University of Bedfordshire

Course Information Form

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

Section A: General Course Information

Course Title	MSc Biotechnology
Final Award	MSc
Route Code	MSYBTAAF/MSXBTAAF
Intermediate Qualification(s)	N/A
FHEQ Level	7
Location of Delivery	University Square Campus, Luton
Mode(s) and length of study	MSYBTAAF; Full time over 12 (Oct start) or MSXBTAAF: 15 months (February start) Part-time pathway typically over 2-3 years
Standard intake points (months)	Oct and Feb
External Reference Points as applicable including Subject Benchmark	FHEQ (2014) QAA 2020 Masters Degree Characteristics SEEC Credit Level Descriptors (2016) Aspects of QAA subject benchmarking for BSc (Hons) Biological Science (2019), Medicine (2002), Pharmacy (MPharm) (2002) and Engineering (MEng) (2020).

Professional, Statutory or Regulatory Body (PSRB) accreditation or endorsement	
HECoS code(s)	100134
UCAS Course Code	N/A

Course Aims	This course will equip you with an understanding of how microbes are used on an industrial scale. An advanced understanding of both molecular and computational biology, together with knowledge of microbiological techniques at the forefront of technology will equip you for a future in biotechnology or allied industries. The aim of the course is to provide you with an understanding of how microbes can be used to benefit humankind. New technologies in molecular biology, microbiology and computational biology will be taught and it will be shown how these methodologies are applied in biotechnology industries and the underlying biochemistry explained at an advanced level. A laboratory based project will be offered in one of the five taught themes – (i) molecular biology, (ii) computational biology, (iii) applied microbiology, (iv) analytical biology and (v) Biomaterials, to provide our graduates with the laboratory skills required for subsequent employment in biotech/pharmaceutical industries or academia. The course is designed for either full-time or part-time attendance. Typically, part time students will take two units in years 1 and 2 and then perform the research project in the third year. The laboratory research project can be based with the current employer if ratified by the course organiser.

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	Demonstrate systematic understanding and a critical awareness of new technologies in molecular biology;	MSc Biotechnology
2	Show significant knowledge and understanding of the principles of recombinant protein expression and development process;	MSc Biotechnology
3	Demonstrate systematic knowledge and understanding of nucleotide and protein sequence databases and the tools to model 3-dimensional protein structures with molecular modelling software	MSc Biotechnology
4	Show systematic understanding of those industrial processes to exploit the use of microbes for a specific product or application;	MSc Biotechnology
5	Use assured, accurate and fluent language to present work both orally and in written form including use of graphs and images to clearly illustrate complex points;	MSc Biotechnology
6	Synthesise and effectively use information from relevant sources and to independently and critically evaluate current research and advanced scholarship in the relevant subject areas;	MSc Biotechnology
7	Demonstrate originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in laboratory based research;	MSc Biotechnology
8	Apply a range of transferable skills (initiative, personal responsibility, effective communication and decision-making) that include clear demonstration of independent learning commensurate with that expected from postgraduate students. This includes a detailed understanding of the social, moral and ethical considerations associated with any proposed research activity.	MSc Biotechnology

Teaching, learning and assessment strategies

The course is divided into three semesters. As a full-time student, in each of semesters one and two you will study two taught units with a mixture of lectures, seminars/tutorials and practical sessions. In the third semester you will undertake an individual research project. The project is supervised by an academic member of staff but it is a particular opportunity for you to take responsibility for planning and implementing tasks.

