DEPARTMENT OF COMPUTER SCIENCE

CHOICE OF MODULES FOR 2017-18

1. REGISTRATION AND EXAMINATIONS

1.1 Introduction

This document explains your options for the forthcoming academic year. Please note that it covers only those degree programmes which come within the terms of reference of the Board of Studies in Computer Science.

Please read the rest of this section on registration and examinations very carefully, as it contains important information. The second section lists the modules available for each programme. You will be able to access detailed information about modules on Liverpool Life when you register.

It is not possible at this stage to give information about the timetable or who will be teaching the modules. Timetable information will be available via Liverpool Life before the start of the next academic year.

1.2 Projects

Honours students registered for the 30 credit project modules, COMP390, COMP393, COMP394 and COMP395 are strongly advised to select their project for 2017-18 by **Friday 2nd June 2017**. Further information will be sent nearer the time by the project coordinator, Dr Irina Biktasheva.

Students on Financial Computing will take the mandatory group project (COMP396), and students in the final year of the MEng Computer Science programme will take a mandatory group project in the first semester (COMP591) and a mandatory individual project in the second semester (COMP592). Students will be informed of the arrangements for these modules at the start of the next academic year.

1.3 Provisional Registration for 2017-18

You will need to register your modules for the 2017-18 academic year on Liverpool Life before **Friday, 19th May 2017**. Compulsory/required modules will be pre-registered, but you will need to enter any optional modules to give a total of 120 credits, **i.e. for both the first and second semester**. Your options are outlined in Section 2.2 below. If you require any advice before choosing your modules, please contact your Academic Advisor (you can find the name of your Academic Advisor on Liverpool Life).

Please note that some optional modules have limited spaces, so you are advised to register early to avoid disappointment.

*Your registration remains provisional until you pass your year of study and return to the University for the next Academic Year beginning on **Monday, 25th September 2017.** To complete the registration process, you will have to confirm via Liverpool Life that you have returned to the University. You must do this using a PC either on campus or in the Halls of Residence.*

1.4 Passing a Year of Study and the Classification of Honours Degrees

For information on passing your year of study and the classification of honours degrees, please see Chapter 7 of the University Handbook at

www.liv.ac.uk/student-administration/student-administration-centre/student-handbooks/

Please note that the rules which apply to you depend upon your degree programme, i.e. different rules apply to the MEng Computer Science programme, programmes with a Year in Industry and other Undergraduate degree programmes.

In particular, if you are on a programme with a year in industry you must pass your second year modules at first attempt in order to be able to progress to the placement year. If you fail to do so, you will have to change to a programme without a year in industry.

If you fail your year of study, the resit examination period will be between **14th and 25th August 2017**. It is your responsibility to keep yourself informed of the arrangements for your resits and to make yourself available at a date/time and place determined by the Department or University. The resit timetable will be published on Liverpool Life on **24th July 2017 (by 17:00)**. For further information regarding resit examinations see https://www.liverpool.ac.uk/student-administration/exams/results/resits/.

Your registration for the following academic year remains provisional until you have passed all examinations.

2. MODULES

2.1 Mandatory/Required Modules

The tables below indicate whether a module is mandatory, required or optional. A required module must be taken on a particular programme. Mandatory modules are not only required but you must also achieve a pass mark on the module in order to continue or graduate with honours on that programme.

The pass mark for modules at level 1, 2, and 3 is 40%; for any level M modules which are provided as part of the MEng Computer Science programme, the pass mark is 50%.

The University's Code of Practice on Assessment, Appendix B states that:
"The University's progression rules (see paragraph 2.2 above) provide that a student may narrowly fail modules totalling 30 credits in study years 0, 1 and 2 and levels of study 1 and 2 and still progress to the next year of study, provided that all the other modules including all mandatory modules have been passed, that the marks in the failed modules are in the range 35-39% and the overall average mark for the modules taken (totalling 120 credits) is at least 40%."
https://www.liverpool.ac.uk/aqsd/academic-codes-of-practice/code-of-practice-on-assessment/

2.2 Choice of Modules

The modules for each programme are listed below and a full list of available modules, including pre-requisites, is given in section 2.3. All modules are 15 credits unless otherwise indicated.

