# Human Computer Interaction

## Programme Requirements:

| Human Computer Interaction - MSc |
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| (CS5001 (15 credits) **or** CS5002 (15 credits)) **and** CS5040 (15 credits) **and** CS5042 (15 credits) **and** (CS5041 (15 credits) **or** CS5044 (15 credits)) **and** <br> Between 0 and 30 credits from Module List: CS4052, CS4100 - CS4450 **and** <br> Between 15 and 60 credits from Module List: IS5102 - IS5150, CS5003 - CS5089 (except CS5019, CS5029, CS5039), ID5059 **and** (CS5098 (60 credits) **or** CS5099 (60 credits)) |
| MPhil: <br> 120 credits from taught element of programme requirements (not including project/dissertation) plus a thesis of up to 40, 000 words |

## Compulsory modules:
One of:

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

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| **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.

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| **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) |

Or:

### CS5002 Programming Principles and Practice

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|---|---|---|---|---|
| **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 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.

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| **Anti-requisite(s)** | You cannot take this module if you take CS5001 |
| **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) |

## CS5040 Human Computer Interaction Principles and Methods

| SCOTCAT Credits: | 15 | SCQF Level 11 | **Semester** | 1 |
|---|---|---|---|---|
| Academic year: | 2018/9 | | | |
| Planned timetable: | To be arranged. | | | |
| This module provides a grounded introduction to the principles of human computer interaction in the context of evaluation paradigms. Material includes: history of interfaces and interaction; the human (vision, perception, memory, hearing); the computer (from existing to next generation ubiquitous computing systems); paradigms of interaction; evaluation paradigms in HCI; guidelines and heuristics; experimental design and hypothesis testing in HCI; quantitative evaluation methods in HCI; qualitative evaluation methods in HCI. | | | | |
| 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 CS3106 | | | |
| Learning and teaching methods of delivery: | **Weekly contact**: Lectures, practical classes and tutorials. | | | |
| Assessment pattern: | 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) | | | |

## CS5042 User-Centred Interaction Design

| SCOTCAT Credits: | 15 | SCQF Level 11 | **Semester** | 2 |
|---|---|---|---|---|
| Academic year: | 2018/9 | | | |
| Availability restrictions: | The module is available to all students enrolled on the MSc in Human Computer Interaction Programme. A ballot for students on other MSc programmes and final year MSci students wishing to take the module may be necessary due to lab equipment constraints. | | | |
| Planned timetable: | To be arranged. | | | |
| This module studies methodologies in interaction design that are at the core of current practice for user interface engineering and application development. Students work towards creating designs of interactive systems that are based on human, group and organisation needs rather than on technical constraints. The module does not involve a great deal of programming. | | | | |
| Pre-requisite(s): | Undergraduate - before taking this module you must pass CS2002 and (pass CS2001 or pass cs2101) | | | |
| Learning and teaching methods of delivery: | **Weekly contact**: 2 lectures, 3 practicals and 1 tutorial. | | | |
| Assessment pattern: | Coursework = 85%, Presentation = 15% | | | |
| 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:

## CS5041 Interactive Software and Hardware

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|---|---|---|---|---|---|
| **SCOTCAT Credits:** | 15 | SCQF Level 11 | **Semester** | | 1 |
| **Academic year:** | 2018/9 | | | | |
| **Availability restrictions:** | The module is available to all students enrolled on the MSc in Human Computer Interaction Programme. A ballot for students on other MSc programmes and final year MSci students wishing to take the module may be necessary due to lab equipment constraints. | | | | |
| **Planned timetable:** | To be arranged. | | | | |
| This module develops prototype-building skills for a wide range of interactive technologies. Students learn how to create interactive hardware and software using technologies such as tangible programming kits, mobile devices, microprocessor kits and depth cameras. There is a strong emphasis on practical assignments. | | | | | |
| **Pre-requisite(s):** | Undergraduate - before taking this module you must pass CS2002 and (pass CS2001 or pass cs2101) | | | | |
| **Co-requisite(s):** | Postgraduate - you must also take CS5001 | | | | |
| **Learning and teaching methods of delivery:** | **Weekly contact**: Lectures, practical classes and tutorials. | | | | |
| **Assessment pattern:** | 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) | | | | |

## CS5044 Information Visualisation

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| **SCOTCAT Credits:** | 15 | SCQF Level 11 | **Semester** | | 2 |
| **Academic year:** | 2018/9 | | | | |
| **Planned timetable:** | To be arranged. | | | | |
| This module provides an introduction to information visualisation. It focuses on the question of how to utilise visual representations to make information accessible for exploration and analysis. The module covers basic principles of visualisation design and interaction principles. It introduces a range of visualisation techniques and tools, and discusses how these can be effectively applied in various scenarios for communication, exploration and analysis, and how to evaluate information visualisations in different contexts. Skills in designing, developing, and evaluating information visualisations are reinforced through practical assignments. | | | | | |
| **Pre-requisite(s):** | Undergraduate - before taking this module you must pass CS2002 and (pass CS2001 or pass cs2101). Postgraduate - before taking this module you must pass CS5001 or pass CS5002 | | | | |
| **Learning and teaching methods of delivery:** | **Weekly contact**: 3-hour lecture (x 11 weeks), 1-hour seminar (x 8 weeks) | | | | |
| **Assessment pattern:** | 2-hour Written Examination = 40%, Coursework = 60% | | | | |
| **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

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|---|---|---|---|---|
| **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.

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| **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. |
| **Assessment pattern:** | Coursework = 100% |
| **Module teaching staff:** | TBC Module coordinator(s): Director of Postgraduate Teaching - Computer Science (dopgt-cs@st-andrews.ac.uk) |

## CS5099 Dissertation in Computer Science

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|---|---|---|---|---|
| **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.

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|---|---|
| **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. |
| **Assessment pattern:** | 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**