Course Team

<table>
<thead>
<tr>
<th>Name</th>
<th>Room Number</th>
<th>E-mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Savi Maharaj</td>
<td>4B68</td>
<td><a href="mailto:savi@cs.stir.ac.uk">savi@cs.stir.ac.uk</a></td>
</tr>
<tr>
<td>Dr Carron Shankland</td>
<td>4B62</td>
<td><a href="mailto:ces@cs.stir.ac.uk">ces@cs.stir.ac.uk</a> (Course Organiser)</td>
</tr>
</tbody>
</table>

Prerequisites
None. However, students who have a qualification such as SCE Higher or GCE A-level in Computing or Information Systems may not take this module (module CSC941 is available instead).

Credits
22 credits at SCQF level 8

Learning Outcomes
By the end of the module students will understand:
• Basic computer architecture and the different types of memory and storage devices.
• What an operating system is and how it differs from applications software.
• How their desktop machine fits into the university network and ultimately to the rest of the world.
• How simple algorithms can be programmed in high-level language.

They should also have gained the practical skills to be able to:
• Organise their workload efficiently.
• Present their ideas through written, electronic and oral communication.
• Use the Windows interface and the main components of MS Office (Word, Excel, Access and PowerPoint).
• Use the Internet with a variety of different tools: browsing, searching, electronic mail.
• Compose simple hypertext documents.
• Adapt and incorporate images into documents.
• Modify, run and test simple programs in Alice.

They will also have increased awareness of the place of computers in the modern world, and of some social issues arising from the use of computers.

Further, they will have developed transferable skills as follows:
The packages being taught are industry standard and so the practical IT skills developed by students can be generalised and used in any discipline where there is a need for:
• The preparation of electronic and paper documentation
• The storage, retrieval, manipulation and visualisation of large amounts of data
• The use of electronic aids for communication

Students will be taught to use the Internet as a research tool. This will enable them to access information resources in many disciplines, and to communicate with others, both on-site and elsewhere.

Students will be taught to author hypertext documents that may be used as a vehicle for the dissemination of information in many disciplines.

Students will develop problem-solving skills that can be adapted and used in many other situations where structured analytical thought is required.

Students will be required to demonstrate the ability to apply theory and techniques to unseen problems, to work independently and under a time constraint.
Contents
Introduction (0.5 lecture)
Networks and the Internet (3 lectures and 1 practical)
- Network topology
- The Internet (WWW, e-mail, FTP, search engines)
- Network protocols
- Domains and routing
- Client-server architecture
Systems (5.5 lectures)
- Introduction to the PC under the Windows operating system and 1 tutorial)
- Computer architecture
- Files and file systems
- Operating systems
- An introduction to using programming languages to control computers
Text and Graphics (4 lectures and 6 practicals)
- HTML
- Authoring World Wide Web pages
- Graphics, presentations
Programming (6 lectures, 4 practicals, 2 tutorials)
- An introduction to programming using Alice
- Program control structures: sequencing, conditionals, loops
- The transition to using the BlueJ development environment to edit, compile and run Java applets
Databases (2 practicals)
- What a database is and what it is for
- The relational model
- Creating and modifying tables
- Performing queries
- Producing reports
- Database management
Spreadsheets (2 practicals)
- The nature of a spreadsheet
- Formulas, relative/absolute addressing
- Producing graphs and charts
Social and Professional Issues: including topics such as: (3 tutorials)
- Internet Issues: Policing the Internet, Commercial Aspects of the Internet, Social Networking
- Usability of Computer Systems
- Legislation: Data Protection Act, the Freedom of Information Act, the Computer Misuse Act

