Programme Specification (Postgraduate)

FOR ENTRY YEAR: 2023/24

Date created: 14/12/2020 **Last amended:** 03/11/2022 **Version no.** 1

1. Programme title(s) and code(s)

MSc/PG Dip*/PG Cert*[1]Geographical Information Science
MSc Geographical Information Science with Industry

Notes

* An award marked with an asterisk is only available as an exit award and is not available for students to register onto.

HECOS Code

HECOS Code	%
100369	100%

2. Awarding body or institution

University of Leicester

3. a) Mode of study

Full-time or part-time

The taught modules would all be taken in the first two semesters. This is followed by the industrial placement, which is either 3, 6, 9 or 12 months long. This is followed by the in-house project, taking 10 weeks.

b) Type of study

Campus-based

4. Registration periods

The normal period of registration for the MSc in Geographic information Science is 12 months (full time) and 24 months (part time).

The maximum period of registration for the MSc in Geographic information Science is 24 months (full time) and 48 months (part time).

Note: Normal and maximum periods of registration for the 'with industry' variant accommodate an extra period of registration corresponding to the placement duration, such that normal period is between 18-24 months (dependent on length of placement obtained) and the maximum period is 36 months

5. Typical entry requirements

Students are required to have a first, upper second or lower second class honours degree (or equivalent) in any subject and/or ii) several years appropriate professional experience. However, students with nonstandard qualifications are expressly encouraged to apply. In particular we give due consideration to prior professional experience gained by mature students in relevant areas of work. In such cases applicants would be expected to provide detailed information on work experience to enable its full evaluation by admissions staff. We also consider alternative qualifications, for example in different subject areas, where these are supported by relevant

experience within the field of the MSc programme. Students for whom English is not their first language are required to achieve a minimum IELTS score of 6.5 with at least 6 in all four categories.

6. Accreditation of Prior Learning

No accredited prior learning would be accepted for exemption from modules on the programme.

For the aims, learning outcomes and special features of the Year in Industry, please see https://le.ac.uk/study/postgraduates/courses/industry

7. Programme aims

The programme aims to provide students with a broad-based education in geographical information science and systems suitable for careers ranging from the commercial GIS industry, or to further academic research. Specifically, the objectives of this course are:

- To develop comprehensive understanding in both the geographical and computational aspects of geographical information science.
- To develop systematic understanding regarding the concepts and algorithms associated with the collection, manipulation and representation of spatial data.
- To develop practical analytical skills in geographic information science.
- To ensure students are familiar with typical GIS applications and have the capacity to translate geospatial inquiry into a GIS framework.
- To ensure students can evaluate/critique both the potential and the limitations of current software, spatial data sources, and information quality.
- To develop a critical perspective on GIS.
- To expose students to the frontiers of current GIS research.
- To build a high level of competence in independent learning skills; original research methodology; original research implementation; oral presentations; report writing; web-based and multimedia communication.

8. Reference points used to inform the programme specification

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- University Learning Strategy
- University Assessment Strategy
- University of Leicester Periodic Developmental Review Report
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data

9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

a) Discipline specific knowledge and competencies

i) Knowledge

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Systematic understanding of GIScience and GIS; the spatial database and principles of spatial data analysis and spatial data display.	Lectures, targeted reading, practical classes, self-directed project work, self-directed research work, field-work.	Essays, project reports, practical exercises, oral presentations (where module choice allows), dissertation
Understand how GIS operates in an industrial setting ('with industry')	Work placement	Work placement report

ii) Concepts

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Understand and explain Geographical Information Systems and Geospatial Data Analytics including practical approaches within GIS to enable advanced scholarship.	Lectures, targeted reading, practical classes, self-directed project work, self-directed research work, field-work	Essays, project reports, practical exercises, oral presentations (in optional modules), dissertation

iii) Techniques

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Demonstrate a comprehensive understanding and practical application of GIScience and GIS techniques; development and execution of spatial data management strategies; GIS-based analysis of spatial data including skills such as programming	Lectures, targeted reading, practical classes, self-directed project work, self-directed research, field-work	Practical exercises, project reports, essays, oral presentations (in optional modules), dissertation
Work as a GIS specialist in and industrial setting (where 'with industry')	Work placement	Work placement report