When choosing modules, you should bear in mind the pre-requisites for modules in subsequent years, e.g. when choosing modules for Year 2 keep in mind the pre-requisites of Honours Year modules. The criteria for choosing your modules should be academic; all your modules should form a sensible, coherent package.

Please select from the options indicated and enter your choices on Liverpool Life.

G400 BSc (Hons) Computer Science
G403 BSc (Hons) Computer Science with a Year in Industry

G400/G403 YEAR 2			
Semester 1	Required	COMP201 COMP207 COMP213 COMP219	Software Engineering I Database Development Advanced Object Oriented Programming Artificial Intelligence
Semester 2	Required	COMP202 COMP208 COMP218	Complexity of Algorithms Group Software Project Decision, Computation and Language
	Options (all 7.5 credits)	2 from COMP281 COMP282[1] COMP283 COMP284 COMP285	 Principles of C and Memory Management Advanced Object Oriented C Languages Applied Database Management Scripting Languages Computer Aided Software Development

G403 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G400/G403 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP390	Hons Year Computer Science Project (30 credits)
Semester 1	Required	COMP309	Efficient Sequential Algorithms
	Options	2 from COMP304 COMP305 COMP319 COMP323 COMP327 COMP329 COMP331	 Knowledge Representation and Reasoning Biocomputation Software Engineering II Introduction to Computational Game Theory Mobile Computing Robotics and Autonomous Systems Optimisation
Semester 2	Options	3 from COMP310 COMP313 COMP315 COMP324 COMP326[2]	 Multi-Agent Systems Formal Methods Technologies for E-Commerce Complex Information and Social Networks Computational Game Theory and Mechanism Design

[1] COMP282 has a pre-requisite of COMP281

[2] COMP326 has a pre-requisite of COMP323

For other pre-requisites, please see Section 2.3.1

G401 MEng (Hons) Computer Science

G401 YEAR 2			
Semester 1	Required	COMP201 COMP207 COMP213 COMP219	Software Engineering I Database Development Advanced Object Oriented Programming Artificial Intelligence
Semester 2	Required	COMP202 COMP208 COMP218	Complexity of Algorithms Group Software Project Decision, Computation and Language
	Options (all 7.5 credits)	2 from COMP281 COMP282[1] COMP283 COMP284 COMP285	 Principles of C and Memory Management Advanced Object Oriented C Languages Applied Database Management Scripting Languages Computer Aided Software Development

G401 YEAR 3			
Semester 1 & 2	Mandatory	COMP390	Hons Year Computer Science Project (30 credits)
Semester 1	Required	COMP309	Efficient Sequential Algorithms
	Options	2 from COMP304 COMP305 COMP319 COMP323 COMP327 COMP329 COMP331	 Knowledge Representation and Reasoning Biocomputation Software Engineering II Introduction to Computational Game Theory Mobile Computing Robotics and Autonomous Systems Optimisation
Semester 2	Options	3 from COMP310 COMP313 COMP315 COMP324 COMP326[2]	 Multi-Agent Systems Formal Methods Technologies for E-Commerce Complex Information and Social Networks Computational Game Theory and Mechanism Design

G401 FINAL YEAR			
Semester 1	Mandatory	COMP591	MEng Group Project (30 credits)
	Options	2 from COMP521 COMP522 COMP523 COMP528	 Knowledge Representation Privacy and Security Advanced Algorithmic Techniques Multi-Core and Multi-Processor Programming
Semester 2	Mandatory	COMP592	MEng Individual Project (30 credits)
	Options	2 from COMP524 COMP525 COMP526 COMP527 COMP532	 Safety and Dependability Reasoning about Action and Change Applied Algorithmics Data Mining Machine Learning and BioInspired Optimisation

[1]COMP282 has a pre-requisite of COMP281.

