

# Geographical Science

Your Careers Advisers

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## Skills developed in college

You have developed a range of skills through your education, work experience and personal interests and achievements. Understanding what skills you have to offer and like to use can help you understand what you want in a career, as well as providing key information for job or further study applications.

In terms of securing a job, academic qualifications alone will not guarantee success. Evidence-based skills sections on your CV can demonstrate the broad range of qualities you have to offer employers. Here are some of the main skills you may have developed while in college:

- **Communication skills, both verbal and written**  
Expressing ideas effectively and conveying information appropriately and accurately. Influencing others by expressing yourself in a group and in one to one situations. Showing a range of verbal and nonverbal signals to demonstrate that the information being received is understood. You have negotiated your way through complex communications on various projects you've participated in, from initial briefing, through to report writing and presenting to varied audiences.
- **Teamwork / Working with Others**  
Working effectively and confidently within a group to achieve a common goal or task. This means that you understand your role within the team, as well as listen and support the other team members. Teamwork skills are developed in group projects in college as well in sporting clubs and college societies
- **Problem-solving ability**  
Identifying, prioritising and solving problems, individually or in groups; possessing the ability to ask the right questions, sort out the many facets of a problem, and contribute ideas, as well as answers. Having an eye for detail as well as the ability to adopt a common sense approach to solving problems under pressure has been something you've learned during your work.
- **Time-management skills / ability to meet deadlines**  
Managing several tasks at once; being able to set priorities and to allocate time efficiently in order to meet deadlines. You have juggled course deadlines and assignments with part-time work or involvement in extra-curricular activities. This demonstrates that you are organised and can manage your time. Complex construction projects require effective organisation and time management if they are to be delivered to budget and on time.

- **Planning and Organising**  
Establishing a course of action for self and/or others to accomplish a specific goal. Allocating resources appropriately.
- **Leadership skills**  
Motivating and taking responsibility to lead other people, in order to achieve set goals and objectives.
- **Initiative & self-management**  
Identifying opportunities and being proactive in putting forward ideas and potential solutions.  
Self-disciplined and self-motivated in the pursuit of studies and professional practice.
- **Ability to make quick decisions / work under pressure (flexibility)**  
Making decisions and taking action. Maintaining performance under pressure and / or opposition.

You have also developed a set of skills directly related to your course including:

- Mapping and surveying land and sea
- Data analysis techniques
- Remote sensing and visualisation including using various instruments
- Using and developing relevant software
- Project management

## Types of employers/industry sectors

Some of the main types of employers / industry sectors in which Geographical Science graduates work include:

- Surveying companies
- Mapping agencies
- Remote Sensing and photogrammetric data producers
- Engineering and construction companies
- Survey equipment manufacturers and Sales agencies

For sector information see:

[www.gradireland.com](http://www.gradireland.com)

[www.careersportal.ie](http://www.careersportal.ie)

[www.prospects.ac.uk](http://www.prospects.ac.uk)

[www.targetjobs.co.uk](http://www.targetjobs.co.uk)

## Career options with your course

Some of main occupations related to your degree include:

### Geographical Information Systems Specialist

Usually you would work within a team made up mainly of IT professionals who use computer-based systems to handle geographical information.

They are responsible for the processes which bring together information held on databases and overlay the data on to a graphic, using computer technology. GIS specialists can also be involved in the design of new software to deal with spatially referenced data.

The work is mainly project management and does not necessarily involve programming or systems design. However, you may have responsibility for ensuring that projects meet client deadlines and generating business with new clients. Employers tend to be specialist GIS consultancies, software developers, utilities companies and government departments.

### Remote Sensing Scientist

Remote sensing refers to the collection of information about an object or condition without being in physical contact. Remote sensing of the earth from satellites and aircraft has expanded greatly in recent years. Examples are: using aerial photography for surveying and mapping, using satellite pictures for weather forecasting or monitoring water resources and crops. Satellite images are processed by computer to restore the correct geometry, improve quality and to enhance specific features of interest or assess their significance.

### Digital Cartographer

Cartography refers to all activities associated with map making. Cartographers are concerned with the scientific, technological and artistic elements of the mapping process.

They present complex information in the form of diagrams, charts and spreadsheets as well as in conventional maps. GIS and digital mapping are the essential techniques. Typical activities could include: using computers to compile, design and produce graphs, evaluating map-able information, researching and evaluating map source data for the preparation of revised maps, appraising the accuracy of maps, and handling digital geographic

data. Many cartographers work for government departments, local authorities or private utility companies.

### Land/Geomatics Surveyor

You are likely to measure, log and collect data about a specific piece of land, its boundaries, the natural features and buildings. This data would then be interpreted and presented to a client, in graphic or computerised form, using GIS and Computer Aided Design.

The equipment used would include satellite positioning systems, laser alignment devices, total stations and theodolites. Land Surveyors generally deal directly with their clients, and responsibilities would include formulating specifications, producing plans, elevations and drawings e.g. for buildings, roads, railways or utilities.

