RDFS, OWL, Ontologies, Reasoning, Protégé.
	Data Integration:
	   Linked Data, Mash-ups, Ontology mapping, Data Provenance.	

Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Knowledge and understanding of a range of data representation and data management techniques for big data sets. ♦ Critical understanding of the role of semantic web technologies in the context of big data management. ♦ Knowledge of the mechanisms that underlie data integration techniques. ♦ To be able to demonstrate a critical understanding of appropriateness and effectiveness of different techniques.	
Learning Outcomes:: Personal Abilities	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Conceptualize and define new abstract problems within the context of complex data sets. ♦ Make informed judgements about the applicability of semantic web solutions to big data questions. ♦ Exercise autonomy, initiative and creativity in the application of data integtration techniques. ♦ Demonstrate critical reflection. (PDP) ♦ Communicate with professional level peers, senior colleagues and specialists. (PDP)	
Assessment Methods:	Assessment: Examination: (weighting – 70%) Coursework: (weighting – 30%)	Re-assessment: None

Course Code: **C10SR**	Course Title: **Business Ethics**	Course Co-ordinator: **Jane Queenan**
Pre-requisites:	C17EB Management in a Global Context	
Aims:	To provide an intensive grounding in the subject of ethics and values in the context of the entrepreneurial business. On completion of this course, students will: ♦ Have a clear understanding of the nature of ethics and social responsibility in the context of the entrepreneurial business. ♦ Be able to identify, analyse and critically discuss issues of ethics and social responsibility in the context of decision making for the entrepreneurial business. ♦ Be aware that there will not normally be a unique ethical perspective in decision making problems ♦ Appraise ethical issues and the implications for decision making within examples drawn from contemporary business practice ♦ Be able to express their questions, ideas and findings with precision. ♦ Have improved and critical thinking skills	
Syllabus:	The syllabus will cover a range of issues concerning the course topic. An indicative syllabus is as follows: ♦ Introduction to enterprise and ethical thought; scope and purpose ♦ Introduction to corporate social responsibility ♦ The utilitarian approach to ethics ♦ The duty-based approach to ethics ♦ Distributive justice ♦ Ethical relativism ♦ Negotiation and truth telling ♦ Property and profit ♦ Investment ♦ The workplace ♦ Organizational values and the virtuous manager ♦ Enterprise, ethics and sustainability	
Learning Outcomes: Subject Mastery	*Understanding, Knowledge and Cognitive Skills; Scholarship, Enquiry and Research (Research-Informed Learning)* ♦ Critical appreciation of the main currents in ethical thought applied to entrepreneurial businesses. ♦ Awareness of the value of ethical thought in the development of business theory. ♦ Ability to appraise ethical considerations presented in a variety of business settings ♦ Knowledge of substantial debates regarding the implications of ethical arguments for business activity. ♦ Ability to relate theoretical considerations to applied contexts. ♦ Ability to select, appraise and critically discuss relevant texts.	
Learning Outcomes:: Personal Abilities:	*Industrial, Commercial & Professional Practice; Autonomy, Accountability & Working with Others; Communication, Numeracy & ICT* ♦ Ability to engage in discussion about the ethical conduct of the entrepreneurial business ♦ Ability to recognise emerging ethical issues and respond appropriately ♦ Enhanced ability to develop original arguments and to present them persuasively ♦ Active participation in groups working to solve ethical problems ♦ Presentation of ideas using a variety of media and in a format appropriate to professional practice	
Assessment Methods:	Assessment: Examination (Weighting – 50%) Coursework: (Weighting – 50%)	Re-assessment: None