[2] COMP326 has a pre-requisite of COMP323

For other pre-requisites, please see Section 2.3.1

G402 BSc (Hons) Computing with a Year in Industry

G402 YEAR 2			
Semester 1 & 2	Options	COMP211 and COMP212	Internet Principles (semester 1) Distributed Systems (semester 2)
		Or	
		COMP219 and COMP222	Artificial Intelligence (semester 1) Principles of Computer Games Design and Implementation (semester 2)
Semester 1	Mandatory	COMP201	Software Engineering I
	Required	COMP207 COMP213	Database Development Advanced Object Orientated Programming
Semester 2	Required	COMP208 COMP220	Group Software Project Software Development Tools
	Options (all 7.5 credits)	2 from COMP281 COMP282[1] COMP283 COMP284	 Principles of C and Memory Management Advanced Object Oriented C languages Applied Database Management Scripting Languages

G402 YEAR 3			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G402 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP390	Honours Year Computer Science Project (30 credits)
Semester 1	Required	COMP319	Software Engineering II
	Options	2 from COMP323 COMP327 COMP329	 Introduction to Computational Game Theory Mobile Computing Robotics and Autonomous Systems
Semester 2	Required	COMP313	Formal Methods
	Options	2 from COMP310 COMP315 COMP318	 Multi-Agent Systems Technologies for E-Commerce Advanced Web Technologies

[1] COMP282 has a pre-requisite of COMP281.

For other pre-requisites, please see Section 2.3.1

G490 BSc (Hons) Electronic Commerce Computing
G491 BSc (Hons) Electronic Commerce Computing with a Year in Industry

G490/G491 YEAR 2			
Semester 1	Mandatory	COMP211	Internet Principles
	Required	COMP201 COMP207 COMP213	Software Engineering I Database Development Advanced Object Oriented Programming
Semester 2	Mandatory	COMP215	E-Commerce Group Project
	Required	COMP212 COMP220	Distributed Systems Software Development Tools
	Options (all 7.5 credits)	2 from COMP281 COMP282[1] COMP283 COMP284	 Principles of C and Memory Management Advanced Object Oriented C languages Applied Database Management Scripting Languages

G491 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G490/G491 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP394	Honours Year Electronic Commerce Computing Project (30 credits)
Semester 1	Required	COMP319 COMP323 COMP327	Software Engineering II Introduction to Computational Game Theory Mobile Computing
Semester 2	Required	COMP315 COMP318	Technologies for E-Commerce Advanced Web Technologies
	Options	1 from COMP310 COMP324 COMP326[2]	 Multi-Agent Systems Complex Information and Social Networks Computational Game Theory and Mechanism Design

[1] COMP282 has a pre-requisite of COMP281.

[2] COMP326 has a pre-requisite of COMP323

For other pre-requisites, please see Section 2.3.1

G500 BSc (Hons) Computer Information Systems
G502 BSc (Hons) Computer Information Systems with a Year in Industry

G500/G502 YEAR 2			
Semester 1	Required	COMP201 COMP207 COMP213	Software Engineering I Database Development Advanced Object Oriented Programming
	Options	1 from COMP211 COMP219	 Internet Principles Artificial Intelligence
Semester 2	Required	COMP208 COMP220	Group Software Project Software Development Tools
	Options	1 from COMP212 COMP222[1]	 Distributed Systems Principles of Computer Game Design and Implementation
		Plus	
		2 from COMP281 COMP282[2] COMP283 COMP284	(all 7.5 credits) Principles of C and Memory Management Advanced Object Oriented C Languages Applied Database Management Scripting Languages

