Computer Communication Systems with English Language

Programme Requirements:

<table>
<thead>
<tr>
<th>Computer Communication Systems (with English Language) - MSc</th>
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<tbody>
<tr>
<td>40 credits from Module List: ET5400 - ET5401 and CS5001 (15 credits) And</td>
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<tr>
<td>(CS5098 (60 credits) or CS5099 (60 credits)) and ET5402 (20 credits) and</td>
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<tr>
<td>30 credits from Module List: CS5020, CS5022 and</td>
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<tr>
<td>15 credits from Module List: CS4103, CS5024 and</td>
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<tr>
<td>Between 0 and 30 credits from Module List: CS4052, CS4100 - CS4450 and</td>
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<tr>
<td>Between 0 and 30 credits from Module List: IS5102 - IS5150 and</td>
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<tr>
<td>Between 0 and 60 credits from Module List: CS4052, CS4100 - CS4450 and</td>
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<td>Between 0 and 60 credits from Module List: IS5102 - IS5150 and</td>
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Compulsory modules:

**ET5400 English for Academic Purposes (Combined Masters)**

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
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<th>2</th>
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<td>2018/9</td>
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<td>Availability restrictions:</td>
<td>Available only to students on 'with English Language' MSc programmes in the School of Computer Science.</td>
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<td>Planned timetable:</td>
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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
### ET5401 English for Computer Science 1

<table>
<thead>
<tr>
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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 (0.5 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

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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, x 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 Programming

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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.
- **Scheduled learning**: 77 hours
- **Guided independent study**: 73 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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### CS5020 Principles of Computer Communication Systems

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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

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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)

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### CS4103 Distributed Systems

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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

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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

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<tr>
<th>SCOTCAT Credits:</th>
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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