



1. Programme Title(s):

MSc/Postgraduate Diploma*/Certificate* in Geographical Information Science
Exit awards only

2. Awarding body or institution:

University of Leicester

3. a) Mode of study

Part time / Full Time

b) Type of study

Campus based

4. Registration periods:

The normal period of registration is 12 months (full time) and 24 months (part time)

The maximum period of registration is 24 months (full time) and 48 months (part time)

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.

7. Programme aims:

The programme aims To produce highly qualified and highly motivated masters graduates equipped to proceed either into the active commercial GIS industry, or into further academic research positions

The MSc in GIS aims to provide students with a broad-based education in geographical information science and systems. Specifically, the objectives of this course are:

- To develop understanding in both the geographical and computational aspects of geographical information science.
- To develop understanding in the concepts and algorithms associated with handling spatially referenced data.
- To ensure students are familiar with typical GIS applications and have the capacity to translate problems into a GIS framework.
- To ensure students are aware of both the potential and the limitations of current software, spatial data resources, and information quality.
- To understand the implications for GIS of the managerial and institutional framework into which it is placed.

- To build competence in independent learning skills; research methodology; research implementation; oral presentations; report writing; web-based and multimedia communication; and team work skills.
- To expose students to the frontiers of current GIS research.

8. Reference points used to inform the programme specification:

- QAA Frameworks for Higher Education Qualifications in England Wales and Northern Ireland
- QAA [Master's Degree Characteristics](#)
- QAA Benchmarking Statement [Geography \(2014\)](#)
- PDR report (May 2008)
- [University Learning Strategy](#)
- University Employability Strategy
- Graduate Survey (2014)
- First Destination Survey
- External Examiner's Reports

9. Programme Outcomes:

a. Masters degree

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Subject and Professional skills		
Knowledge		
Core knowledge of GIS; the place of GIS in a geographical context; the spatial database and principles of spatial data analysis.	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips.	Essays, project reports, practical exercises, oral seminar presentations, dissertation
Concepts		
Geographical Information Systems and Geographic Information Analysis; Spatial Information Science; philosophical and practical approaches within GIS	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips	Essays, project reports, practical exercises, oral seminar presentations, dissertation
Techniques		
Practical application of GIS; development and execution of spatial data management strategies; GIS-based analysis of spatial data	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research, field trips	Practical exercises, project reports, essays, oral seminar presentations, dissertation
Critical analysis		
Critical appraisal of published material. Ability to apply understanding of concepts with independence, rigour and self-reflexivity	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work	Essays, project reports, oral seminar presentations, dissertation
Presentation		
Presentation of: project results to professional standard; thematic data analyses to professional standard. Ability to organise and structure research material; ability to deliver written and oral seminar reports and summaries	Seminars, self-directed project work, self-directed research work	Essays, project reports, oral seminar presentations, dissertation

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Appraisal of evidence		
Ability to analyse and assess 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.	Seminars, targeted reading, practical classes, self-directed project work, self-directed research work	Project reports, practical exercises, oral seminar presentations, dissertation
(b) Transferable skills		
Research skills		
Ability to: analyse complex ideas and construct sophisticated critical arguments; plan and manage projects using human geographical spatial data; locate, organise and analyse evidence; report on findings; demonstrate GIS and data analytical skills.	Core lectures, practicals and seminars, problem-oriented practical exercises, project work	Project reports, practical exercises, oral seminar presentations, exams, dissertation
Communication skills		
Ability to: deliver oral presentations; respond to questions; write clearly and concisely; make effective use of graphical summaries	Seminars, problem-solving exercises	Oral seminar presentations, essays, seminar reports, project reports, exams, dissertation
Data presentation		
Ability to: present project results clearly and effectively; use appropriate IT resources; to undertake basic statistical summaries and analysis; employ appropriate and effective graphical representations and summaries	Targeted seminar and practical sessions, essay, seminar, dissertation and practical report feedback	Seminar reports, group-project reports, dissertation
Information technology		
The whole course is centered around information technology		
Problem solving		
Solving spatial problems	Research methods module; practical classes, project work	Project reports, practical exercises, exams, dissertation
Working relationships		
Project management; organisational skills; time management; ability to contribute and comment on ideas; working in groups	Problem-oriented practical exercises, seminars, dissertation proposal meeting, coordinator-student meetings	Oral seminar presentations, seminar reports, group-project reports, meeting coursework deadlines