G502 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G500/G502 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP390	Honours Year Computer Science Project (30 credits)
Semester 1	Options	3 from COMP304 COMP305 COMP319 COMP323 COMP327 COMP329	 Knowledge Representation and Reasoning Biocomputation Software Engineering II Introduction to Computational Game Theory Mobile Computing Robotics and Autonomous Systems
Semester 2	Options	3 from COMP310 COMP313 COMP315 COMP318 COMP324 COMP326[3]	 Multi-Agent Systems Formal Methods Technologies for E-Commerce Advanced Web Technologies Complex Information and Social Networks Computational Game Theory and Mechanism Design

[1] COMP222 has a pre-requisite of COMP219
[2] COMP282 has a pre-requisite of COMP281
[3] COMP326 has a pre-requisite of COMP323

For other pre-requisites, please see Section 2.3.1

G501 BSc (Hons) Internet Computing
G503 BSc (Hons) Internet Computing with a Year in Industry

G501/G503 YEAR 2			
Semester 1	Mandatory	COMP211	Internet Principles
	Required	COMP201 COMP207 COMP213	Software Engineering I Database Development Advanced Object Oriented Programming
Semester 2	Mandatory	COMP216	Internet Computing Group Project
	Required	COMP212 COMP220 COMP281 COMP282	Distributed Systems Software Development Tools Principles of C and Memory Management (7.5 credits) Advanced Object Oriented C languages (7.5 credits)

G503 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G501/G503 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP395	Honours Year Internet Computing Project (30 credits)
Semester 1	Required	COMP319 COMP304 COMP327	Software Engineering II Knowledge Representation and Reasoning Mobile Computing
Semester 2	Required	COMP310 COMP318	Multi-Agent Systems Advanced Web Technologies
	Options	1 from COMP315 COMP324	 Technologies for E-Commerce Complex Information and Social Networks

For pre-requisites, please see Section 2.3.1

G610 BSc (Hons) Software Development
G611 BSc (Hons) Software Development with a Year in Industry

G610/G611 YEAR 2			
Semester 1 & 2	Options	COMP211 and COMP212	Internet Principles (semester 1) Distributed Systems (semester 2)
		OR	
		COMP219 and COMP222	Artificial Intelligence (semester 1) Principles of Computer Game Design and Implementation (semester 2)
Semester 1	Mandatory	COMP201	Software Engineering I
	Required	COMP207 COMP213	Database Development Advanced Object Oriented Programming
Semester 2	Required	COMP208 COMP220	Group Software Project Software Development Tools
	Options (all 7.5 credits)	2 from COMP281 COMP282[1] COMP283 COMP284	 Principles of C and Memory Management Advanced Object Oriented C Languages Applied Database Management Scripting Languages

G611 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G610/G611 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP390	Honours Year Computer Science Project (30 credits)
Semester 1	Required	COMP319	Software Engineering II
	Options	2 from COMP323 COMP327 COMP329	 Introduction to Computational Game Theory Mobile Computing Robotics and Autonomous Systems
Semester 2	Options	3 from COMP310 COMP313 COMP318 COMP324	 Multi-Agent Systems Formal Methods Advanced Web Technologies Complex Information and Social Networks

[1]COMP282 has a pre-requisite of COMP281.

For other pre-requisites, please see Section 2.3.1

G700 BSc (Hons) Artificial Intelligence
G701 BSc (Hons) Artificial Intelligence with a Year in Industry

G700/G701 YEAR 2			
Semester 1	Mandatory	COMP219	Artificial Intelligence
	Required	COMP201 COMP207 COMP213	Software Engineering I Database Development Advanced Object Oriented Programming
Semester 2	Mandatory	COMP214	Artificial Intelligence Group Project
	Required	COMP222	Principles of Computer Game Design and Implementation
	Options	1 from COMP202 COMP218	 Complexity of Algorithms Decision, Computation and Language
		PLUS	
		2 from COMP281 COMP282[1] COMP283 COMP284 COMP285	(all 7.5 credits) Principles of C and Memory Management Advanced Object Oriented C Languages Applied Database Management Scripting Languages Computer Aided Software Development

G701 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

G700/G701 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP393	Honours Year Artificial Intelligence Project (30 credits)
Semester 1	Options	3 from COMP304 COMP305 COMP329	 Knowledge Representation and Reasoning Biocomputation Robotics and Autonomous Systems
Semester 2	Required	COMP310 COMP313 COMP324	Multi-Agent Systems Formal Methods Complex Information and Social Networks

[1]COMP282 has a pre-requisite of COMP281.