iv) Critical analysis

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Critical appraisal of published material. Ability to apply understanding of concepts with independence, rigour and self-reflexivity	Lectures, targeted reading, practical classes, self-directed project work, self-directed research work, work placement (where 'with industry')	Essays, project reports, oral presentations (oral presentations (in optional modules), dissertation, work placement report (where 'with industry')

v) Presentation

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Presentation of: project results to professional standard; thematic data analyses and maps to a professional standard. Ability to organise and structure research material; ability to deliver written and oral seminar reports and summaries	Self-directed project work, self-directed research work, work placement (where 'with industry')	Essays, project reports, oral presentations (oral presentations (in optional modules), dissertation, work placement report (where 'with industry')

vi) Appraisal of evidence

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Ability to analyse and evaluate a variety of complex geographical issues. Ability to assess the relevance and quality of a substantial range of primary and secondary literatures and materials. Ability to mount and sustain an independent level of inquiry at an advanced level. Ability to identify, assemble, analyse and manage complex datasets; ability to analyse and assess a body of thematic data using appropriate techniques and data models	Targeted reading, practical classes, self-directed project work, self-directed research work	Essays, project reports, oral presentation, oral presentations (in optional modules), dissertation, work placement report (where 'with industry')

b) Transferable skills

i) Research skills

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Ability to: independently analyse complex ideas and construct sophisticated critical arguments; plan and manage projects using spatial data; locate, organise and analyse evidence; report on findings; demonstrate GIS and data analytical skills.	Essays, practicals, project work	Project reports, practical exercises, oral presentations (in optional modules), dissertation

ii) Communication skills

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Ability to: communicate clearly and effectively to a high level; write clearly and concisely; make effective use of graphical summaries	Essays, practicals, project work	Project reports, practical exercises, oral presentations (in optional modules), exams, dissertation

iii) Data presentation

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Ability to: present results clearly and effectively to a high level; use appropriate IT resources; to undertake basic statistical summaries and analysis; employ appropriate and effective graphical representations including maps and summaries	Essays, practicals, project work	Project reports, practical exercises, oral presentations (in optional modules), dissertation

iv) Information technology

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
The whole course is centered around information technology Confident and informed use of personal computer hardware and associated software including programming	Computer-based practical classes; project/dissertation work using computers/computer software	Project reports, practical exercises, oral presentations (in optional modules), dissertation
Ability to: collect and process geospatial digital data from a variety of sources	Computer-based practical classes; project/dissertation work using computers/computer software	Project reports, practical exercises, oral presentations (in optional modules), dissertation

v) Problem solving

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Solving spatial problems	Practical classes, project work	Project reports, practical exercises, oral presentations (in optional modules), dissertation

vi) Working relationships

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Project management; organisational skills; time management; ability to contribute and comment on ideas; working in groups	Practical exercises, dissertation proposal meeting, fieldwork	Working with peers in the field; meeting coursework deadlines

vii) Managing learning

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Identifying a credible research project; establishing an effective research timetable; managing information; reflecting on and writing up results. Developing specialised analytical skills. Revision for exams	Dissertation module, exams	Exams, dissertation

viii) Career management

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
The ability to see how skills learnt in a university can be used in 'real world' settings; appreciation of the knowledge and skills required by the GIS specialist in an industrial setting	The ability to see how skills learnt in a university can be used in 'real world' settings; appreciation of the knowledge and skills required by the GIS specialist in an industrial setting	Discussions with personal tutors and concerning career progression and the applications of GIS, work placement report (where 'with industry')

ix) Placement Preparation 1 and 2

10. Special features

11. Indicators of programme quality

This course has to date been accredited by the Royal Institution of Chartered Surveyors (RICS.

12. Criteria for award and classification

This programme follows the standard scheme of taught postgraduate award and classification set out in Senate Regulations – see the version of *Senate Regulation 6 governing taught postgraduate programmes of study* relevant to year of entry.

13. Progression points

Progression is as defined in ***Senate Regulation 6: Regulations governing taught postgraduate programmes*** with the additional requirement that students must pass (50%) the dissertation proposal element (worth 5% of the module mark) before being allowed to proceed to the dissertation itself. Should students fail to achieve a pass, they will be allowed one resit, as set out in Senate Regulation 6. A student who does not pass the dissertation proposal at the second attempt will not be able to progress to the dissertation component of the Degree and therefore can only, at best, graduate with a PG Diploma.

