<table>
<thead>
<tr>
<th><strong>Module Code</strong></th>
<th>CS7017</th>
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<tbody>
<tr>
<td><strong>Module Name</strong></td>
<td>Human Computer Interaction in Healthcare</td>
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<tr>
<td><strong>Module Short Title</strong></td>
<td>N/a</td>
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<tr>
<td><strong>ECTS weighting</strong></td>
<td>10</td>
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<tr>
<td><strong>Semester/term taught</strong></td>
<td>Semester 2</td>
</tr>
<tr>
<td><strong>Contact Hours</strong></td>
<td>20 hours; lectures</td>
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<tr>
<td><strong>Module Personnel</strong></td>
<td>Bridget Kane</td>
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### Learning Outcomes
When students have successfully completed this module they should be able to:

- Identify key user issues in the design of information communication technologies
- Apply appropriate methods to identify user requirements in a system
- Apply appropriate methods to evaluate the usability of a system
- Design a computing technology based on Norman’s design principles
- Evaluate a computing technology based on Jacob Nielson’s Usability Heuristics
- Apply knowledge of social and psychological processes to the design of technology for use in healthcare
- Evaluate how technology can mediate in the patient-doctor relationship
- Identify how personal technologies might be employed to enhance patient care / well being
- Identify design features that contribute to health, safety, well-being and productivity
- Develop academic skills of presentation, critical peer review, evaluation and groupwork

### Module Learning Aims
To develop a student’s appreciation of the application of principles of human-computer interaction, interaction design and usability in medicine and health care. While general concepts of human-computer interaction, interaction design and usability will be presented, the application of these concepts in healthcare will provide the focus for the module. Issues that relate to interprofessional communication, medical ethics and the doctor-patient relationships and communication will be incorporated into all sessions. Concepts of multi-function and multi-/ special user computing technologies, and issues in computer-mediated communication, both positive and potentially negative, will be emphasised. Interaction Design issues that impact health, safety, well-being and productivity will be addressed. Patient safety issues and medical error precipitated in design are given special attention.

### Module Content
Specific topics addressed in this module include:

- HCI
- Designing for interaction
- Identifying User Requirements
- Usability and Medical Information Systems
- Evaluation of Usability
- Issues of Health, Safety, Well-Being and Productivity in Interaction Design
- Visualisation of medical data
- Supporting co-operative work in healthcare
- Supporting multiple functions and special users
- Use of the Internet for communication with patients
- Use of Social Networks in Healthcare
- Medical error and patient safety through design

### Recommended Reading List

Coiera, E., Guide to Medical Informatics (Second ed.), Parts 6 & 7,
Module Descriptor 2014/15  
School of Computer Science and Statistics.

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<thead>
<tr>
<th>Module Pre Requisite</th>
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<tr>
<td>Module Co Requisite</td>
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<tr>
<td>Assessment Details</td>
<td>% Exam: 0 % Coursework: 100</td>
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Description of assessment & assessment regulations. The assessment requires students to identify a problem statement in their area of work, identify a set of requirements and design a system using principles of design and usability learned during the module. It also involves learning academic skills of presentation, providing critical peer review, self-evaluation, developing ideas and groupwork.

The assessment consists of an individual component (30%) and Groupwork component (70%).

The individual exercise has four parts:
- Identification of a human-computer interaction problem, in the healthcare environment
- Presentation of the problem statement and research proposal to the class
- Provide Peer review of another’s proposal
- Contribution to groupwork

The Group assignment is to select one of those presented in class and undertake the study. The findings are to be written as a submission to an international conference standard, and will be the subject of the peer review (referred to above). Following on receipt of reviews, groups revise their submission and submit their final version.

<table>
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<th>Module approval date</th>
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<tr>
<td>Approved By</td>
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<tr>
<td>Academic Start Year</td>
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