For other pre-requisites, please see Section 2.3.1

GG14 BSc (Joint Hons) Mathematics and Computer Science
GG16 BSc (Joint Hons) Mathematics and Computer Science with a Year in Industry

GG14/GG16 YEAR 2			
Semester 1	Options	2 from	
		COMP201	Software Engineering I
		COMP207	Database Development
		COMP213	Advanced Object Oriented Programming
		COMP219	Artificial Intelligence
		2 from	
		MATH201	Ordinary Differential Equations
		MATH225	Vector Calculus with Applications in Fluid Mechanics
		MATH227	Math Models: Microeconomics & Population Dynamics
		MATH241	Metric Spaces and Calculus
		MATH243	Complex Functions
		MATH244	Linear Algebra and Geometry
		MATH261	Introduction to Methods of Operational Research
		MATH268	Operational Research: Probabilistic Models
Semester 2	Required	COMP202	Complexity of Algorithms
	Options	1 from	
		COMP104	Operating System Concepts
		COMP218	Decision, Computation and Language
		2 from	
		MATH206	Group Project Module
		MATH224	Introduction to the Methods of Applied Mathematics
		MATH228	Classical Mechanics
		MATH247	Commutative Algebra
		MATH248	Geometry of Curves
		MATH262	Financial Mathematics II
		MATH263	Statistical Theory and Methods I
		MATH264	Statistical Theory and Methods II
		MATH266[1]	Numerical Methods

[1] MATH266 is highly recommended

For pre-requisites, please see Section 2.3.1 and 2.3.3

GG16 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

GG14/GG16 FINAL YEAR			
Computer Science modules: select 30 credits in semester 1 and 30 credits in semester 2 Mathematics modules: select 30 credits in each semester			
Semester 1	Options	COMP304 COMP305 COMP309 COMP319 COMP323 COMP331 COMP391[1]	Knowledge Representation and Reasoning Biocomputation Efficient Sequential Algorithms Software Engineering II Introduction to Computational Game Theory Optimisation Final Year First Semester 15 Credit Project
		MATH322 MATH323 MATH324 MATH325 MATH332 MATH343 MATH344 MATH351 MATH362 MATH363 MATH367	Chaos and Dynamical Systems Further Methods of Applied Mathematics Cartesian Tensors and Mathematical Models of Solids and Viscous Fluids Quantum Mechanics Population Dynamics Group Theory Combinatorics Analysis and Number Theory Applied Probability Linear Statistical Models Networks in Theory and Practice
Semester 2	Options	COMP310 COMP313 COMP315 COMP326[2] COMP392[1]	Computational Game Theory Formal Methods Technologies for E-Commerce Computational Game Theory and Mechanism Design Final Year Second Semester 15 Credit Project
		MATH326 MATH331 MATH342 MATH349 MATH361 MATH364 MATH366	Relativity Mathematical Economics Number Theory Differential Geometry Theory of Statistical Inference Medical Statistics Mathematical Risk Theory

[1] COMP391 or COMP392 highly recommended

[2] COMP326 has a pre-requisite of COMP323

GN34 BSc (Hons) E-Finance (formerly N300)
G3N4 BSc (Hons) E-Finance with a Year in Industry

GN34/G3N4 YEAR 2			
Semester 1	Required	ACFI201	Financial Reporting
		ACFI213	Financial Management
		COMP201	Software Engineering I
		COMP207	Database Development
Semester 2	Required	COMP215	E-Commerce Group Project
		COMP226	Computer-Based Trading in Financial Markets
		ECON241	Securities Markets
	Options	ACFI202	Accounting Theory
		OR	
		MKIB225	International Business
		OR	
		2 from	
		COMP283	Applied Database Management (7.5 credits)
		COMP284	Scripting Languages (7.5 credits)
		COMP285	Computer Aided Software Development (7.5 credits)