For those students on a "with industry" option (where this is available)

Students are subject to the following additional progression rules:

1. If a student does not achieve a **pass level** (50% or above) in all semester 1 taught modules level they will *normally* revert to the degree without industry. A Progression Board of Examiners will be held after semester 1 which will determine if students remain on the "with industry" variant of their programme.

2. If a student does not achieve a **pass level** (50% or above) in all semester 2 taught modules they have the *option* of reverting to the degree without industry, or if they wish to remain on "with industry" programme, they must delay any plans for placements until September and they must pass any resits in July/August. A Progression Board of Examiners will be held after semester 2 and also after the reassessment period which will determine if students remain on the "with industry" variant of their programme.
3. If a student fails to secure a placement by June 1 (or alternative date set by CDS) in their second semester of study, then they will *normally* revert to the degree without industry.
4. If the industrial placement ends early due to the behaviour of the Placement Student not being in accordance with the University's Regulations for Students, Student Responsibilities. The Placement Student they will *normally* revert to the degree without industry and will need to return to the University to carry out an in-house dissertation in the School or Department, as per the without industry degree. To prevent such an incident from happening, processes are in place to identify any possible issues or concerns early in the industrial placement role. This includes a start check, regular communications, visits to the workplace (physical and/or virtual) and evaluation. Communication and contact between the Placement Student, Placement Provider and University provides support should issues arise.
5. If the student discontinues their industrial placement then they will *normally* revert to the degree without industry and carry out an in-house project in the School or Department, as per the without industry degree.

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

As defined in Senate Regulations - refer to the version of *Senate Regulation 6 governing taught postgraduate programmes of study* relevant to year of entry.

15. External Examiners reports

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at exampapers@Leicester [log-in required]

16. Additional features (e.g. timetable for admissions)

Admissions are in October only.
For the 'with industry' option, students will be required to undertake reflective activities whilst on placement which are marked on a pass/fail basis.

UNIVERSITY OF LEICESTER

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Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

MSc in Geographical Information Science

Credit breakdown

Status	Year long	Semester 1	Semester 2	Other delivery period
Core taught	n/a	60 credits	30 credits	n/a
Optional	n/a	n/a	30 credits	n/a
Dissertation/project	n/a	n/a	n/a	60 credits

180 credits in total

Level 7/Year 1 2023/24

Core modules

Delivery period	Code	Title	Credits
Semester 1	GY7701	FUNDAMENTALS OF GIS	15 credits
Semester 1	GY7702	R FOR DATA SCIENCE	15 credits
Semester 1	GY7704	GEOGRAPHICAL VISUALISATION	15 credits
Semester 1	GY7705	REMOTE SENSING	15 credits

Delivery period	Code	Title	Credits
Semester 2	GY7707	GEOSPATIAL DATA ANALYTICS	15 credits
Semester 2	GY7708	GEOGRAPHICAL ARTIFICIAL INTELLIGENCE	15 credits
Term 3	GY7720	MSc DISSERTATION	60 credits

Notes

Option modules

Delivery period	Code	Title	Credits
Semester 2	GY7709	SATELLITE DATA ANALYSIS IN PYTHON	15 credits
Semester 2	GY7710	GIS IN ENVIRONMENTAL HEALTH	15 credits
Semester 2	GY7711	FIELD DATA CAPTURE	15 credits

Notes

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

MSc in Geographical Information Science with Industry

Credit breakdown

Status	Year long	Semester 1	Semester 2	Other delivery period
Core taught	n/a	60 credits	30 credits	n/a
Optional	n/a	n/a	30 credits	n/a
Dissertation/project	n/a	n/a	n/a	60 credits

180 credits in total

Programme structure is as for the non industry degree, with the addition of:

Year 1

Core Modules

Delivery period	Code	Title	Credits
Semester 1	ADGY7221	Placement Preparation 1	n/a
Semester 2	ADGY7222	Placement Preparation 2	n/a

Year 2

Core Modules

Delivery period	Code	Title	Credits
Semester 1	ADGY7223	On Placement	n/a
Semester 2	ADGY7223	On Placement	n/a
Term 3	GY7720	Dissertation	60 credits

Appendix 2: Module specifications

See taught postgraduate module specification database (Note - modules are organized by year of delivery).