**Module Title**

Information Retrieval and Organisation

**Level**

7

**Credit Value**

15

**School responsible for the Module**

SCSIS

**Date Module will commence**

1 Oct 2008

**Minimum / Maximum number of students**

PT 10/50

FT 5/40

**Mode of Delivery**

<table>
<thead>
<tr>
<th>Method of Delivery</th>
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<tbody>
<tr>
<td>Lectures 33</td>
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<tr>
<td>Seminars</td>
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<tr>
<td>Tutorials</td>
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<tr>
<td>Project Work</td>
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<tr>
<td>Practical Classes (labs, computers, languages)</td>
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<tr>
<td>Field Work</td>
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<td>Other (please specify)</td>
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**Teaching and Learning**

(b) Directed Learning / Private Study / Assessment 20

**Status**

Core, Compulsory

**Pre-requisite (PR), Co-requisite (CO) and/or Restrictions (RES)**

Due to the explosive growth of digital information in recent years, modern Information Retrieval (IR) systems such as search engines have become more and more important in almost everyone's work and life (e.g. see the phenomenal rise of Google). IR research and development are one of the hottest research areas in academia as well as industry. This module will convey the basic principles of modern IR systems to students.
Main Aims

The aim of this module is to introduce modern Information Retrieval (IR) concepts and techniques, from basic text indexing to advanced text mining and Web IR. Both theoretical and practical aspects of IR systems will be presented and the most recent issues in the field of IR will be discussed. This will give students an insight into how modern search engines work and are developed.

Learning Outcomes

Outcomes may be Subject Specific, Intellectual, Practical, or Personal and Social.
On successful completion of this module a student will be expected to be able to:

Subject Specific: (S9, S10)
- ability to understand facts, concepts and principals of IR systems
- ability to recognise and discuss criteria ad specifications appropriate to specific problems and plan strategies for their solution
- ability to discuss and explain the extent to which an IR system meets the criteria defined for its current and future development
- ability to deploy appropriate practices and tools for the specification, design, implementation and evaluation of IR systems

Intellectual: (I6)
- construct and present theoretical and empirical arguments
- critically analyse and evaluate arguments and evidence
- undertake critical analysis of information that may be incomplete or include abstract concepts
- analyse, evaluate, and select between different approaches for design and implementation

Practical:
- compare approaches and make informed decisions
- develop effective information-retrieval skills

Personal and Social: (PS5, PS6)
- carry out independent research, analyse and evaluate alternatives
- present findings of research/analysis/evaluation and discuss them
- manage learning and development, including time management and organisational skills

Syllabus

Please itemise the main topics of study

- introduction to basic concepts/motivation
- text preprocessing techniques
- retrieval models
- performance evaluation
- techniques for searching and indexing
  - scoring and term weighting
  - index construction and compression
- text mining
  - classification
  - language models
  - clustering
- web IR
- multimedia IR
### Scheme of Assessment

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<thead>
<tr>
<th>Element of Assessment</th>
<th>Weighting (%)</th>
<th>Characteristics (eg, word count, duration of exam)</th>
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<tbody>
<tr>
<td>Written examination</td>
<td>80%</td>
<td>two-hour written examination</td>
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<tr>
<td>Coursework</td>
<td>20%</td>
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**Pass requirements:** A weighted average of at least 50% (may be compensated, see 18 under programme specification)

### Core Teaching Staff

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<th>FT or PT</th>
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Please indicate whether permanent and/or sessional teaching staff will be responsible for teaching on this module

- Permanent: YES
- Sessional: NO

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<th>Name(s):</th>
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### Resources

Are additional resources required for this module? YES / NO

If YES, please give details of additional resources required and obtain the relevant signature(s) to indicate agreement.

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<th>Library</th>
<th>Librarian:</th>
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<tr>
<th>CCS</th>
<th>CCS Manager:</th>
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### Agreement

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<th>Name</th>
<th>Signature</th>
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- **Module Co-ordinator**: Sven Helmer/Dell Zhang
  
  **Date**: 31 Oct 2007

- **Head of School**: Peter Wood
  
  **Date**: April 2007
1. Self explanatory

2. Level: either 4 (C), 5 (I) or 6 (H) for undergraduate modules; Level 7 (M) for postgraduate modules.
   Level descriptors are described in the Framework for Higher Education Qualifications:
   [http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp]