G3N3 ONLY			
Year in Industry	Required	COMP299	Industrial Placement Year 3 (120 credits)

GN34/G3N4 FINAL YEAR			
Semester 1 & 2	Mandatory	COMP396	Honours Year Automated Trading Project (30 credits)
Semester 1	Required	ACFI314	Quantitive Business Finance
		COMP323	Introduction to Computational Game Theory
	Options	1 from	
		ACFI309	Financial Reporting 2
		COMP319	Software Engineering II
		COMP331	Optimisation
		EBUS301	E-Business Models and Strategy
		MKIB351	Global Strategic Management
Semester 2	Required	ACFI341	Finance and Markets
		COMP315	Technologies for E-Commerce
	Options	1 from	
		ACFI302	Corporate Reporting and Analysis
		COMP310	Multi-Agent Systems
		COMP326[1]	Computational Game Theory and Mechanism Design

[1] COMP326 has a pre-requisite of COMP323
For pre-requisites, please see Sections 2.3.1 and 2.3.2

2.3. List of Modules

2.3.1 Computer Science Modules

Code	Title	Credits	Semester	FHEQ Level	Pre-requisites
COMP201	Software Engineering I	15	1	5	COMP101, COMP102
COMP202	Complexity of Algorithms	15	2	5	COMP108
COMP207	Database Development	15	1	5	COMP101, COMP102
COMP208	Group Software Project	15	2	5	COMP101, COMP102 COMP201, COMP207
COMP211	Internet Principles	15	1	5	COMP101
COMP212	Distributed Systems	15	2	5	COMP101
COMP213	Advanced Object-Oriented Programming	15	1	5	COMP101
COMP214	AI Group Project	15	2	5	COMP101, COMP102, COMP213
COMP215	E-Commerce Group Project	15	2	5	COMP101, COMP102 COMP207, COMP211, COMP213
COMP216	Internet Computing Group Project	15	2	5	COMP101, COMP102, COMP207, COMP211 COMP213
COMP218	Decision, Computation and Language	15	2	5	COMP108, COMP109
COMP219	Artificial Intelligence	15	1	5	COMP101, COMP118
COMP220	Software Development Tools	15	2	5	COMP101, COMP201
COMP222	Principles of Computer Games Design and Implementation	15	2	5	COMP219, COMP213
COMP226	Computer-Based Trading in Financial Markets	15	2	5	-
COMP281	Principles of C and Memory Management	7.5	2	5	COMP213
COMP282*	Advanced Object Oriented C Languages	7.5	2	5	COMP281
COMP283	Applied Database Management	7.5	2	5	COMP102, COMP207
COMP284	Scripting Languages	7.5	2	5	COMP101, COMP102
COMP285	Computer Aided Software Development	7.5	2	5	COMP101, COMP201

