Master of Science Computing and Information Technology with English Language

Programme Requirements

<table>
<thead>
<tr>
<th>Computing and Information Technology with English Language - MSc</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First semester</strong></td>
</tr>
<tr>
<td>40 credits from Module List: ET5400 - ET5401 and</td>
</tr>
<tr>
<td>15 credits from Module List: CS5001 - CS5002</td>
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<tr>
<td><strong>Further requirements</strong></td>
</tr>
<tr>
<td>Students must select 55 credits.</td>
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<tr>
<td><strong>Second year</strong></td>
</tr>
<tr>
<td>60 credits from Module List: IS5198 - IS5199, CS5098 - CS5099 and ET5402 (20 credits) and IS5101 (15 credits) and CS5003 (15 credits) and Between 0 and 30 credits from Module List: CS4100 - CS4450 and Between 45 and 75 credits from Module List: IS5102 - IS5150, CS5010 - CS5089, ID5059 <strong>Further requirements</strong> Students must select 185 credits.</td>
</tr>
</tbody>
</table>

MPhil:

120 credits from Taught Element of Computing and Information Technology plus a 40,000-word thesis
Computer Science - Computing and Information Technology with English - 2017/8 - August 2017

Compulsory modules:

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

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>20</th>
<th>SCQF Level 11</th>
<th>Semester:</th>
<th>2</th>
</tr>
</thead>
</table>

**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.

**Programme module type:** Compulsory for Postgraduate Programmes in Computer Science including English Language.

**Pre-requisite(s):** Student must be a user of English as an Additional Language. Student must be enrolled on a 20 month Masters degree in the School of Computer Science.

**Co-requisite(s):** Student must be enrolled on CS5001 (or equivalent) and English for Computer Science 1 (ET5401).

**Learning and teaching methods and delivery:** *Weekly contact:* 6 class tutorials (x 11 weeks), 0.5 individual supervision meeting (x 5 weeks)

**Assessment pattern:** 2-hour Written Examination = 25%, Coursework = 75%

Coursework contains 2 elements: an extended essay ((50% of grade) and a presentation (25% of grade).

**Module coordinator:** Mr J Harvey

**Module teaching staff:** Mr J Harvey, Mrs K Tavakoli, Ms L Thirkell

### ET5401 English for Computer Science 1

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>20</th>
<th>SCQF Level 11</th>
<th>Semester:</th>
<th>2</th>
</tr>
</thead>
</table>

**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.

**Programme module type:** Compulsory for Postgraduate Programmes in Computer Science including English Language.

**Pre-requisite(s):** The student must be a user of English as an Additional Language

**Co-requisite(s):** ET5400, CS5001 or CS5002

**Learning and teaching methods and delivery:** *Weekly contact:* 6 class tutorials (x 11 weeks), one individual supervision meeting (.05 hours, x 5 weeks)

**Assessment pattern:** Coursework = 100%

**Module coordinator:** Ms J Brooks

**Module teaching staff:** Ms J Brooks, Ms M Carr
ET5402 English for Computer Science 2

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>20</th>
<th>SCQF Level 11</th>
<th>Semester:</th>
<th>1</th>
</tr>
</thead>
</table>

**Availability restrictions:** Available only to students on MSc programme in the School of Computer Science and must be taking other relevant modules on that programme.

**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.

**Programme module type:** Compulsory for Postgraduate Programmes in Computer Science including English Language.

**Pre-requisite(s):** ET5401

**Co-requisite(s):** The student must be studying on an MSc programme in the School of Computer Science and must be taking other relevant modules on that programme.

**Learning and teaching methods and delivery:** Weekly contact: 6 class tutorials (x 11 weeks), one individual supervision meeting (0.5 hours, 5 weeks)

**Assessment pattern:** Coursework = 100%

**Module coordinator:** Ms J Brooks

**Module teaching staff:** Ms J Brooks, Ms M Carr

IS5101 Masters Core Skills

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>15</th>
<th>SCQF Level 11</th>
<th>Semester:</th>
<th>Whole Year</th>
</tr>
</thead>
</table>

**Planned timetable:** To be arranged.

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.

**Programme module type:** Compulsory for all Postgraduate Programmes except European Masters in Dependable Software Systems.

**Learning and teaching methods and delivery:** Weekly contact: Lectures, seminars, tutorials and practical classes.

**Assessment pattern:** Coursework = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk
### EITHER

**CS5001 Object-Oriented Modelling, Design and Programming**

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>15</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>1</th>
</tr>
</thead>
</table>

**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 European Masters in Dependable Software Systems Postgraduate Programme
- Either CS5001 or CS5002 is compulsory for Human Computer Interaction and Computing and Information Technology Postgraduate Programmes.
- Optional for Data-Intensive Analysis, Information Technology and Management and Information Technology Postgraduate Programmes.

