University of the West of England
BRISTOL

ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Ethics of Technology					
Module Code	UZRSSR-15-3		Level	3	Version	3
Owning Faculty	Health and Applied Sciences		Field	Philosophy		
Contributes towards	BA (Hons) Philosophy BEng(Hons) Automation and Robotics Engineering					
UWE Credit Rating	15	ECTS Credit Rating	7.5	Module Type	Standard	
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements			

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Demonstrate a good knowledge of the theories of ethics of technology and particularly robotics. Demonstrate a good understanding of the fundamental philosophical issues raised by developments in robotics and technology (e.g. AI) (assessed at assessment points A and B respectively). 2. Demonstrate an ability to critically examine actual technological developments being worked on at the BRL and elsewhere using a range of logical and analytical skills (assessed at assessment points A and B respectively). 3. Demonstrate appropriate transferable skills (assessed at assessment points A and B respectively).
Syllabus Outline	This course aims to introduce students to fundamental philosophical and ethical problems arising from developments in technology, particularly in the field of robotics, synthetic biology and AI. Students will receive a practical demonstration and explanation of an existing or potential technological development. They will then work in groups to better understand what philosophical and ethical issues are raised by said development. Topics will include: Human – robot interaction; Ethical and political issues raised by flying drones, automated warfare systems & surveillance; Technology and the global reach of power; Ethical issues arising from assistive robotics, e.g. elder care, dignity of life, our relationships with each other, replacement of human contact; Industrial and service automation: impact on employment, importance of work in society; Sustainability, e.g. implications of more plastic waste and drain on natural resources. We may also (in some years) examine more abstract questions such as: when is a machine alive? Can a robot have consciousness? Would a machine ever receive priority of care over a human being? This course will be co-taught with researchers/lecturers from the BRL.

Contact Hours	The student can expect a minimum of two contact hours per week through a mixture of lectures, seminars or combined lecture/seminar sessions. A further one hour per week will be provided through a mixture of online activities, module specific one to one discussion, assessment point advice and feedback sessions, and guest speaker sessions. The total scheduled contact time for the module will be 36 hours.
Teaching and Learning Methods	Teaching will be via presentations, lectures, seminars, and/or combined presentation/seminar sessions. Presentations are used to introduce key technological developments and the problems they address. Seminars are used to further develop and understand the philosophical significance and ethical implication of the actual technology being studied. Significant use will be made of the Blackboard online learning environment for the provision of learning resources. Students are expected to engage with essential reading, and assignment preparation and completion etc.
Key Information Sets Information	Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for. **Key Information Set - Module data** *Number of credits for this module* 15 Hours to be allocated: 150 Scheduled learning and teaching study hours: 36 Independent study hours: 114 Placement study hours: 0 Allocated Hours: 150 **The table below indicates as a percentage** the total assessment of the module which constitutes a - **Coursework**: Written assignment or essay, report, dissertation, portfolio, project **Practical Exam**: Oral Assessment and/or presentation, practical skills assessment, practical exam Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description: **Total assessment of the module:** Written exam assessment percentage: 0% Coursework assessment percentage: 50% Practical exam assessment percentage: 50% 100%
Reading Strategy	Primary texts being made available electronically via Blackboard – though students may be required to purchase one or more core texts. Full use of both printed material and electronic resources will be encouraged and detailed guidance for week-by-week reading will be offered in the module handbook.

Indicative Reading List	*The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms.* Capurro, Rafael & Nagenborg, Michael (eds.) Ethics and Robots, Amsterdam and Heidelberg: Akademische Verlagsgesellschaft, 2009 Danielson, Peter (1992) Artificial Morality: Virtuous robots for virtuous games, London: Routledge Epstein, Richard G. (1997) The case of the killer robot, New York (web resource: http://www.onlineethics.org/Resources/19049/killerrobot.aspx) Gray, Chris Hables (2001) Cyborg Citizen: Politics in the post-human age, New York: Taylor and Francis Sparrow, Robert (2004) 'The Turing Triage Test'. *Ethics and Information Technology* Levy, David (2008) Love and sex with robots, London: Duckworth Singer, Peter, W (2009) Wired for war: The robotics revolution and conflict in the 21st Century, New York: Penguin

Part 3: Assessment	
Assessment Strategy	The module employs a combination of 2500 word coursework essays and an oral examination (30 minutes including questions). Coursework essays have been chosen as a means for assessing the student's ability to engage with a particular thinker, series of texts, or problem, in some depth. Coursework essays will form the basis for summative assessment. Verbal feedback on student presentations, seminar participation, and through one to one discussions will form the basis for additional formative assessment. Assessment criteria (for all components): Level of engagement with particular philosophical positions and problems Ability to present philosophical argument Ability to critically assess philosophical argument Clarity of presentation including referencing etc Levels and adequacy of research

Identify final assessment component and element	**Component B**	
% weighting between components A and B (Standard modules only)	**A:** **50**	**B**: **50**
First Sit		
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**	
1. Oral examination(30 minutes)	100	
Component B **Description of each element**	**Element weighting** **(as % of component)**	

1. 2500 word essay	100

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Oral examination (30 minutes)	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. 2500 word essay	100
If a student is permitted an **EXCEPTIONAL RETAKE** of the module the assessment will be that indicated by the Module Description at the time that retake commences.	

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First CAP Approval Date	16th January 2014			
Revision CAP Approval Date	31 May 2017	Version	2	RIA 12315
Revision CAP Approval Date	20 July 2017	Version	3	RIA 12398