

**University of Roehampton
International Summer School**

School of Arts**Module Title: Computing and Society****Module Code: CMP020L005H****Module Rationale**

Computing and Society examines the role computing takes in society. The module incorporates ideas from ethical practice, usability and accessibility, sustainability, and an introduction to the legal frameworks related to computing. Understanding people (users) and their needs is fundamental to the modern computer scientist, who develops systems for people. Furthermore, ethical concerns on computer use and the professional requirements surrounding these concerns are essential in the modern IT workplace. Computing and Society introduces computing in a social context, examining initially ethical arguments surrounding computer usage in modern society. Accessibility and sustainability of computer systems is also explored. Professionalism, and in particular professional conduct and interaction are examined via digital collaboration tools. Finally, an introduction to legal frameworks – specifically intellectual property – is undertaken.

Computing in Society provides students with the legal, social, ethical, and professional frameworks that allow them to be responsible IT practitioners. The understanding delivered in this module is fundamental when working in areas of software engineering, artificial intelligence, data science, and cyber-security within computer science.

The aim of Computing and Society is to develop students' fluency in professional and ethical practice. The module will require students to examine various case studies of computing use to undertake ethical argumentation surrounding best practice.

Learning Outcomes

Students who successfully complete this module will:

- Evaluate the efficacy of a given design and implementation using empirical data.
- Evaluate ethical/social tradeoffs in technical decisions.
- Create and conduct a usability test for an existing software application.
- Illustrate global social and environmental impacts of computer use and disposal (e-waste).
- Compare the HCI issues in individual interaction with group interaction.
- Compare and contrast various collaboration tools.
- Characterise and contrast the concepts of copyright, patenting, and trademarks.

Topics:

- Introduction to social concerns.
- Social context of computing.
- Analytical tools of ethical argumentation.
- Introduction to Human-Computer Interaction.
- Fundamental principles of Human-Computer Interaction.
- Introduction to sustainability.
- Sustainability in computing.

- Collaboration and communication principles.
- Digital tools for collaboration and communication.
- Professional communication.
- Introduction to legal issues in computing.
- Intellectual property.

Assessment

Coursework (report) – 60%

Coursework (case study) – 40%

Essential Reading

Ethics in Computing: A Concise Module (Undergraduate Topics in Computer Science) - Joseph Migga Kizza, 2016

The Design of Everyday Things (The MIT Press) - Donald A. Norman, Jan 10, 2014

Observing the user experience: a practitioner's guide to user research - Mike Kuniavsky, Elizabeth Goodman, Andrea Moed, ebrary, Inc, c2012

Observing the User Experience : A Practitioner's Guide to User Research - Mike Kuniavsky, Elizabeth Goodman, and Andrea