

Masters in Networks and Distributed Systems

Programme Requirements

Taught Element, and PG Diploma in Networks and Distributed Systems:

120 credits:

- IS5101
- CS5001
- CS5021
- CS4103 or CS5023
- in total, up to 30 credits from CS4100 - CS4450, subject to appropriate experience
- remaining credits from IS5102 - IS5150, CS5003 - CS5089, ID5059

MSc:

120 credits from Taught Element, plus CS5098 or CS5099, the topic being in Networks and Distributed Systems

MPhil:

120 credits from Taught Element of Networks and Distributed Systems plus a 40,000-word thesis

For all Masters degrees there are exit awards available that allow suitably-qualified candidates to receive a Postgraduate Certificate or Postgraduate Diploma.

Compulsory modules:

IS5101 Masters Core Skills				
SCOTCAT Credits:	15	SCQF Level 11	Semester:	Whole Year
Planned timetable:	To be arranged.			
<p>This module equips students with essential skills for completing an MSc in the School of Computer Science. Topics include: technical writing for Computer Science and Information Technology; use of bibliographic and referencing software; presentation skills; critical analysis of written work; generic research skills including framing research hypotheses, designing and conducting experiments, use of survey tools and gathering, analysing and presenting data; understanding basic statistics; use of project planning techniques; awareness of professional and ethical issues in research activities; carrying out a literature review; and awareness of what constitutes academic misconduct. Skills in these areas are reinforced through practical assignments.</p>				
Programme module type:	Compulsory for all Postgraduate Programmes except Erasmus Mundus Dependable Software Systems.			
Learning and teaching methods and delivery:	Weekly contact: Lectures, seminars, tutorials and practical classes.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

Computer Science - MSc & MPhil Networks and Distributed Systems - 2016/7 - August 2016

CS5001 Object-Oriented Modelling, Design and Programming				
SCOTCAT Credits:	15	SCQF Level 11	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.				
Programme module type:	Compulsory for Advanced Computer Science, Artificial Intelligence, Human Computer Interaction, Networks and Distributed Systems, Software Engineering and Erasmus Mundus Dependable Software Systems Postgraduate Programmes.			
Anti-requisite(s):	CS5002	Required for:	CS5011, CS5021, CS5031	
Learning and teaching methods and delivery:	Weekly contact: Lectures, tutorials and practical classes.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

CS5021 Advanced Networks				
SCOTCAT Credits:	15	SCQF Level 11	Semester:	1
Planned timetable:	To be arranged.			
This module looks forward to new concepts and topics in networking, and also reviews key abstractions including layered models, protocols and Internet architecture, and key concerns such as reliability, resource utilization and quality of service. Specific networking technologies are used to demonstrate monitoring, measurement and analysis of real traffic.				
Programme module type:	Compulsory for Networks and Distributed Systems Postgraduate Programme. Optional for other Postgraduate Programmes in the School of Computer Science			
Co-requisite(s):	CS5001	Required for:	CS5023, CS5029	
Learning and teaching methods and delivery:	Weekly contact: Weekly lectures, seminars, tutorials and practical classes.			
Assessment pattern:	2-hour Written Examination = 40%, Coursework = 60%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

EITHER

CS4103 Distributed Systems				
SCOTCAT Credits:	15	SCQF Level 10	Semester:	2
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.				
Programme module type:	Either CS4103 or CS5023 is compulsory for Networks and Distributed Systems Postgraduate Programmes Optional for other Postgraduate Programmes in the School of Computer Science			
Learning and teaching methods and delivery:	Weekly contact: 2 lectures (x 11 weeks) and fortnightly tutorial.			
Assessment pattern:	2-hour Written Examination = 60%, Coursework = 40%			
Module Co-ordinator:	hons-coord-cs@st-andrews.ac.uk			

OR

CS5023 Mobile and Wireless Networks				
SCOTCAT Credits:	15	SCQF Level 11	Semester:	2
Planned timetable:	To be arranged.			
This module examines how computing and communication are used to allow mobile systems to function in heterogeneous environments, with variations in available network resources and diverse/intermittent network connectivity. A key outcome of the module is for students to be able to critically assess the capabilities and constraints of mobile systems.				
Programme module type:	Either CS4103 or CS5023 is compulsory for Networks and Distributed Systems Postgraduate Programmes Optional for other Postgraduate Programmes in the School of Computer Science			
Pre-requisite(s):	CS3102 or CS5021			
Learning and teaching methods and delivery:	Weekly contact: Weekly lectures, seminars, tutorials and practical classes.			
Assessment pattern:	2-hour Written Examination = 60%, Coursework = 40%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

Compulsory module for MSc:

EITHER

CS5098 Group Project and Dissertation in Computer Science				
SCOTCAT Credits:	60	SCQF Level 11	Semester:	Summer
Planned timetable:	To be arranged.			
<p>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.</p>				
Programme module type:	Optional for MSc in Advanced Computer Science, in Artificial Intelligence, in Computing & IT, in Human Computer Interaction, in Networks and Distributed Systems, Software Engineering Postgraduate Programmes.			
Pre-requisite(s):	Admission to dissertation phase of MSc and permission of the Head of School	Anti-requisite(s):	CS5099	
Learning and teaching methods and delivery:	Weekly contact: Meetings with supervisor.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

OR

CS5099 Dissertation in Computer Science				
SCOTCAT Credits:	60	SCQF Level 11	Semester:	Summer
Planned timetable:	To be arranged.			
<p>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.</p>				
Programme module type:	Optional for MSc in Advanced Computer Science, in Artificial Intelligence, in Human Computer Interaction, in Networks and Distributed Systems, and Software Engineering Postgraduate Programmes.			
Pre-requisite(s):	Admission to dissertation phase of MSc	Anti-requisite(s):	CS5098	
Learning and teaching methods and delivery:	Weekly contact: Meeting with supervisor.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

Optional modules:

CS5003 Masters Programming Projects				
SCOTCAT Credits:	15	SCQF Level 11	Semester:	2
Planned timetable:	Variable			
This module reinforces key programming skills gained in CS5002, by means of a series of coursework assignments posed as small programming projects. These are designed to offer increasing depth and scope for creativity as the module progresses.				
Programme module type:	Compulsory for Computing and Information Technology Postgraduate Programme. Optional for Advanced Computer Science, Artificial Intelligence, Data-Intensive Analysis, Dependable Software Information Technology, Human Computer Interaction MSc Programmes			
Pre-requisite(s):	CS5002	Anti-requisite(s):	IS5108	
Learning and teaching methods and delivery:	Weekly contact: Lectures, tutorials and practical classes.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

CS5029 Networks and Distributed Systems (Special Subject)				
SCOTCAT Credits:	15	SCQF Level 11	Semester:	2
Planned timetable:	To be arranged.			
This module is a guided reading module on any aspect of Networks and Distributed Systems not covered by other available modules. It is intended only for MSc students in Networks and Distributed Systems whose circumstances make it appropriate to deliver an individually designed programme of study in a specialist area of Networks and Distributed systems not covered by other modules.				
Programme module type:	Optional for Networks and Distributed Systems Postgraduate Programme.			
Pre-requisite(s):	the consent of the Head of School	Anti-requisite(s):	CS5019, CS5039	
Learning and teaching methods and delivery:	Weekly contact: Tutorials and practical classes.			
Assessment pattern:	Coursework = 100%			
Module Co-ordinator:	masters-coord-cs@st-andrews.ac.uk			

[Further optional modules are available - see the pdf online called 'PG Computer Science - optional modules 2016 - 2017.'](#)

