MODULE SPECIFICATION PROFORMA

Module Code:	COM545

Module Title:	Responsible Computing

Level:	5	**Credit Value:**	20

Cost Centre(s):	GACP	JACS3 **code**:	G430

Faculty:	Arts, Science and Technology	**Module Leader:**	Denise Oram

Scheduled learning and teaching hours	48 hrs
Guided independent study	152 hrs
Placement	0 hrs
Module duration (total hours)	200 hrs

Programme(s) in which to be offered (not including exit awards)	Core	Option
BSc (Hons) Computer Science	✓	☐
BSc (Hons) Computing	✓	☐
BSc (Hons) Computer Networks and Security	✓	☐
BSc (Hons) Cyber Security	✓	☐

Pre-requisites
None.

Office use only
Initial approval: 30/08/2018 Version no:1
With effect from: 01/09/2018
Date and details of revision: Version no:

Module Aims

The module aims to enable students to become reflective, professional and responsible practitioners. Students will have the ability to identify and address issues of design, security and usability in the development and operation of computer systems. The student will be able to demonstrate a professional approach to practice, relate theory to practice and identify ethical, sustainable, legal and environmental constraints on IS professionals and other stakeholders within the industry.

Intended Learning Outcomes

Key skills for employability

KS1	Written, oral and media communication skills
KS2	Leadership, team working and networking skills
KS3	Opportunity, creativity and problem solving skills
KS4	Information technology skills and digital literacy
KS5	Information management skills
KS6	Research skills
KS7	Intercultural and sustainability skills
KS8	Career management skills
KS9	Learning to learn (managing personal and professional development, self-management)
KS10	Numeracy

At the end of this module, students will be able to		Key Skills	
1	Demonstrate a professional approach to practice including adhering to HR codes and guidelines of professional bodies within the industry.	KS1	
		KS3	KS5
		KS6	KS9
2	Identify, analyse and debate the impact of technological change on society.	KS1	KS2
		KS3	KS6
		KS7	
3	Discuss the ethical, legal, sustainability and environmental constraints on IS professionals and other stakeholders within the industry.	KS1	KS2
		KS3	KS5
		KS6	
4	Assess the effect of the legal framework upon the design of, and professional liability for, computer and software systems.	KS3	KS5
		KS6	
		KS7	KS8
5	Reason about the application of ethical principles in the solving of ethical dilemmas relating to software systems.	KS1	KS2
		KS3	KS4
		KS6	

Transferable skills and other attributes

- Personal motivation, organisation and time management
- Ability to collaborate and plan
- Written and verbal communication skills
- Research and analytical skills

Derogations

None.

Assessment:

Indicative Assessment Tasks:

The development of a Portfolio whereby students will be given assessment tasks in tutorials and case study based coursework (a number of tasks as formative assessment individually graded) to contribute to the portfolio.

Example: a group project using a consulting case study and presentation.
An individual critical reflection on the systems design and development process and professional approach to practice.

Assessment number	Learning Outcomes to be met	Type of assessment	Weighting (%)	Duration (if exam)	Word count (or equivalent if appropriate)
1	1-5	Coursework	100		4000

Learning and Teaching Strategies:

Lectures are to deliver key concepts, ideas, theories and examples. Tutorials will allow further exploration of the lectures and use scenarios, journal papers, and articles to give students the opportunity to investigate and acquire further subject specific knowledge through individual and group work. Directed study are be used throughout the module to further the student's understanding and to apply theory to practice. Students are be directed to follow the course of study specified (with links to supporting materials) in the online course materials.

All assessments for the module will allow students the opportunity to explore key concepts and theories whilst developing an appreciation of 'real-life' issues and situations.

Syllabus outline:

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- Ethical, social, sustainability, political, cultural usability, security, accountability.
- Software/Systems failure
- Software liability and reliability
- Cyber resilience
- Secure by design software
- Design issues
- Managing ethical dilemmas
- Governance
- E-health systems
- Implications of current and future technologies
- Professionalism and Social responsibility
- Privacy

- Sustainability
- Ethical values and the Digital Frontier
- Cybercrime, Law and regulations
- Artificial Intelligence
- Codes of Conduct, Codes of Ethics
- Future technologies
- Future impact of technologies

Indicative Bibliography:

Essential reading

None

Other indicative reading

Spinello, R.A. (2016), *Cyberethics: Morality and Law in Cyberspace.* 6th ed. Burlington, MA: Jones and Bartlett Learning.

Sandler, R.L. (ed.) (2014), *Ethics and Emerging Technologies.* Palgrave MacMillan

Bott, F. (2017), *Professional Issues in Information Technology*. 3rd ed. Swindon: British Computer Society.

O'Neill, M.G. (2013), *Green IT for Sustainable Business Practice: An ISEB Foundation Guide.* London: BCS.

Andress, J. and Winterfield, S. (2013), *Cyber Warfare: Techniques, Tactics and Tools for Security Practitioners.* 2nd ed*.* Amsterdam: Syngress Media.

Electronic Resources:

ACM www.acm.org
BCS www.bcs.org.uk
IEEE www.ieee.org
Cyber Rights and Civil Liberties http://www.cyber-rights.org/
Regulation of Investigatory Powers Act (RIPA) http://security.homeoffice.gov.uk/ripa/