3. Credit Value: 15 (half), 30 (single) or 60 (double).

4. Self explanatory. Add Subject Code and Desk for FCE modules.

5. Self explanatory

6. Give and minimum and maximum number of students required to run this module.

7. Tick one or more boxes as appropriate.

8. Normally, 1 credit = 10 notional hours of learning. This includes all study undertaken to achieve the specified learning - contact hours, assessment and private study. Therefore a 30-credit = approximately 300 hours total learning hours.
   Method of teaching and Contact hours/attendance: For each teaching component give details of the number of associated study sessions and contact hours the student will be expected to attend/undertake in College or elsewhere, eg, Lectures: 11 weekly sessions, each 1.5 hours, plus revision week.
   Directed Learning/Private Study/Assessment: Please indicate the approximate number of hours a student might be expected to undertake in learning and private study, including assessment and preparation for assessment.
   Directed Learning/Private Study: Please indicate the approximate number of hours a student might be expected to undertake in learning and private study, including assessment and preparation for assessment.

9. Tick one or more boxes as appropriate to indicate status of module.
   Core: must be taken and passed
   Compulsory: must be taken, but may be compensated if not passed but overall mark achieved is between 30-39
   Option: selected from a range of approved modules within the field as specified in the programme regulations
   Add details of the designated programme(s) for Core/Compulsory modules.
   Add details of all programme(s) for which the module may be selected as an approved Option.
   Elective modules: unless specified otherwise, all modules will be available as electives and open to any student whose programme of study has defined an elective module as part of the approved programme, subject to availability of places, pre(co)-requisite requirements, timetabling constraints and being at the appropriate level/value.

10. Pre-requisite: List any module (Code and Title) which must be successfully completed prior to undertaking this module, or any other condition(s) of eligibility.
    Co-requisite: List any module (Code and Title) which must be selected in parallel with this module
    Restrictions: List any modules which CANNOT be taken in conjunction with this module

11. Rationale for introducing this module in the context of existing provision, including statement of how the proposal meets student need.
    If the proposal supersedes an existing module, please give the code and title of the superseded module and the reason for replacement.
    If the proposal relates to an existing module, please give the code and title of the related module and an explanation of how this relationship will work.

12. The overarching aims of the module and how it fits with the programme(s). Any special features should be highlighted.

13. Learning Outcomes should relate to the overall aims of the programme(s) to which the module forms part and should be achievable and measurable. The entry should be written in the following format:
   “On successful completion of this module, a student will be expected to be able to ……”, followed by a verb, eg, demonstrate, evaluate, operate, apply, analyse, and then an indication of the appropriate skills, complexity, knowledge or understanding.
   Learning outcomes may relate to some, or all, of the following categories:
   Subject Specific: The main areas of knowledge to be gained by the student, the understanding of the context in which this knowledge exists and the understanding of how this knowledge can be applied.
   Intellectual: Reference should be made to evaluation, applications of theoretical understanding to work/life situations, critical reasoning, formulation and testing of hypotheses, problem solving, analytical skills, synthesis, the ability to study a problem in depth etc.
   Practical: Research skills, laboratory skills, IT skills, numeracy skills, use of specialised statistical packages, ability to handle historical documents in a history programme, or other as appropriate.
   Personal and Social: Skills that the student should be able to use in areas of life independent of the programme eg, communication skills, the ability to work independently, self-awareness, planning and organisational skills, continuous learning skills, presentation skills, teamwork or an increased awareness of ethical practice.

14. Self explanatory

15. Assessment methods should enable the student to demonstrate the learning outcomes for the module.
   All elements of assessment must be listed (including those that are zero-weighted for purposes of calculating the overall final mark).
   Elements of Assessment: e.g. coursework essay, dissertation, project, examination (seen), examination (unseen), group assessment, presentation, portfolio, oral, viva, report (or other that may not be listed here).
   Weighting: percentage weighting the element contributes to the final module result.
   Characteristics: e.g. word count, submission date, duration of exam or other timed assessment.
   Pass requirements: e.g. all elements have to be passed; some elements must be passed as well as a pass overall; just a pass overall must be obtained.

16. The module co-ordinator should be a permanent member of teaching staff who should ensure that procedures are being adhered to with regard to teaching and assessment practices.

17. Provide details of any ADDITIONAL resources required. All teaching and learning must be sufficiently flexible to enable all reasonable adjustments to be made in accordance with the Disability Discrimination Act (DDA).
Self-explanatory