CO1101 Computing Fundamentals

Credits: *15*   **Convenor:** *Dr. J. O. Ringert*   **Semester:** *1st*

Prerequisites:	*none*		
Lectures:	*22 hours*		
Tutorials:	*22 hours*	**Independent Study:**	*84 hours*
Laboratories:	*22 hours*		
Assessment:	*Coursework: 100% + Exam: 0%*		

Formative Coursework	*Summative Coursework*	
None	**Class Tests:**	*0 in total*
	Assignments:	*3 in total*

Learning Outcomes   Students should be able to:

- Explain and discuss an overview of modern Computer Science at honours level. Discuss detailed overviews of operating systems; computer architecture; software engineering; databases; the internet and WWW (in Linux and Windows) and mobile computing.

- Explain files, directories, memory, the command line and fundamental structures. Write scripts and useful but simple command line programs.

- Operate and critique basic tools such as editors, search engines and similar technologies; hence identify, retrieve, organise/analyse and present information including generation of web pages and use of text processors.

- Explain the basics of computer and internet security, including HTML, css, W3C standards and other technologies.

- Explain and discuss the concepts of assessment and feedback, methods of teaching and learning, and how these supprt progression across the programme and lead into employment. Write a short summary essay as teamwork, including work time-planning. Peer assess the essay.

Explanation of Prerequisites   No specific knowledge is required, but a rudimentary understanding of operating systems and web technologies will be helpful. Some programming experience is also helpful, but not essential.

Module Description   This module is designed to deliver academic knowledge; to enable you to get to know your Personal Tutor; and for you to achieve the Leicester Award by combining academic study with guidance from your Personal Tutor.

This module provides an introduction to a range of fundamental topics in Computing. You will learn technical material that is useful in its own right and also underpins further study, plus a range of applied topics that help you transition to University and complete your degree.

A special feature of this module is that you will have weekly group meetings with your Personal Tutor, who can provide guidance about both this module and your other University activities.

You will also take part in the Leicester Award: the assessment of CO1101 facilitates your achievement of the award.

The module consists of four parts:

- Module Introduction, Computing History, Degree Overview, Teaching and Learning, Leicester Award

- Operation Systems and Networking

- Information Retrieval and Organization

- Web Technology and Security

Syllabus   *The module consists of four parts. Each part will be taught by a different academic.*

Module Introduction, Computing History, Degree Overview, Teaching and Learning, Leicester Award
The first part consists of an introduction to the module; a short summary of what Informatics is all about, and
its history; an overview of the different degrees taught in the Department; and some information about teaching,
learning and assessment to help support your study.

Operation Systems and Networking   The second part will give an overview of the components of a computer, operation systems, and general networking.

Information Retrieval and Organization   The third part will consist of an introduction to technical writing,
mechanisms and use of search engines, selecting sources of information and judging quality, and separating fact
from opinion.

Web Technology and Security   The final part of the module gives an overview of web technology and
the principles behind TCP/IP and HTTP protocols. We will learn basics of the HTML and CSS languages for
presenting and layouting web pages. Finally, we review security mechanisms used in the internet and briefly
describe common forms of attacks.

Reading List

Info
    Reading materials will be announced on the blackboard site of the module.

Convenor's Notes

Module Learning   This module covers the foundation of computing from many perspectives to prepare for
advanced modules on each topic. For this reason there is not a single, complete source of information but suitable
books and reference materials for each part of the module (see **Reading List**).

Assessment   This module has three assessed courseworks during the term, CW1, CW2, and CW3. These
comprise two individual courseworks CW1 and CW2 and one coursework with a group and individual component
CW3. The 100% coursework mark breaks down as follows:

CW1: Leicester Award related individual assignment, 10% module mark

CW2: Assessment, 30% module mark

CW3: group and individual project, 60% module mark