Textbooks
We recommend the following textbooks:
- The following book gives an excellent introduction to a wide range of computing topics and will also be useful for background reading for several later modules: Nell Dale and John Lewis, "Computer Science Illuminated, fourth edition", Jones and Bartlett Publishers, 2010, ISBN 978-0-7637-7646-6
- For the Alice programming part of the module, we will be using "Selected Chapters from Programming with Alice and Java", Pearson, 2010, ISBN 978-0-85776-321-1. We strongly recommend purchase of this text. It consists of an extract from the text Programming with Alice and Java by Lewis and dePasquale, specially prepared for CSC931. (The full version of the book is also suitable but is considerably more expensive.) It is available from the University Bookshop, and can be bought separately or as a combined package with the semester 2 textbook, Java for Students.
- None of the above texts cover HTML or Microsoft Office in any great detail. There are abundant resources available for learning about these topics, including websites, books (many of which are in the University library) and online help.
Assessment
There will be four separate assessments: two short class tests, contribution to a group project on social and professional issues, and a checkpoint grade, which is for work in practical sessions. The marks available (100 in total) will be broken down as follows:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory Checkpoints</td>
<td>25</td>
</tr>
<tr>
<td>Alice Programming Test</td>
<td>25</td>
</tr>
<tr>
<td>Social and Professional Issues Project</td>
<td>25</td>
</tr>
<tr>
<td>Systems/Nets/Hypertext Test</td>
<td>25</td>
</tr>
</tbody>
</table>

In order to pass the module it is necessary to attempt every assessment (see the "Requirements" section below) although it is not necessary to pass them all. Your final grade will be calculated from your grade for each assessment.

Plagiarism
Work which is submitted for assessment must be your own work. All students should note that the University has a formal policy on plagiarism which can be found at http://www.quality.stir.ac.uk/ac-policy/Misconduct.php.

Plagiarism means presenting the work of others as though it were your own. The University takes a very serious view of plagiarism, and the penalties can be severe (ranging from a reduced grade in the assessment, through a fail grade for the module, to expulsion from the University for more serious, or repeated, offences). Specific guidance in relation to Computing Science assignments may be found in the Computing Science Student Handbook.

Requirements
In order to be considered for a pass grade for the module you must
- Contribute to the group project
- Give an issues presentation
- Attend the Alice test
- Attend the Systems, Networks and Hypertext Test.
- Achieve at least 4C in the checkpoint grade

If you do not attend a class test, you will receive zero marks for that test. If you do not contribute to the group wiki project and make a presentation on that investigation at a tutorial, you will receive zero marks for the project. In either case, a further consequence will be that you will receive an “X” grade for the module (i.e. “no grade”). Assessed coursework that is submitted late will be accepted up to five days after the submission date (or expiry of any agreed extension) but the grade will be lowered by one grade point per day or part thereof. After five days the piece of work will be deemed a non-submission, and will result in the award of No Grade for the module as a whole. This rule (regarding coursework) may be relaxed for students who can show good cause for failure to submit. ‘Good cause’ may include illness (for which a medical certificate or other evidence will be required). Similarly, failure to attend a test may be excused if there is good cause.

Students who obtain a grade 4A, 4B or 4C for the module overall will be eligible for a Repeat examination. For CSC931 this will consist of the Systems, Networks and Hypertext test. The grade awarded following a Repeat examination is capped at 3C.

If, at any stage, you foresee any difficulties in meeting these requirements, please contact the Course Organiser as soon as possible. The Course Organiser is Dr Carron Shankland, room: 4B62 - Cottrell Building, phone: 01786 467444 (Internal: 7444), email: ces@cs.stir.ac.uk

Attendance Requirements
You are expected to attend all lectures, tutorials, and practical classes, in order to derive the maximum benefit from your time at University. It is your responsibility to make the most of the opportunities for education offered to you by the University.
Student Handbook for Computing Science
You will receive a copy of the Computing Science student handbook. You should read this carefully, particularly the sections on assessment and plagiarism. There is also useful information in there about course structure, which will help you plan your future module choices in Computing. The handbook is also available online at http://www.cs.stir.ac.uk/courses/ug-handbook.pdf

Results
Arrangements are in place so that any student with a valid University username and password can see their academic history, at any time, including the most recent grades (from anywhere in the world) via the World Wide Web and WebCT.