

Software Engineering with English Language

Programme Requirements:

Software Engineering (with English Language) - MSc
40 credits from Module List: ET5400 - ET5401 and CS5001 (15 credits) And (CS5098 (60 credits) or CS5099 (60 credits)) and ET5402 (20 credits) or 30 credits from Module List: CS5030 - CS5031 and 15 credits from Module List: CS5032 - CS5033 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 60 credits from Module List: CS5003 - CS5089 (except CS5019, CS5029), ID5059

Compulsory modules:

ET5400 English for Academic Purposes (Combined Masters)				
SCOTCAT Credits:	20	SCQF Level 11	Semester	2
Academic year:	2018/9			
Availability restrictions:	Available only to students on 'with English Language' MSc programmes in the School of Computer Science.			
Planned timetable:	To be arranged.			
This module is designed to develop the academic literacy of students entering onto a taught masters programme at the University of St Andrews. Students develop the academic competence required for writing, delivering presentations, participating in seminars, researching for and evaluating source material, and developing criticality in respect of all aspects of their studies.				
Learning and teaching methods of delivery:	Weekly contact: 6 class tutorials (x 11 weeks) , 0.5 individual supervision meeting (x 5 weeks)			
	Scheduled learning: 69 hours		Guided independent study: 132 hours	
Assessment pattern:	As used by St Andrews: 2-hour Written Examination = 25%, Coursework = 75% Coursework contains 2 elements: a extended essay ((50% of grade) and a presentation (25% of grade).			
Re-assessment pattern:	2-hour Written Examination = 50%, Coursework = 50%			
Module coordinator:	Mr J W Harvey			
Module teaching staff:	Mr J Harvey, Mrs K Tavakoli, Ms L Thirkell			

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ET5401 English for Computer Science 1				
SCOTCAT Credits:	20	SCQF Level 11	Semester	2
Academic year:	2018/9			
Availability restrictions:	Available only to students on 'with English Language' MSc programmes in the School of Computer Science.			
Planned timetable:	To be arranged.			
This module is designed to develop the academic literacy of students entering onto MSc programmes in the School of Computer Science, and this module runs in parallel with English for Academic Purposes (ET5400). Strategies learnt in ET5400 will be applied to specific Computer Science-based texts, and written and spoken tasks. Students will also participate in assessed group projects modelled on similar assessments in 5000-level Computer Science (CS) modules.				
Learning and teaching methods of delivery:	Weekly contact: 6 class tutorials (x 11 weeks), one individual supervision meeting (.05 hours, x 5 weeks)			
	Scheduled learning: 69 hours		Guided independent study: 132 hours	
Assessment pattern:	As used by St Andrews: Coursework = 100%			
Re-assessment pattern:	Coursework = 100%			
Module coordinator:	Ms A J Brooks			
Module teaching staff:	Ms J Brooks, Ms M Carr			

ET5402 English for Computer Science 2				
SCOTCAT Credits:	20	SCQF Level 11	Semester	2
Academic year:	2018/9			
Availability restrictions:	Available only to students on 'with English Language' MSc programmes in the School of Computer Science.			
Planned timetable:	To be arranged.			
This module is designed to follow on from ET5401 and ET5400 to further enhance the academic literacy of students on MSc Programmes in the School of Computer Science. Strategies learnt on the two modules mentioned above will be applied to specific Computer Science-based texts, and written and spoken tasks. Students will also participate in assessed group projects modelled on similar assessments in 5000-level CS modules.				
Learning and teaching methods of delivery:	Weekly contact: 6 class tutorials (x 11 weeks), one individual supervision meeting (0.5 hours, 5 weeks)			
	Scheduled learning: 72 hours		Guided independent study: 132 hours	
Assessment pattern:	As used by St Andrews: Coursework = 100%			
Re-assessment pattern:	Coursework = 100%			
Module coordinator:	Ms A J Brooks			
Module teaching staff:	Ms J Brooks, Ms M Carr			

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)			

CS5030 Software Engineering Principles

SCOTCAT Credits:	15	SCQF Level 11	Semester	1
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module examines the key concepts in small and large-scale software development. Project management is explored, along with the processes involved in developing system requirements, functionality and high-level descriptions necessary to guide the development of, and assess, a working system.				
Learning and teaching methods of delivery:	Weekly contact: Lectures, seminars, tutorials and practical classes.			
	Scheduled learning: 25 hours		Guided independent study: 125 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)			

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CS5031 Software Engineering Practice				
SCOTCAT Credits:	15	SCQF Level 11	Semester	2
Academic year:	2018/9			
Planned timetable:	To be arranged.			
<p>This module introduces advanced software engineering methods supporting the development of complex, composite software systems with an emphasis on software configuration management, reuse and test-driven development practices. It examines software reuse at different levels of scale, from software libraries and components to service-oriented architectures and discusses how reuse presents both challenges and opportunities for the development of quality software. A key process in today's software engineering practice is testing; the module introduces testing methods that complement the different scales of reuse-oriented development, from unit-level testing to integration testing and system-level testing. Students work on a project to design, implement and test a complex, distributed application to put the content of the lectures into practice. Reference is made to the content of the co-requisite Software Engineering Principles module where appropriate, so that students learn how the practices studied fit into a larger software engineering lifecycle.</p>				
Pre-requisite(s):	Undergraduate - before taking this module you must pass CS2002 and (pass CS2001 or pass cs2101)			
Co-requisite(s):	Postgraduate - in the same year as taking this module you should take CS5030 and take CS5001			
Learning and teaching methods of delivery:	Weekly contact: Weekly lectures, seminars, tutorials and practical classes.			
	Scheduled learning: 25 hours		Guided independent study: 125 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)			

One of:

CS5032 Critical Systems Engineering				
SCOTCAT Credits:	15	SCQF Level 11	Semester	1
Academic year:	2018/9			
Planned timetable:	To be arranged.			
<p>The aim of this module is to provide students with an understanding of the concepts and development techniques used for critical, socio-technical systems. When students have completed this module they will: understand the notion of system dependability and the key characteristics of dependable systems; understand the specialised software engineering techniques that may be used to ensure dependable system operation; have practical experience of applying some of these techniques in systems specification, design or implementation.</p>				
Pre-requisite(s):	Undergraduate - before taking this module you must pass CS3099			
Learning and teaching methods of delivery:	Weekly contact: Weekly lectures, seminars, tutorials and practical classes.			
	Scheduled learning: 25 hours		Guided independent study: 125 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)			

CS5033 Software Architecture				
SCOTCAT Credits:	15	SCQF Level 11	Semester	2
Academic year:	2018/9			
Planned timetable:	To be arranged.			
This module introduces students to the concept of software architecture, as an aid to software design, reuse and evolution. When students have completed this module, they will: have knowledge of the key elements of software architectures; recognise architectural styles of existing software systems; be able to describe the software architecture of a non-trivial system accurately; be able to construct systems that satisfy an architectural description; understand how software architecture aids design, reuse and evolution of software.				
Co-requisite(s):	Postgraduate - you must also take CS5031			
Learning and teaching methods of delivery:	Weekly contact: Lectures, seminars, tutorials and practical classes.			
	Scheduled learning: 25 hours		Guided independent study: 125 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)			

One of:

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)			

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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