**Anti-requisite(s):**

CS5002

**Required for:**

CS5011, CS5022, CS5031, CS5052

**Learning and teaching methods and delivery:**

**Weekly contact:** Lectures, tutorials and practical classes.

**Assessment pattern:**

Coursework = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk

### OR

**CS5002 Programming Principles and Practice**

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>15</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>1</th>
</tr>
</thead>
</table>

**Planned timetable:** Variable

This module introduces computational thinking and problem solving skills to students who have no or little previous programming experience. It covers general programming concepts used in the development of software applications, such as data structures, functions, choice, iteration, recursion and input/output. An easy-to-learn programming language is used to illustrate these concepts, and programming skills are reinforced through practical assignments.

**Programme module type:**

- Either CS5001 or CS5002 is compulsory for Computing and Information Technology and Human Computer Interaction Postgraduate Programmes.
- Optional for Data-Intensive Analysis, Information Technology and Management and Information Technology Postgraduate Programmes.

**Anti-requisite(s):**

- CS5001
- Required for: CS5003

**Learning and teaching methods and delivery:**

**Weekly contact:** Lectures, tutorials and practical classes.

**Assessment pattern:**

Coursework = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk
### CS5003 Masters Programming Projects

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>15</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>2</th>
</tr>
</thead>
</table>

#### 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, Computer Communication Systems, Intensive Analysis, Information Technology, Human Computer Interaction MSc Programmes, DEng in Computer Science

#### Pre-requisite(s):
CS5002

#### Anti-requisite(s):
ISS108

#### Learning and teaching methods and delivery:
Weekly contact: Lectures, tutorials and practical classes.

#### Assessment pattern:
Coursework = 100%

#### Module coordinator:
dopgt-cs@st-andrews.ac.uk

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### One of:

### CS5098 Group Project and Dissertation in Computer Science

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>60</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>Summer</th>
</tr>
</thead>
</table>

#### 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.

#### Programme module type:
Either CS5099 or CS5098 is compulsory for the Advanced Computer Science, Artificial Intelligence, Data-Intensive Analysis, Human Computer Interaction, Computer Communication Systems and Software Engineering MSc

#### 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 coordinator:
dopgt-cs@st-andrews.ac.uk
### CS5099 Dissertation in Computer Science

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>60</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>Summer</th>
</tr>
</thead>
</table>

**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.

**Programme module type:** Either CS5099 or CS5098 is compulsory for the Advanced Computer Science, Artificial Intelligence, Data-Intensive Analysis, Human Computer Interaction, Computer Communication Systems and Software Engineering MSc.

**Pre-requisite(s):** Admission to dissertation phase of MSc and permission of the Head of School.

**Anti-requisite(s):** CS5098

**Learning and teaching methods and delivery:**

- **Weekly contact:** Meeting with supervisor.

**Assessment pattern:** Coursework = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk

### IS5198 Group Project and Dissertation in Information Technology

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>60</th>
<th>SCQF Level: 11</th>
<th>Semester:</th>
<th>Summer</th>
</tr>
</thead>
</table>

**Availability restrictions:**

**Planned timetable:** To be arranged.

This module is a group-based MSc project on an approved topic in Information Technology which shows appropriate competences in the field. 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, the development of a software system or skilled use of one or more applications, a critical analysis and evaluation of the project outputs. 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.

**Programme module type:** Either IS5198 or IS5199 is compulsory for the Information Technology MSc. One of: IS5198, IS5199, CS5198, CS5199 is compulsory for the Computing and Information Technology MSc.

**Pre-requisite(s):** Admission to dissertation phase of MSc and the consent of the Head of School.

**Anti-requisite(s):** IS5199

**Learning and teaching methods and delivery:**

- **Weekly contact:** Meeting with supervisor.

**Assessment pattern:** Coursework (Dissertation) = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk
### IS5199 Dissertation in Information Technology

<table>
<thead>
<tr>
<th>SCOTCAT Credits:</th>
<th>60</th>
<th>SCQF Level 11</th>
<th>Semester:</th>
<th>Summer</th>
</tr>
</thead>
</table>

**Availability restrictions:**

**Planned timetable:** To be arranged.

This module is an individually supervised MSc project on an approved topic in Information Technology which shows appropriate competences in the field. The project 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, the development of a software system or skilled use of one or more applications, a critical analysis and evaluation of the project outputs. Students are required to give a presentation of their work.

**Programme module type:** Either IS5198 or IS5199 is compulsory for the Information Technology MSc. One of: IS5198, IS5199, CS5198, CS5199 is compulsory for the Computing and Information Technology MSc

**Pre-requisite(s):** Admission to dissertation phase of the MSc

**Anti-requisite(s):** IS5198

**Learning and teaching methods and delivery:** Weekly contact: Meeting with supervisor

**Assessment pattern:** Coursework (Dissertation) = 100%

**Module coordinator:** dopgt-cs@st-andrews.ac.uk

Optional modules are available - see the pdf online called Computer Science - optional modules 2017 - 2018.