Code	Title	Credits	Semester	FHEQ Level	Pre-requisites
COMP299	Industrial Placement Y3	120	1/2	5	COMP110
COMP304	Knowledge Representation and Reasoning	15	1	6	COMP219
COMP305	Biocomputation	15	1	6	-
COMP309	Efficient Sequential Algorithms	15	1	6	COMP202
COMP310	Multi-Agent Systems	15	2	6	-
COMP313	Formal Methods	15	2	6	COMP201
COMP315	Technologies for E-Commerce	15	2	6	COMP207
COMP318	Advanced Web Technologies	15	2	6	-
COMP319	Software Engineering II	15	1	6	COMP201
COMP323	Introduction to Computational Game Theory	15	1	6	COMP109 or equivalent
COMP324	Complex Information and Social Networks	15	2	6	-
COMP326	Computational Game Theory and Mechanism Design	15	2	6	COMP109, COMP323
COMP327*	Mobile Computing	15	1	6	COMP106, COMP281
COMP329	Robotics and Autonomous Systems	15	1	6	-
COMP331	Optimisation	15	1	6	-
COMP390	Honours Year Computer Science Project	30	1/2	6	Year 2 G40A, G401, G402, G403, G50A, G502, G610 or G611
COMP391	Final Year First Semester 15 Credit Project	15	1	6	60 credits in Year 2 Computer Science
COMP392	Final Year Second Semester 15 Credit Project	15	2	6	60 credits in Year 2 Computer Science
COMP393	Honours Year Artificial Intelligence Project	30	1/2	6	Year 2 G700, G701
COMP394	Honours Year Electronic Commerce Computing Project	30	1/2	6	Year 2 G490, G491
COMP395	Honours Year Internet Computing Project	30	1/2	6	Year 2 G501, G503
COMP396	Honours Year Automated Trading Project	30	1/2	6	Year 2 GN34, G3N4
COMP521	Knowledge Representation	15	1	7	Successful completion of first 3 years of MEng in Computer Science
COMP522	Privacy and Security	15	1	7	
COMP523	Advanced Algorithmic Techniques	15	1	7	
COMP524	Safety and Dependability	15	2	7	
COMP525	Reasoning about Action and Change	15	2	7	

Code	Title	Credits	Semester	FHEQ Level	Pre-requisites
COMP526	Applied Algorithmics	15	2	7	
COMP527	Data Mining	15	2	7	
COMP528	Multi-Core and Multi-Processor Programming	15	1	7	
COMP532	Machine Learning and BioInspired Optimisation	15	2	7	COMP219, COMP310
COMP591	MEng Group Project	30	1	7	-
COMP592	MEng Individual Project	30	2	7	-

*The assignments on both COMP282 and COMP327 require the use of various Apple Development applications (Xcode) and optional third party frameworks on MacOS. All relevant software is available in our Mac Lab (Lab 1).

2.3.2. Management Modules for GN34/G3N4 Students

Code	Title	Credits	Semester	Level	Pre-requisites
ACFI201	Financial Reporting 1	15	1	Q5	ACFI101
ACFI202	Accounting Theory	15	2	Q5	ACFI201
ACFI204	Financial Management	15	1	Q5	ACFI102, ACFI103
ACFI302	Corporate Reporting and Analysis	15	2	Q6	ACFI101, ACFI201, ACFI309
ACFI304	Business Finance	15	1	Q6	ACFI204
ACFI309	Financial Reporting 2	15	1	Q6	ACFI101, ACFI201
ACFI341	Finance and Markets	15	2	Q6	ACFI304
EBUS301	E-Business Models and Strategy	15	1	Q6	-
ECON241	Securities Markets	15	2	Q5	ACFI103 or ECON121
MKIB225	International Business	15	2	Q5	-
MKIB351	Global Strategic Management	15	1	Q6	MKIB225

2.3.3. Mathematics Modules for GG14/GG16 Students

Code	Title	Credits	Semester	Level	Pre-requisites
MATH201	Ordinary Differential Equations	15	1	Q5	MATH101-3
MATH206	Group Project Module	15	2	Q5	-
MATH224	Introduction to the Methods of Applied Mathematics	15	2	Q5	MATH101-3
MATH225	Vector Calculus with Applications in Fluid Mechanics	15	1	Q5	MATH102

