Course Information Form

This Course Information Form provides the definitive record of the designated course

Section A: General Course Information

Course Title	BSc (Hons) Artificial Intelligence and Robotics
Final Award	BSc
Route Code	BSCARAAF/BSAIFAAF
Intermediate Qualification(s)	
FHEQ Level	6
Location of Delivery	University Square Campus, Luton
Mode(s) and length of study	Full time over 3 years Part-time typically over 6 years
Standard intake points (months)	October, February
External Reference Points as applicable including Subject Benchmark	Computing (2019) FHEQ (2014) SEEC Credit Level Descriptors (2021)
Professional, Statutory or Regulatory Body (PSRB 0 rl.346 243.9 129	

HECoS code(s)	100359
UCAS Course Code	GH76

Course Aims	This course emphasises the application of AI technologies and methodologies to modern robots that require a certain level of intelligence and the abilities to adapt themselves to environments. It is designed to develop your academic and vocational skills to pursue academic and professional careers in industry and in academia. Completing graduates are expected to be able to: Be creative and judgmental Acquire knowledge and understanding of Robots and AI Apply such knowledge to analyse problems encountered and to develop and to evaluate possible robotic solutions Formulate correct procedure of problem solving Communicate findings to peers. The journey of developing such abilities complies with a self-reflective professional development procedure starting from identifying career goal and the gap between the goal and the current levels of knowledge, skills and capabilities for the students. Course units are designed to gradually fill in the gap from fundamental computational concepts and skills in Year One, specialist concepts, technologies and methodologies in AI and robotics in Year Two, to more independent and creative skills of analysis, modelling, and solution synthesis and evaluation in Year Three.

Course Learning Outcomes	Upon successful completion of your course you should meet the appropriate learning outcomes for your award shown in the table below		
		Outcome	**Award**
	1	Present a sound theoretical and conceptual representation of intelligent systems	BSc (Hons) AI & Robotics
	2	Apply AI techniques to the design of robots and theorise on the nature of future developments in this field	BSc (Hons) AI & Robotics
	3	Design and build robots to perform specific tasks and reflect upon the efficiency and functionality of their performance	BSc (Hons) AI & Robotics
	4	Path-plan the navigation of robots in both familiar and non-familiar environments and apply advanced problem solving techniques to these scenarios	BSc (Hons) AI & Robotics
	5	Design experiments to establish the full abilities of robots in a working environment	BSc (Hons) AI & Robotics
	6	Communicate ideas both in writing and orally to appropriate academic or professional standards	BSc (Hons) AI & Robotics
	7	Research and evaluate when and why information is needed, find, use and communicate it in an ethical manner	BSc (Hons) AI & Robotics
	8	Apply formal and informal creativity and critical thinking techniques in the solution of problems.	BSc (Hons) AI & Robotics
	9	Evaluate, research and compare competing solutions and models in the area of Computer Science so as to enhance a professional and informed decision in a given application scenario	BSc (Hons) AI & Robotics

Teaching, learning and assessment strategies	ROS based robot programming CIS016-2 Object Oriented Programming and Software Engineering follows the foundations provided in CIS020-1 Introduction of Software Engineering. The unit Operational Information Security Management provides additional value to the understanding of risk, security and operating systems as delivered in the second term of CIS018-1 Fundamentals of Computing. The final year – as with any honours degree – devotes 60 credits to the honours project as part of the two units CIS013-3 Research Methodologies and Emerging Technologies and CIS017-3 Undergraduate Project. While the undergraduate project relates to the student working as an individual the unit CIS015-3 Social and Professional Project Management addresses student interaction within a professional environment. The students have to work in a group and make decisions within professionally arranged project meetings. CIS006-3 AI & Mobile Robots is the specialist unit for AI & Robotics students, providing knowledge in-depth in advance AI techniques in sensing, control and planning and the applications in mobile robots. **Assessment** The students will be assessed in a variety of ways. The majority of units are assessed through coursework, group and individual projects, portfolios, essays, presentations and exams. Presentations are usually given and assessed in the context of a group seminar. The students will also be expected to produce software/hardware artefacts in specialist units. Constant feedback and advice from a supervisory or unit team will be provided to support you in your work. At level 4, assessments will focus on the understanding of the fundamental concepts in computing and information techniques that are related to robotics. The students are expected to articulate the concepts in a coherent manner, in a variety of written assessments/written briefs. At level 5, assessment focus will be on the ability to perform critical analysis, including the needs for a different or new solutions to the existing problems where there are already a body of solutions and critical opinions. The students are also expected to be able to synthesize the different or new solutions either independently or working in teams. At level 6, assessments will address initiatives and creative thinking. The students are encouraged to identify problems and to develop their own solutions to the problems. They are also required to critically evaluate their own solutions. At this level, the students will progress from well-defined briefs to more open-ended and challenging assessments, which culminate in their major project – the honours project.
Learning support	The University's comprehensive student support service includes: Student Information Desk, a one-stop shop for any initial enquiries; Student Support team advising and supporting those with physical or learning needs or more general student well being; Study Hub team providing academic skills guidance; Personal Academic Tutoring system; a student managed Peer-Assisted Learning scheme; support from your lecturers
	https://www.beds.ac.uk/entryrequirements

Admissions Criteria	**Approved Variations and Additions to Standard Admission** N/A
Assessment Regulations	https://www.beds.ac.uk/about-us/our-university/academic-information **Note: Be aware that our regulations change every year**

Section C: Assessment Plan

The course is assessed as follows :

BSARAAF- Artificial Intellgence and Robotics

Unit Code	Level	Period	Core/Option	Ass 1 Type code	Ass 1 Submit wk	Ass 2 Type code	Ass 2 Submit wk	Ass 3 Type code	Ass 3 Submit wk	Ass 4 Type code	Ass 4 Submit wk
CIS093-1	4	SEMESTER 1	Core	IT-PT	6	PJ-ART	13				
CIS094-1	4	SEMESTER 1	Core	CW-ESS	5	CW-PO	13				
CIS034-1	4	SEMESTER 2	Core	WR-GR	9	EX	13				
CIS096-1	4	SEMESTER 2	Core	IT-PT	8	PJ-ART	13				
CIS098-2	5	SEMESTER 1	Core	WR-I	8	IT-PT	11				
CIS116-2	5	SEMESTER 1	Core	PJ-ART	7	EX	13				
CIS006-2	5	SEMESTER 2	Core	WR-PR	7	WR-PR	13				
CIS117-2	5	SEMESTER 2	Core	CW-PO	8	CW-PO	13				
CIS017-3	6	SEM2	Core	WR-I	8	PR-VIV	12				

CIS013-3	6	SEMESTER 1	Core	CW-RW	6	WR-I	13
CIS044-3	6	SEMESTER 1	Core	CW-PO	7	PJ-ART	13
CIS047-3	6	SEMESTER 2	Core	PR-OR	10	PJ-ART	13