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Managing learning		
Identifying a credible research project; establishing an effective research timetable; managing information; reflecting on and writing up results. Developing specialised analytical skills	Components of Induction week and research methods module; seminars, practical classes, project work	Project reports, practical exercises, oral seminar presentations, exams, dissertation
Career management		
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	Talks by outside speakers from Industry, many of whom are past graduates of our MSc GIS	Discussions with personal tutors and in GY7021 tutorials concerning career progression and the applications of GIS

b. Postgraduate diploma

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Subject and Professional skills		
Knowledge		
Core knowledge of GIS; the place of GIS in a geographical context; the spatial database and principles of spatial data analysis.	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips.	Essays, project reports, practical exercises, oral seminar presentations
Concepts		
Geographical Information Systems and Geographic Information Analysis; Spatial Information Science; philosophical and practical approaches within GIS	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips	Essays, project reports, practical exercises, oral seminar presentations
Techniques		
Practical application of GIS; development and execution of spatial data management strategies; GIS-based analysis of spatial data	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research, field trips	Practical exercises, project reports, essays, oral seminar presentations
Critical analysis		
Critical appraisal of published material. Ability to apply understanding of concepts with independence, rigour and self-reflexivity	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work	Essays, project reports, oral seminar presentations
Presentation		
Presentation of: project results to professional standard; thematic data analyses to professional standard. Ability to organise and structure research material; ability to deliver written and oral seminar reports and summaries	Seminars, self-directed project work, self-directed research work	Essays, project reports, oral seminar presentations

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Appraisal of evidence		
Ability to analyse and assess 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.	Seminars, targeted reading, practical classes, self-directed project work, self- directed research work	Project reports, practical exercises, oral seminar presentations
(b) Transferable skills		
Research skills		
Ability to: analyse complex ideas and construct sophisticated critical arguments; plan and manage projects using human geographical spatial data; locate, organise and analyse evidence; report on findings; demonstrate GIS and data analytical skills.	Core lectures, practicals and seminars, problem- oriented practical exercises, project work	Project reports, practical exercises, oral seminar presentations, exams
Communication skills		
Ability to: deliver oral presentations; respond to questions; write clearly and concisely; make effective use of graphical summaries	Seminars, problem- solving exercises	Oral seminar presentations, essays, seminar reports, project reports, exams
Data presentation		
Ability to: present project results clearly and effectively; use appropriate IT resources; to undertake basic statistical summaries and analysis; employ appropriate and effective graphical representations and summaries	Targeted seminar and practical sessions, essay, seminar, dissertation and practical report feedback	Seminar reports, group-project reports
Information technology		
The whole course is centered around information technology		
Problem solving		
Solving spatial problems	Research methods module; practical classes, project work	Project reports, practical exercises, exams
Working relationships		
Project management; organisational skills; time management; ability to contribute and comment on ideas; working in groups	Problem-oriented practical exercises, seminars, dissertation proposal meeting, coordinator- student meetings	Oral seminar presentations, seminar reports, group-project reports, meeting coursework deadlines

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Managing learning		
Identifying a credible research project; establishing an effective research timetable; managing information; reflecting on and writing up results. Developing specialised analytical skills	Components of Induction week and research methods module; seminars, practical classes, project work	Project reports, practical exercises, oral seminar presentations, exams
Career management		
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	Talks by outside speakers from Industry, many of whom are past graduates of our MSc GIS	Discussions with personal tutors and in GY7021 tutorials concerning career progression and the applications of GIS

c. Postgraduate certificate

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
(a) Subject and Professional skills		
Knowledge		
Core knowledge of GIS; the place of GIS in a geographical context; the spatial database and principles of spatial data analysis.	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips.	Essays, project reports, practical exercises, oral seminar presentations
Concepts		
Geographical Information Systems and Geographic Information Analysis; Spatial Information Science; philosophical and practical approaches within GIS	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research work, field-trips	Essays, project reports, practical exercises, oral seminar presentations
Techniques		
Practical application of GIS; development and execution of spatial data management strategies; GIS-based analysis of spatial data	Lectures, seminars, targeted reading, practical classes, self-directed project work, self-directed research, field trips	Practical exercises, project reports, essays, oral seminar presentations
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Presentation		
Presentation of: project results to professional standard; thematic data analyses to professional standard. Ability to organise and structure research material; ability to deliver written and oral seminar reports and summaries	Seminars, self-directed project work, self-directed research work	Essays, project reports, oral seminar presentations

