Year of entry: 2021/22

Programme Specification

1	**Awarding body**	University of London						
2	**Teaching Institution**	**Birkbeck College**						
3	**Programme Title(s)**	**MSc Bioinformatics**						
4	**Programme Code(s)**	TMSBIOTC_C						
5	**UCAS code (if applicable)**	N/A						
6	**Home Department**	Biological Sciences						
7	**Exit Award(s)**	PG Dip; PG Cert Alternative exit award of *MSc Biological Sciences* awarded for any 180 credits at level 7 from modules in home department (limited to a max. of one project module).						
8	**Duration of Study** (number of years)	1-2 years						
9	**Mode of Study**	FT	**X**	PT	**X**	DL		
10	**Level of Award (FHEQ)**	7						
11	**Other teaching depts or institution**	N/A						
12	**Professional, Statutory Regulatory Body(PSRB) details**	N/A						
13	***QAA Benchmark Statement***	N/A						

14	**Programme Rationale & Aims**
	The rationale for the course is to offer high-quality postgraduate training in bioinformatics. It is suitable for students wishing to enhance their employment prospects or to progress to do a PhD in computational biology. The specific aims of the course are to provide graduate students with: • An understanding of bioinformatics together with the analytical skills (both theoretical and practical) relevant to this field. • A general training in bioinformatics that meets clear industrial and academic needs to support and advance biotechnology and bioinformatics research and development, including emerging areas with acknowledged skills shortages (such as the analysis of Next Generation Sequencing data). • The ability to apply the tools and techniques of computer science, biology, chemistry and statistics to obtain information from the vast wealth of biological data that can be accessed via the internet. The key emphasis is on acquiring generic skills (e.g. programming and database design), rather than individual pieces of software. • Personal and transferable skills (e.g. IT, communication, analytical and problem-solving, interpersonal, organizational, presentation, time-management, etc.).

15	**Entry Criteria**
	Applications are invited from graduates with a relevant 1st or 2.1 honours degree. Relevant subjects include the physical, chemical or biological sciences, mathematics, computing, engineering or allied subjects. Applications from those with degrees in other subjects or with a 2.2 will be considered on merit. Students who fail to meet these criteria but have extensive evidence of relevant work experience may be accepted onto the course in exceptional circumstances. Very occasionally, applicants may need to be interviewed and/or to take a computing aptitude test to ascertain if they are likely to be ready at that time to benefit from the course.

16	**Learning Outcomes**
	To gain the qualification the learner will have demonstrated the following skills specified in the learning outcomes for approved modules in the programme and for the programme as a whole: 1. Critically understand and apply computer techniques to a variety of biological information. 2. Use the tools and techniques of computer science, biology, chemistry and statistics to obtain information from the vast wealth of biological information that can be accessed via the Internet. 3. Understand the language and terminology of bioinformatics. 4. Be aware of current advances and challenges in bioinformatics. 5. The development of key practical skills (e.g. IT, analytical and problem solving skills). 6. Graduates will have developed/improved key personal and transferable skills (e.g. written and verbal communication, interpersonal, organisational, and presentation skills).

17	**Learning, teaching and assessment methods**
	Students will attend and be assessed in 8x 15-credit half-modules (total 120 credits). Teaching is generally in the form of 3-hour sessions that combine a lecture with a practical in a computer lab. Assessment methods vary on different modules, but include: traditional written examinations; in-class, open-book examinations in programming; essays; oral presentations; problem-based learning (e.g. a group programming project for the Biocomputing II half-module). There are two phases of assessment for the research project: a thesis and a viva.

18	**Programme Description**
	All students take 8 x 15-credit modules, giving a total of 120 credits, and a 60-credit research project module. Full-time students take all 9 modules in a single year, as shown in Section 19. Part-time students may take an **evening route** or a **daytime route** through the course. The Project MSc Bioinformatics [CRYS015D7] module spans two years for all part-time

	students. The 15-credit modules taken by a part-time student differ between the two routes (evening and daytime) and alternate from one year to the next, as shown in Section 19.

19	**Programme Structure**

Full Time programme

Year 1

Level	Module Code	Module Title	Credits	Status*
7	CRYS001H7	BioComputing I	15	Compulsory
7	CRYS002H7	The Molecular Basis of Life	15	Compulsory
7	CRYS003H7	Statistics	15	Compulsory
7	CRYS004H7	Data Science	15	Compulsory
7	CRYS005H7	Structural Bioinformatics	15	Compulsory
7	CRYS006H7	BioComputing II	15	Compulsory
7	CRYS007H7	Omics	15	Compulsory
7	CRYS008H7	Sequence Analysis and Genomics	15	Compulsory
7	CRYS015D7	Project MSc Bioinformatics	60	Core

Part Time programme (1)

For evening students starting in even years (e.g. 2020/21, 2022/23) and daytime students starting in odd years (e.g. 2021/22, 2023/24)

Year 1

Level	Module Code	Module Title	Credits	Status*
7	CRYS003H7	Statistics	15	Compulsory
7	CRYS002H7	The Molecular Basis of Life	15	Compulsory
7	CRYS005H7	Structural Bioinformatics	15	Compulsory
7	CRYS007H7	Omics	15	Compulsory
7	CRYS015D7	Project MSc Bioinformatics	60	Core

Year 2

Level	Module Code	Module Title	Credits	Status*
7	CRYS001H7	BioComputing I	15	Compulsory
7	CRYS004H7	Data Science	15	Compulsory
7	CRYS006H7	BioComputing II	15	Compulsory
7	CRYS008H7	Sequence Analysis and Genomics	15	Compulsory
7	CRYS015D7	Project MSc Bioinformatics	60	Core

Part Time programme (2)

For evening students starting in odd years (e.g. 2021/22, 2023/24) and daytime students starting in even years (e.g. 2020/21, 2022/23)

Year 1

Level	Module Code	Module Title	Credits	Status*
7	CRYS001H7	BioComputing I	15	Compulsory
7	CRYS004H7	Data Science	15	Compulsory
7	CRYS006H7	BioComputing II	15	Compulsory
7	CRYS008H7	Sequence Analysis and Genomics	15	Compulsory
7	CRYS015D7	Project MSc Bioinformatics	60	Core

Year 2

Level	Module Code	Module Title	Credits	Status*
7	CRYS003H7	Statistics	15	Compulsory
7	CRYS002H7	The Molecular Basis of Life	15	Compulsory
7	CRYS005H7	Structural Bioinformatics	15	Compulsory
7	CRYS007H7	Omics	15	Compulsory
7	CRYS015D7	Project MSc Bioinformatics	60	Core

Status*

CORE – Module must be taken and passed by student; COMPULSORY – Module must be taken, mark can be reviewed at sub-exam board; OPTIONAL – Student can choose to take this module

20	**Programme Director**	Dr Adrian Shepherd
21	**Start Date** ***(term/year)***	prior to 2008/09
22	**Date approved by TQEC**	prior to 2008/09
23	**Date approved by Academic Board**	prior to 2008/09
24	**Date(s) updated/amended**	**08 July 2020.** Added additional exit award of MSc Biological Sciences.