Computer Communication Systems

Programme Requirements:

Computer Communication Systems - MSc
(CS5098 (60 credits) **or** CS5099 (60 credits)) **and** CS5001 (15 credits) **and** 30 credits from Module List: CS5020, CS5022 **and** Between 15 and 30 credits from Module List: CS4103, CS5024 **and** Between 0 and 30 credits from Module List: CS4052, CS4100 - CS4450 **and** Between 0 and 30 credits from Module List: IS5102 - IS5150 **and** Between 0 and 75 credits from Module List: CS5003 - CS5089, ID5059 (except CS5019, CS5029, CS5039) MPhil: 120 credits from taught element of programme requirements (not including prjoect/dissertation) plus a thesis of up to 40, 000 words CS5001 is compulsory except when exempted following satisfactory performance in an assessment conducted by the school.

Compulsory modules:

CS5001 Object-Oriented Modelling, Design and Programming

SCOTCAT Credits:	15	SCQF Level 11	**Semester**	Both
Academic year:	2018/9			
Availability restrictions:	This module is only available in Semester 2 to students enrolled on the 'with English Language' version of the programme. All other students must take the module in Semester 1.			
Planned timetable:	Variable			
This module introduces and revises object-oriented modelling, design and implementation up to the level required to complete programming assignments within other MSc modules. Students complete a number of practical exercises in laboratory sessions.				
Anti-requisite(s)	You cannot take this module if you take CS5002			
Learning and teaching methods of delivery:	**Weekly contact**: Lectures, tutorials and practical classes.			
Assessment pattern:	Coursework = 100%			
Module teaching staff:	TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk)			

CS5020 Principles of Computer Communication Systems

SCOTCAT Credits:	15	SCQF Level 11	**Semester**	1
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module aims to equip students with a deep knowledge of fundamental concepts and terminologies of computer communication systems (CCS). It will illustrate fundamental principles with reference to widely-used systems and technologies for CCS and enable students to use high level tools for networked systems configuration, exploration and management of CCS. Students will also be made aware of security and privacy principles and how they are used in CCS.				
Pre-requisite(s):	Undergraduate - before taking this module you must pass CS2002 and (pass CS2001 or pass cs2101)			
Anti-requisite(s)	You cannot take this module if you take CS3102			
Learning and teaching methods of delivery:	**Weekly contact**: 2 lectures (x 11 weeks), 1 tutorial (x 6 weeks)			
	Scheduled learning: 28 hours		**Guided independent study:** 119 hours	
Assessment pattern:	**As used by St Andrews:** 2-hour Written Examination = 60%, Coursework = 40%			
Re-assessment pattern:	2-hour Written Examination = 60%, Existing Coursework = 40%			
Module teaching staff:	TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk)			

CS5022 Practice in Computer Communication Systems

SCOTCAT Credits:	15	SCQF Level 11	**Semester**	1
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module aims to introduce students to the applications, protocols and architecture of Computer Communication Systems in terms of their practical realisation, operation, control and management. It will enable them to use standard programming languages and tools in order to build communication applications and protocols and to use standard analytical and statistical tools for examining the operation and performance of communication applications, protocols and systems.				
Pre-requisite(s):	Undergraduate - before taking this module undergraduate students must pass CS3102			
Co-requisite(s):	Postgraduate - you must also take CS5001 and take CS5020			
Learning and teaching methods of delivery:	**Weekly contact**: 2 lectures (x 10 weeks), 1 tutorial (x 4 weeks), lab session (x 4 weeks)			
	Scheduled learning: 32 hours		**Guided independent study:** 116 hours	
Assessment pattern:	**As used by St Andrews:** Coursework = 100%			
Re-assessment pattern:	No Re-assessment available			
Module teaching staff:	TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk)			

CS4103 Distributed Systems

SCOTCAT Credits:	15	SCQF Level 10	**Semester**	2
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module covers the fundamentals of distributed systems, with reference to system models, programming languages, algorithmic techniques, concurrency and correctness.				
Pre-requisite(s):	Before taking this module you must pass CS3102			
Learning and teaching methods of delivery:	**Weekly contact**: 2 lectures (x 11 weeks) and fortnightly tutorial.			
	Scheduled learning: 28 hours		**Guided independent study:** 122 hours	
Assessment pattern:	**As used by St Andrews:** 2-hour Written Examination = 60%, Coursework = 40%			
Re-assessment pattern:	2-hour Written Examination = 60%, Existing Coursework = 40%			
Module teaching staff:	TBC Module coordinator(s): Honours Coordinator - Computer Science (hons-coord-cs@st-andrews.ac.uk)			

CS5098 Group Project and Dissertation in Computer Science

SCOTCAT Credits:	60	SCQF Level 11	**Semester**	Full Year
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module is a group-based MSc project on a topic in Computer Science. It results in an individual dissertation of no more than 15,000 words submitted by each student. Typically the dissertation comprises a review of related work, the extension of old or development of new ideas, software implementation and testing, analyses and evaluation. The dissertation may also include an agreed collaboratively-written group report. Each student is individually assessed, taking into account both individual and group submissions. Students are required to give a presentation of their work.				
Pre-requisite(s):	Requires admission to dissertation phase of msc and permission of the head of school.			
Anti-requisite(s)	You cannot take this module if you take CS5099			
Learning and teaching methods of delivery:	**Weekly contact**: Meetings with supervisor.			
	Scheduled learning: 13 hours		**Guided independent study:** 587 hours	
Assessment pattern:	**As used by St Andrews:** Coursework = 100%			
Module teaching staff:	TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk)			

Or:

CS5099 Dissertation in Computer Science

SCOTCAT Credits:	60	SCQF Level 11	**Semester**	Full Year
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module is an individually supervised MSc project on a topic in Computer Science. It results in a dissertation of no more than 15,000 words. Typically the dissertation comprises a review of related work, the extension of old or development of new ideas, software implementation and testing, analyses and evaluation. Students are required to give a presentation of their work.				
Pre-requisite(s):	Requires admission to dissertation phase of msc and permission of the head of school			
Anti-requisite(s)	You cannot take this module if you take CS5098			
Learning and teaching methods of delivery:	**Weekly contact**: Meeting with supervisor.			
	Scheduled learning: 0 hours		**Guided independent study:** 0 hours	
Assessment pattern:	**As used by St Andrews:** Coursework = 100%			
Module teaching staff:	TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk)			

Optional modules are available - see the pdf online called Computer Science optional modules 2018-2019