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Appraisal of evidence		
Ability to analyse and assess 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.	Seminars, targeted reading, practical classes, self-directed project work, self- directed research work	Project reports, practical exercises, oral seminar presentations
(b) Transferable skills		
Research skills		
Ability to: analyse complex ideas and construct sophisticated critical arguments; plan and manage projects using human geographical spatial data; locate, organise and analyse evidence; report on findings; demonstrate GIS and data analytical skills.	Core lectures, practicals and seminars, problem- oriented practical exercises, project work	Project reports, practical exercises, oral seminar presentations, exams
Communication skills		
Ability to: deliver oral presentations; respond to questions; write clearly and concisely; make effective use of graphical summaries	Seminars, problem- solving exercises	Oral seminar presentations, essays, seminar reports, project reports, exams
Data presentation		
Ability to: present project results clearly and effectively; use appropriate IT resources; to undertake basic statistical summaries and analysis; employ appropriate and effective graphical representations and summaries	Targeted seminar and practical sessions, essay, seminar, dissertation and practical report feedback	Seminar reports, group-project reports
Information technology		
The whole course is centered around information technology		
Problem solving		
Solving spatial problems	Research methods module; practical classes, project work	Project reports, practical exercises, exams
Working relationships		
Project management; organisational skills; time management; ability to contribute and comment on ideas; working in groups	Problem-oriented practical exercises, seminars, dissertation proposal meeting, coordinator- student meetings	Oral seminar presentations, seminar reports, group-project reports, meeting coursework deadlines

Intended Learning Outcomes	Teaching and Learning Methods	How Demonstrated?
Managing learning		
Identifying a credible research project; establishing an effective research timetable; managing information; reflecting on and writing up results. Developing specialised analytical skills	Components of Induction week and research methods module; seminars, practical classes, project work	Project reports, practical exercises, oral seminar presentations, exams
Career management		
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	Talks by outside speakers from Industry, many of whom are past graduates of our MSc GIS	Discussions with personal tutors and in GY7021 tutorials concerning career progression and the applications of GIS

10. Special features:

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11. Indications of programme quality:

The Course has been accredited by the Royal Institute of Chartered Surveyors (RICS).

12. Scheme of Assessment

Assessment: The pass mark at postgraduate level is 50%. The details of the assessments for individual modules are set out in the relevant Module descriptions. All programmes within the Department of Geography follow the standard University Postgraduate Scheme of Assessment [Senate Regulation 6](#).

13. Progression points

In cases where a student has failed to meet a requirement to progress as part the Postgraduate Regulations 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. ([Senate Regulation 6](#)). Additionally, a candidate who does not pass their 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.

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

These are specified by [Senate Regulation 6](#). Course regulations allow for candidates to re-sit examinations or resubmit course work in relation to an individual module on one occasion only. The number of modules where re-sits or resubmissions are allowed is at the discretion of the examination board. The mark obtained for resubmitted work or a re-sit is capped at 50%.

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

Admissions are in October only. Students admitted in October undertake their dissertation work during the summer of the following year and typically submit their dissertation in September (12 months in total).

16. External Examiners

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports can be found [here](#).

Appendix 1: Programme structure (programme regulations)

MSc in Geographical Information Science

		SEMESTER 1	
Core Modules			Credits
GY7000	INDUCTION		0
GY7051	DISSERTATION TUTORIAL		0
GY7021	INTRODUCTION TO GIS		20
GY7022	PROGRAMMING IN R		20
GY7028	EARTH OBSERVATION AND REMOTE SENSING		20
		Semester Total	60
		SEMESTER 2	
Core Modules			Credits
GY7050	GIS RESEARCH METHODS IN THE FIELD		20
GY7023	SPATIAL INFORMATION SCIENCE		20
GY7027	GEOGRAPHICAL VISUALISATION		20
		Semester Total	60
		SUMMER	
Core Modules			Credits
GY7029	MSc DISSERTATION		60
		Total Credits	180

Appendix 2: Module Specifications

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