1. Programme Title(s):

MSc in Bioinformatics
Postgraduate Diploma in Bioinformatics (available as interim or exit award)

2. Awarding body or institution:

University of Leicester

3. a)   Mode of study

Full-time/Part-time

b)   Type of study

Campus-based

4.   Registration periods:

The normal period of registration is one year full-time or two years part-time

The maximum period of registration is two years full-time or four years part-time

5. Typical entry requirements:

A first or second class Honours degree in Biological Sciences or a related scientific discipline, or an equivalent qualification. Alternatively, several years of appropriate experience in industry. Students required to demonstrate English proficiency need to achieve a score of 90 in the Test of English as a Foreign Language (TOEFL) or an average score of 6.5 in the International English Language Testing System (IELTS), with a minimum score of 6.0 for writing.

6. Accreditation of Prior Learning:

n.a.

7. Programme aims:

The programme aims to respond to the need for Bioinformaticians by teaching Biological Sciences graduates the theoretical and practical analytical skills used in Bioinformatics. A four-month project placement in industry, in a research institute or in a University research laboratory is an integral part of the course. The course prepares for employment in industry or academia either directly or as the result of subsequent study.

8. Reference points used to inform the programme specification:

External Examiners' reports, Destination Survey, University of Leicester Learning and Teaching Strategy, Annual and Periodic Developmental Review

9. Programme Outcomes:

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Subject and Professional skills		
Knowledge		
Should be able to demonstrate a core knowledge of bioinformatics	Lectures, worked examples, workshops, targeted reading, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); course written exams; steered research projects; independent research project (MSc level only)
Concepts		
Should be able to show an in-depth knowledge of the role of bioinformatics in the post-genomics era—with particular reference to data mining, data analysis and data interpretation.	Lectures, worked examples, workshops, targeted reading, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); course written exams; steered research projects; independent research project (MSc level only)
Techniques		
Should be able to demonstrate practical skills—both individual and as part of a team.	Worked examples, workshops, targeted reading, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); steered research project; independent research project (MSc level only)
Critical analysis		
Should be able to critically appraise results, critically review the literature and critically review web-based material.	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); course written exams; steered research project; independent research project (MSc level only)
Presentation		
Should be able to present scientific results and participate in scientific discussion	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: individual and group oral presentations throughout the course; workshops (formative); in-module assessment (summative); course written exams; steered research project; independent research project (MSc level only)
Appraisal of evidence		
Should be able to problem solve, analyse data, and use statistical tests	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); course written exams; steered research projects; independent research project (MSc level only)
(b) Transferable skills		
Research skills		
Should be able to problem solve, analyse data, and use statistical tests	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); course written exams; steered research project; independent research project (MSc level only)

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Communication skills		
Should be able to write effective scientific reports, give effective oral presentations, design and produce a web-server	Practical reports, project reports, project presentations	Level of performance in presenting results from: steered project and independent project (MSc level only). Quality of web-server produced in steered project
Data presentation		
Should be able to select and use appropriate software. Should be able to present information adequately	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); steered research project; independent research project (MSc level only)
Information technology		
Should be able to select and use appropriate software	Lectures, worked examples, workshops, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); steered research project; independent research project (MSc level only)
Problem solving		
Should be able to select and use appropriate software, and use statistical tests	Lectures, worked examples, workshops, targeted reading, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); steered research project; independent research project (MSc level only)
Working relationships		
Should be able to work effectively in a group	Workshops, group work in steered research project	Level of performance in: workshops (formative); steered research project
Managing learning		
Should be able to manage their learning effectively	Lectures, worked examples, workshops, targeted reading, computer practical classes, projects	Level of performance in: workshops (formative); in-module assessment (summative); steered research project; independent research project (MSc level only)
Career management		
Should be able to show an in-depth knowledge of the role of bioinformatics in the post-genomics era—with particular reference to data mining, data analysis and data interpretation	Lectures, worked examples, workshops, targeted reading, computer practical classes, projects, CV clinic	Level of performance in: course overall

10. Special features:

Laptop included in course fee, study visit to the EBI; projects in research institutes and industry, prize for best student

11. Indications of programme quality:

External Examiners' reports, Destination Survey

12. Scheme of Assessment

As defined in Senate Regulation 6: Regulations governing Taught Postgraduate Programmes of Study (see Senate Regulations)

13. Progression points

As defined in Senate Regulation 6: Regulations governing Taught Postgraduate Programmes of Study (see Senate Regulations)

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course and a recommendation will be made to the Board of Examiners for an intermediate award where appropriate.

14. Rules relating to re-sits or re-submissions:

As defined in Senate Regulation 6: Regulations governing Taught Postgraduate Programmes of Study (see Senate Regulations)

15. Additional information [e.g. timetable for admissions]

This programme has a January start date.
The submission date for the final piece of assessment is 15 December.

Appendix 1: Programme structure (programme regulations)

MSc Bioinformatics (2017/18)
Appendix 1: Programme structure (programme regulations)

The overall structure of the MSc is as follows:
Taught modules   120 credits
Research project   60 credits
All modules are core modules.

Module code	Module title	Credits
Taught modules:		
BS7101	Gene and Genome Analysis	15
BS7102	Proteins: Structure and Bioinformatics	15
BS7105	Bioinformatics Programming and Advanced Topics in Bioinformatics	30
BS7120	Steered Research Project	30
CO7100	Algorithms for Bioinformatics	15
CO7101	Java and Databases for Bioinformatics	15
Research Project:		
BS7130	Independent Research Project	60

Appendix 2: Module Specifications

See module specification database http://www.le.ac.uk/sas/courses/documentation