### Photogrammetrist

This person obtains reliable measurements by means of aerial photography for the production of maps, often for architects and surveyors. The photogrammetrist then manipulates the images to produce a fully corrected perspective using plotting instruments. The technique is often applied to surveys of historic buildings prior to restoration. Other activities include working with new software to produce graphic and conventional images for clients to then manipulate themselves. Opportunities for self employment exist, and within private survey companies.

### Hydrographic Surveyor

Measures and maps the world's underwater surfaces and is concerned with seabed construction. This information is then used in navigation, dredging, locating offshore resources e.g. oil and gas, or planning dock installations

Typical work activities include using geographical information systems, global positioning systems, sonar and echo sounders to provide data that is computer processed to produce digital map data and print charts. You are likely to be working in project management, dealing directly with clients, providing tenders and reports.

### Other occupations where a degree in Geomatics would be useful

Geomatics graduates are particularly valued for their solid grounding in the basic sciences, notably mathematics, IT and physics. They also have well developed investigative, problem-solving and evaluative skills. All of these, plus good communication and commercial awareness, may open the possibility of accessing a wide range of career possibilities. The most closely allied might include: civil engineering, building surveying, computing, software development, environmental monitoring, transport development.

Having gained the right experience, self-employment is a real possibility for a geomatics graduate.

For occupational information see

[www.gradireland.com](http://www.gradireland.com)

[www.careersportal.ie](http://www.careersportal.ie)

[www.prospects.ac.uk](http://www.prospects.ac.uk)

[www.targetjobs.co.uk](http://www.targetjobs.co.uk)

## Employers who have recruited in your area

Some of the companies who have recruited Geographical Science graduates include:

- Murphy surveys
- ESBI
- Jones Engineering
- Surgo Survey
- Ordnance Survey Ireland (OSI)
- Coastway surveys
- Trimble
- Boliden
- Department of Defence
- Headcount
- Topcon Ireland

## Job Hunting

It is important that you access both the advertised and hidden jobs market and use any and every means available to you to job hunt effectively.

### Advertised Jobs

Most University and IT Careers Services have jobs listings on their websites:

[www.tudublin.ie/jobscene](http://www.tudublin.ie/jobscene)

Graduate programmes and immediate vacancies

[www.prospects.ac.uk](http://www.prospects.ac.uk) & [www.targetjobs.co.uk](http://www.targetjobs.co.uk)

Graduate jobs UK

[www.gradireland.com](http://www.gradireland.com)

Immediate jobs/Summer/Graduate programmes

[www.mondotimes.com](http://www.mondotimes.com)

Local and national press

[www.publicjobs.ie](http://www.publicjobs.ie)

[www.localgovernmentjobs.ie](http://www.localgovernmentjobs.ie)

Public service

[www.irishjobs.ie/agencies](http://www.irishjobs.ie/agencies)

Complete list of recruitment agencies/online recruitment sites

Company Websites - Immediate vacancies and Internships

[www.indeed.ie](http://www.indeed.ie) – Ireland (various job boards)

[irishjobfairy](#) (twitter)

Links to some of the most relevant job-hunting websites for your course:

- [www.scsi.ie/jobs](http://www.scsi.ie/jobs)
- [www.ricsrecruit.com](http://www.ricsrecruit.com)

## Other

- Careers fairs – Gradireland Fair – Autumn and Summer Fair, plus many others.
- Notice boards/Student email account/Lecturers
- Company Presentations
- Specialist Magazines

## Voluntary Sector/Charities

[www.activelink.ie](http://www.activelink.ie)

Voluntary Sector/Charity/NGO vacancies in voluntary sector

[www.volunteeringireland.com](http://www.volunteeringireland.com)

[www.dochas.ie](http://www.dochas.ie)

Association of non-governmental development organisations

[www.comhlahm.org](http://www.comhlahm.org)

Volunteering opportunities

[www.wheel.ie/directory](http://www.wheel.ie/directory)

Directory of voluntary and community organisations

## Unadvertised Jobs

### NETWORKING

- Job Shadow/Informational Interviewing/work experience
- Networking – who is in your network?
- Professional Bodies,
- Social networking sites (facebook, twitter, LinkedIn, Facebook, Fashion Blogs, discussion boards)
- Attend events,
- Businessandleadership.com (events)
- Get in touch with guest speakers
- Thesis / College projects/Placement/Site visits/guest speakers
- TU Dublin Societies
- First Destination Reports
- Join Alumni Association/Linked-in TU Dublin Alumni group

### CONTACT COMPANIES DIRECTLY

- Speculative applications + cold calling. Think about your offering
- Contact organisation with ideas
- Utilise directories – Kompass.com, IDA, professional bodies, Golden Pages

### ENTREPRENEURSHIP

- Freelancing/Work experience/Self-employment/Start-Up <http://www.dit.ie/careers/studentsgraduates/interestedinselfemployment/>
- TU Dublin Hothouse - [www.dit.ie/hothouse/](http://www.dit.ie/hothouse/)
- Local Enterprise Office - [www.localenterprise.ie](http://www.localenterprise.ie)
- The Digital Hub - [www.thedigitalhub.com](http://www.thedigitalhub.com)