Code	Title	Credits	Semester	Level	Pre-requisites
MATH227	MathematicaL Models: Microeconomics & Population Dynamics	15	1	Q5	MATH101-3
MATH228	Classical Mechanics	15	2	Q5	MATH101-3, MATH122
MATH241	Metric Spaces and Calculus	15	1	Q5	MATH101-3
MATH243	Complex Functions	15	1	Q5	MATH101-3
MATH244	Linear Algebra and Geometry	15	1	Q5	MATH101-3
MATH247	Commutative Algebra	15	2	Q5	MATH101-3
MATH248	Geometry of Curves	15	2	Q5	MATH101-3
MATH261	Introduction to Methods of Operational Research	15	1	Q5	MATH101-3
MATH262	Financial Mathematics II	15	2	Q5	MATH101, MATH103, MATH162
MATH263	Statistical Theory and Methods 1	15	2	Q5	MATH101-3, MATH162
MATH264	Statistical Theory and Methods II	15	2	Q5	MATH101, MATH103, MATH162
MATH266	Numerical Methods	15	2	Q5	MATH101-3
MATH268	Operational Research: Probabilistic Models	15	1	Q5	MATH101-3, MATH162
MATH322	Chaos and Dynamical Systems	15	1	Q6	MATH101, MATH103, MATH201
MATH323	Further Methods of Applied Mathematics	15	1	Q6	MATH101-3, MATH224
MATH324	Cartesian Tensors and Mathematical Models of Solids and Viscous Fluids	15	1	Q6	MATH101-3
MATH325	Quantum Mechanics	15	1	Q6	MATH101-3, MATH122; MATH201 or MATH224
MATH326	Relativity	15	2	Q6	MATH101-3 MATH122 MATH228
MATH331	Mathematical Economics	15	2	Q6	MATH101-3 MATH227 preferred
MATH332	Population Dynamics	15	1	Q6	MATH101-3, MATH201
MATH342	Number Theory	15	2	Q6	MATH101, MATH103, MATH142
MATH343	Group Theory	15	1	Q6	MATH101, MATH103; MATH142 or MATH244 or MATH247 helpful
MATH344	Combinatorics	15	1	Q6	MATH101-3
MATH349	Differential Geometry	15	2	Q6	MATH101-3, MATH248 recommended

Code	Title	Credits	Semester	Level	Pre-requisites
MATH351	Analysis and Number Theory	15	1	Q6	MATH101-3; MATH241 helpful
MATH361	Theory of Statistical Inference	15	2	Q6	MATH263, MATH264
MATH362	Applied Probability	15	1	Q6	MATH264
MATH363	Linear Statistical Models	15	1	Q6	MATH263
MATH364	Medical Statistics	15	2	Q6	-
MATH366	Mathematical Risk Theory	15	2	Q6	MATH264
MATH367	Networks in Theory and Practice	15	1	Q6	2nd Year Maths

3. STUDENT COMPLAINTS AND OTHER WORRIES

The University has a code of practice for student complaints. If you are concerned about any aspect of your programme, or have health or family problems, then the first point of contact remains your Academic Advisor or the Student Office.

If you have a complaint about an individual member of staff then

- in the first instance put your complaint in writing and give or send it to that member of staff;
- if this fails to resolve the issue, or if you feel unable to deal directly with the member of staff, then you should state your complaint in writing and give or send it to the Head of Department, Professor Leszek Gasieniec. You should state your complaint clearly and also what you would like done about it. The Head of Department will deal with the matter as soon as possible.

Full details of the complaints procedure are on the University's website, at
http://www.liv.ac.uk/student-administration/student-administration-centre/policies-procedures/complaints/

Appeals against the mark received on a particular assessment or module, against the non-award of a degree, diploma, or certificate, against the classification or other mark of differentiation of a degree, diploma or certificate which has been awarded, or against a decision to make a different award from that which a student was attempting to qualify are governed by a different part of the University's regulations which can be found at
http://www.liv.ac.uk/student-administration/student-administration-centre/policies-procedures/appeals/

A complaint of a more general nature could also be addressed to the Staff Student Liaison Committee. The Secretary is Dr B Konev, room 115 in the Ashton building, or you can contact one of the Student Representatives. For contact details, see http://intranet.csc.liv.ac.uk/student/sslc/membersUG.php

If you have a complaint about any of the University's services, then in the first instance go to the Student Office or speak to any member of staff and they will advise you.