

WARM UP

1 What do you need to study to become a surveyor in Italy? Do you think it's a good idea to study abroad for a year while at university? What problems do you think you would have to face if you decided to go to university in the USA? How many years do you need to study at university to become an engineer? What do you consider to be more creative, engineering or architecture? Why?

GLOSSARY

surveyor: *geometra*
boundaries: *confini*
definitely: *decisamente*
sewer systems: *sistemi fognari*
layout: *disposizione*
fancy: *desideri*
long haul: *lungo cammino*
lugging: *trascinando*
bachelor's degree: *laurea*

How to become a surveyor, an engineer or an architect in the USA

Alex Dawsan, Surveyor, Ohio USA

In this job you need to know your boundaries well and it's all a question of measuring and making sure your angles are correct. You definitely have to be hardy, because you are expected to work in all kinds of weather conditions and often in difficult environmental settings, in order to make the land measurements for the design and construction of the project in question, which may involve different sorts of facilities and services. These can vary from roads and bridges, to sewer systems and homes.

We establish property and community boundaries and measure the proposed sights of development projects, so we are a pretty essential part of a project. This has always been the case even as far back in history as the Egyptian pyramids or the Great Wall of China, whose layout and construction were followed by a surveyor. Nowadays we use the latest technologies on the market such as total station transits, with an infrared light that measures distances, angles and elevations; aerial photography for precision mapmaking; and computers that analyse data, and the Global Positioning System (GPS) which provides us with the exact latitude and longitude of our position.

Good news for all of you out there who are thinking of embarking on this career –

surveyors are more and more in demand because they are needed to deal with many of the land use and engineering problems in the world today. We surveyors play an important role in making our planet a better place to live in by helping to improve nuclear and toxic waste disposal, recycling, water purification, housing, and energy development, to name but a few of the sectors we operate in.

Sounds exciting doesn't it? Remember though there is a lot of hard work involved starting from your school subjects. To become a surveyor you need to be really good at English, Maths, Science, Computers and analytical problem solving. Once you're through with all your school exams, the next step is university where you will hopefully get your Bachelor of Science Degree in Surveying or Civil Engineering. You also need to have completed at least 24 hours of a State Board approved surveying course. In Ohio, if you then want to get your Professional Surveyor's Licence, you must sit an exam called 'The Fundamentals of Surveying'. If you pass, then you have to do four years of practical experience in order to be able to sit the final exam to become a licensed professional surveyor. I know the road seems long, but believe me it's worth it in the end.

Kevin Duncan, Surveyor, Texas USA

If you fancy becoming a registered land surveyor, then you have a bright future in front of you, because we are one of the few professions nowadays which seems to be making progress. Our job is of course all about accuracy and the GPS helps us with our reference points. However make sure you realise you are in for a long haul, as surveyors are required to go through a strict education and testing system and must gain experience before obtaining their licence. Loads of people enjoy working outside so they think being a surveyor is ideal, but on a daily basis this environment can be hard on some. Surveyors spend most of their time standing and walk for miles lugging heavy equipment behind them. You are often required to be on the site so this may mean living away from home temporarily.

Educational requirements vary from state to state, but the minimum requirement is a high school diploma. In Texas, the relevant authority is the Texas Board of Professional Land Surveying. Surveyors who meet the required standards are provided with a professional licence to work in this state. In Texas they require you to have a bachelor's degree from a college or university which offers land surveying degrees and related courses. Then you must also sit an exam in April or October called 'The Fundamentals of Land Surveying', which you should register for online to reserve a seat. It is an eight-hour exam and you must be prepared to answer questions on a wide variety of subjects including survey calculations, algebra, trigonometry, land development principles and field data acquisition.

READING COMPREHENSION

2 **FCE** Read the two texts about becoming a surveyor. For questions 1-8, decide who makes each comment and write the correct name/names at the end of each statement. Sometimes both say the same thing.

Who says...

- 1 A surveyor's job can be unpleasant, because the conditions they work in are not always easy. _____
- 2 This profession has existed for a long time. _____
- 3 The prospects for surveyors are excellent. _____
- 4 Surveyors are also important from an ecological point of view. _____
- 5 Surveyors have to carry their own stuff about with them. _____
- 6 Surveyors can't always go home at the end of the day but have to sleep near the site. _____
- 7 After getting your degree you have to sit another exam to become a surveyor. _____
- 8 After this exam you need to work for four years before you can sit the final exam. _____

LISTENING

3 **10** Listen to an expert talking about becoming an engineer and fill in the missing information.

If you want to become an engineer in the United States, first of all you need to get your (1) _____ and become licensed. A degree syllabus will provide you with the (2) _____ you will then put into practice when (3) _____ or developing test procedures. A successful engineer must have strong (4) _____ and must be competent both in (5) _____. There are obviously several different fields of engineering but most degree courses teach (6) _____, while others can also include (7) _____ in the general study programme. After getting your degree, you then need to sit a (8) _____ to get your licence. This exam is divided into (9) _____, and after the first part, you are required to get work experience through an (10) _____ or supervised training.

WRITING

4 **FCE** This is part of an email from your American friend, Bob. Answer him, commenting on his choice of study and informing him of your decisions for the future and explaining your reasons (120-150 words).

From: _____
To: _____
Subject: _____

...Well as you know I've just finished high school and now I'm looking around to see what's the best university to go to. It's all quite awesome, trying to decide I mean. I think I'll go for architecture, like I said last time we spoke. I'm really keen on the creative side of architecture, the thought of designing a building from scratch you know, it must be brilliant when you see the whole thing actually taking shape, your drawings becoming reality. Have you decided what you're going to do once you've finished high school? I'm a bit scared at the thought of how many years I'll need to study at university, at least five if all goes well. Then after my degree, I'll have to do internship experience for at least three years and then finally I'll sit an exam to get my licence. Then I'll come over a design a new house for you!...

EXAM PRACTICE – ORAL EXAM

5 When choosing a profession what aspects should be considered? Prepare a short presentation (3-5 minutes), taking the following factors into account.

- Salary
- Location
- Job satisfaction
- Possibility of promotion in the future