### TRACK COMPANIES

- Check out Labour Market trends, ilo.org (Intl Labour Organisation, [www.careersportal.ie](http://www.careersportal.ie), IDA, IBEC
- Search newspaper business pages on-line to get success stories on businesses as they are growing – TU Dublin Careers website (labour market news)
- Industry award recipients
- Best Workplaces in Ireland (download on [gradireland.com](http://gradireland.com))
- Follow target companies on facebook, linked-in, twitter
- Think of small companies not just big brands

### OTHER PROACTIVE IDEAS

- Social networking sites (Facebook, Twitter, LinkedIn, Facebook, Blog, Discussion Groups) Linked-In (set up a profile, link to others, search for companies - employees who have Linked-in profiles, advertised jobs)
- Follow target companies on Facebook, LinkedIn, Twitter
- Think of small companies not just big brands
- Consider alternative roles
- Undertake voluntary work

For more information on how to go about finding a job and job-hunting sites, [See www.tudublin.ie/careers](http://www.tudublin.ie/careers)

### Interviews

For more information on how to perform in interviews, [See www.tudublin.ie/careers](http://www.tudublin.ie/careers)

### CVs/Cover letters and applications

For information on how to put together a great CV/Cover Letter or Application, [See www.tudublin.ie/careers](http://www.tudublin.ie/careers)

### Useful links (e.g. Company Databases, Professional Bodies, LinkedIn Groups)

This list contains links to some of the most useful websites for your course including professional bodies and associations, employer directories, information sources and LinkedIn groups.

### General websites — useful links

- [Society of Chartered Surveyors in Ireland- www.scsi.ie](http://www.scsi.ie)
- [Irish Institution of Surveyors - www.irish-surveyors.ie](http://www.irish-surveyors.ie)
- [Royal Institute of Chartered Surveyors - www.rics.org.uk](http://www.rics.org.uk)
- [Institute of Civil Engineering Surveyors - www.ices.org.uk](http://www.ices.org.uk)
- [Irish org for Geographical Information- http://www.irlogi.ie/](http://www.irlogi.ie/)
- [International Geomatics Directories;](http://www.gim-international.com/companiesdirectory/index.php)
- [\\_\\_\\_\\_\\_http://www.gim-international.com/companiesdirectory/index.php](http://www.gim-international.com/companiesdirectory/index.php)

Some useful LinkedIn Groups:

- TU Dublin graduate network
- GPS/GIS jobs
- Leica geosystems
- Geomatics
- IRLOGI/GIS Ireland
- GIS
- GIS project management
- Geomatics world
- Spatial Ireland
- Surveyor network

## Careers open to all disciplines (Including 'Paths Into...' Series)

Many graduate vacancies don't require specific degree subjects as possession of a degree is taken as evidence of intellectual ability. What is more important to the potential employer is the range of transferable skills and experience you can demonstrate.

Many graduate training programmes take final year students from a wide range of disciplines, register with the [Career Development Centre's Jobsence](#) for a full list of programmes. Here is a range of career areas that are potentially open to graduates of all disciplines. It's important to note that some of these options may require further study either on the job or beforehand.

If you are considering diversifying or changing career direction a postgraduate conversion course may be a viable option.

Some examples of career areas open to students of all disciplines:

- Teaching & Education
- Financial Services & Accounting
- Marketing, Advertising and PR
- Retail, Sales and Customer Service
- Banking, insurance and financial services
- Charities and voluntary sector
- Fund management / administration and investment banking
- Human resources, recruitment and training
- Management consulting
- Management, business and administration
- Media and publishing
- Public sector and civil service
- Social, community and youth

For further information see: [www.gradireland.com/career-sectors](http://www.gradireland.com/career-sectors)

## Further Study

Are you considering further study or training? See [www.tudublin.ie/careers](http://www.tudublin.ie/careers) for comprehensive information

Here are some examples of postgraduate courses pursued by Geographical Science Graduates :

- GIS Remote Controlling – NUI Maynooth
- Geographic/Satellite Information Systems - NUI Maynooth
- Business Studies – UCD

## Conversion courses

Some graduates find that their primary degree did not meet their expectations, either vocationally, academically or personally, and seek change career direction. Conversion courses offer the opportunity to diversify into another chosen career area while meeting the necessary entry requirements for that discipline. However, it should be noted that this is not the case for all disciplines e.g. disciplines such as science and engineering will require an undergraduate degree in that discipline.

## • Self Employment

Ever thought of being your own boss? Think you have an innovative product or service idea that could have commercial value? Want to commercialise your research? See [www.tudublin.ie/careers](http://www.tudublin.ie/careers)

## Other Options (e.g. Time out, travel etc.)

Volunteering and working with communities with is a great way to gain valuable real world experience, to develop new skills, to meet new people, to do something worthwhile and to improve your employability. For more details, see [www.tudublin.ie/careers](http://www.tudublin.ie/careers).

## Labour Market Information

For information on the latest labour market trends see [www.tudublin.ie/careers](http://www.tudublin.ie/careers).

## Additional Information / Advice

For any query you might have, please do not hesitate to get in touch with us.