Learning support	Students are actively supported through their assessments both directly in subject specific areas by tutors, and by working with the Study Hub to provide targeted workshops to support academic skills development. The focal areas include an introduction to academic integrity, developing good academic practice, scientific writing, use of statistics, and communication of science to diverse audiences including presentation skills also aligned to assessment requirements. Throughout course delivery workshops and tutorials are used to support the development of academic skills, alongside the learning and the assessment process. All in-course assessments are supported by timetabled, interactive tutorial sessions with formative assessment tasks, as appropriate. In addition, assessments that are based around practical work will involve a briefing before, and a session after the laboratory work to explain further the expectations of the assessment and support specific tasks such as data analysis. Examinations are supported by timetabled revision sessions and by workshop sessions covering examples of past examinations and the expectations of examination questions at each level. To assist our learners, assignment briefs a uniform set of information and a consistent set of assessment criteria across the course. At the start of each level, students are given introductory session(s) that set out the expectations for each year. For entry points, several sessions are used to provide guidance and support to students joining the University. These provide details of support for the development of academic skills and learning from the School, the Study Hub and initiatives such as peer-assisted learning (PASS scheme). For students progressing between levels, introductory sessions are also provided to ensure the students are aware of the change in expectations of learning and assessment. This will flag areas such as expectations for increased self-directed learning, critical thinking and analysis that are expected as students go through the learning process. A key aim for the school is the integration of transferable skills within learning and assessment to enhance employability. Our courses build awareness of business applications of knowledge with assessments that develop practical ideas and employability. This is supported by the University's Careers and Employability service throughout the course. Students who commit academic offences due to a lack of clear understanding of academic integrity are further supported by being invited to attend academic practice guidance (APG) meetings with course staff to discuss the issues, and to refer them to the university academic integrity resource (AIR) to encourage them to develop good academic skills. As highlighted, alongside the direct support by the School, the University provides a 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; and the University's Careers and Employability providing support on the transition to the workplace.
	https://www.beds.ac.uk/entryrequirements

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

Section B: Course Structure

The Units which make up the course are listed below. Each unit contributes to the achievement of the course learning outcomes either through teaching (T), general development of skills and knowledge (D) or in your assessments (A).

Unit	Unit Name	Level	Credits	Core or Option	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BHS000-6	Biotechnology Research Project	7	60	Core					DA1	DA 2	DA 1	DA 1							
BHS012-6	Molecular Biology	7	30	Core	TA 1	TA2			TA2			TA 1							
BHS013-6	Analytical methods	7	30	Core		TA1		TA2	TA2	TA 1									
BHS014-6	Applied Microbiology	7	30	Core		TA2		TA1	TA2	TA 1									
BHS042-6	Biomaterials	7	15	Core		TA1		TA2											
BHS043-6	Computational and Systems Biology	7	15	Core			TA1			TA 1	TA 2	TA 2							

Section C: Assessment Plan

The course is assessed as follows :

MSYBTAAF (12 months) Oct start- MSc Biotechnology

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
BHS042-6	7	SEM 1 (AY1)	Core	PR-LAB	8	EX	15				
BHS012-6	7	SEM1 (AY1)	Core	PR-OR	5	WR-I	13				
BHS043-6	7	SEM1 (AY1)	Core	CW-PO	14						
BHS013-6	7	SEM2 (AY1)	Core	WR-PO	9	EX	15				
BHS014-6	7	SEM2 (AY1)	Core	CW-PO	13						
BHS000-6	7	SEM3 (AY1)	Core	CW-JO	15	PJ-PRO	14	PR-OR	15		

MSXBTAAF (15 months- Feb start)- MSc Biotechnology 15 months (Feb start)

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
BHS042-6	7	SEM 1 (AY2)	Core	PR-LAB	8	EX	15				
BHS012-6	7	SEM1 (AY2)	Core	PR-OR	5	WR-I	13				
BHS043-6	7	SEM1 (AY2)	Core	WR-LAB	14						

BHS013-6	7	SEM2 (AY1)	Core	WR-PO	9	EX	15				
BHS014-6	7	SEM2 (AY1)	Core	CW-PO	13						
BHS000-6	7	SEM2 (AY2)	Core	CW-JO	15	PJ-PRO	14	PR-OR	15		

Glossary of Terms for Assessment Type Codes	
CW-JO	Coursework - Journal
CW-PO	Coursework - Portfolio
EX	Exam (Invigilated)
PJ-PRO	Coursework - Project Report
PR-LAB	Practical - Laboratory Based
PR-OR	Practical - Oral Presentation
WR-I	Coursework - Individual Report
WR-LAB	Coursework - Laboratory Report
WR-PO	Coursework - Poster

Administrative Information	
Faculty	Creative Arts Technologies and Science
School	School of Life Sciences
Head of School/Department	Prof S Sreenivasaprasad
Course Coordinator	Guy Grant