Technical/Scientific Illustrator

Introduction

Technical/scientific illustrators prepare detailed drawings for technical or scientific publications such as text books and reference manuals.

Also known as

- Illustrator, Technical/Scientific

Work Activities

Technical/scientific illustrators prepare drawings and diagrams to help people understand scientific or technical information. These may be for:

- Instruction or maintenance manuals and wall charts (for example, a booklet showing how to service a central heating boiler).
- Circuit diagrams (which show the flow of electrical current in electronic devices).
- Slides for use in presentations and lectures.
- Reference and general interest books.
- Educational materials.

Some illustrators specialise in a particular area of science or technology. For example, some might provide illustrations of plants and animals for encyclopaedias. Others might provide illustrations of the planet or the workings of a piece of machinery, for instance.

Technical/scientific illustrators first find out what information the user needs to get from the illustration. They normally receive a brief for this, which outlines what the illustration is trying to achieve. They then make sure that they have all the information they need to produce an accurate illustration. This may involve:

- researching the subject
- site visits
- talking to authors, engineers and/or designers
- studying engineering drawings, diagrams and plans.

Once the illustration is finished, they may get involved in placing the work in the text or preparing the illustration for printing.

A lot of illustrators are freelance, working for different clients.

Being able to read, write and speak Welsh may be an advantage when you’re looking for work in Wales.

Personal Qualities and Skills

As a technical/scientific illustrator, you need:

- Excellent drawing skills.
- An interest and some knowledge in the subject matter you're working on.
- To pay attention to detail.
- Knowledge of computer graphics software.
- A flexible approach to your work.
- To work to deadlines and meet budgets.
- Good communication, presentation and negotiation skills.

If you work as a self-employed or freelance technical/scientific illustrator, you'll need business and marketing skills.

Pay and Opportunities

Pay

Pay rates for technical/scientific illustrators vary with the industry and responsibilities.

The pay rates given below are approximate.

Employed technical/scientific illustrators earn in the range of £18,000 - £21,000 a year, rising to around £25,000 - £30,000 a year. High earners can command salaries in excess of £45,000.

Self-employed illustrators can earn as much or more than those employed by an organisation. However, earnings when starting out can be low, and when established may fluctuate according to the workload.

Nearly half of all technical/scientific illustrators are self-employed, and who may get paid individual fees for work, as opposed to receiving a fixed salary.

Hours of work

Technical/scientific illustrators usually work a basic 39-hour week, Monday to Friday. However, late finishes and weekend work may be required from time to time, especially as deadlines approach.

Working hours for self-employed illustrators may be irregular, depending on how much work they have.

What's happening in this work area?

The design sector now operates in a very commercial global market, with emerging economies, for example, India and China, posing an immediate threat.

However, the strong growth of the UK service industry has led to the opening up of new markets, and helped the design sector to achieve a position of strength. The recognition of the importance of design, within the global market, has helped the sector to emerge from the recent recession in a strong position.

Technology has helped to greatly speed up the design process, making it possible for designers to take on many more projects. However, fewer people are now required to complete tasks, resulting in a very competitive recruitment market.

Competition for illustrator posts is strong, as there are often more applicants than vacancies.

Where could I work?

Employers include publishers, advertising agencies, the broadcasting industry, architects and contractors. Some work for publishing companies which can sometimes be on two- to three-year contracts.

Opportunities for technical/scientific illustrators occur in towns and cities throughout the UK.

Self-employment

Opportunities occur for technical/scientific illustrators to work independently on a self-employed basis.

Some technical/scientific illustrators use the services of agents to gain commissions and short-term contract work.

Where are vacancies advertised?

Vacancies are advertised on all the major job boards, on Universal Jobmatch, and at Jobcentre Plus.

It's a good idea to build up a network of relevant contacts, as not all illustration jobs are advertised. Making speculative job applications can also be effective.

Entry Routes and Training

Entry routes

A common route into this career is via a Foundation course in Art and Design followed by a degree, HND or foundation degree in a subject like graphic design or illustration. Some courses have options in scientific and technical illustration.

An Advanced Level Apprenticeship is also great place to start.

Training

The Association of Illustrators (AOI) and the Institute of Scientific and Technical Communicators (ISTC) offer relevant seminars and training events.

Progression

Some illustrators become self-employed.

With training and experience, it may be possible to move into supervisory positions.

Qualifications

To get onto an Advanced Level Apprenticeship, you'll usually need 5 GCSEs at grade C or above, including English and Maths, or to have completed an Intermediate Level Apprenticeship.

The usual entry requirements for a relevant Foundation course are:

- 1/2 A levels. You'll need an A level in Art or in an art-based subject.
- GCSEs at grade C or above in 4/5 subjects. Some courses ask that you have a pass in English

Alternatives to A levels include:

- A BTEC level 3 National Diploma in Art and Design.
- An Advanced Level Apprenticeship.
- The International Baccalaureate Diploma (IBD).

The entry requirements for relevant HNDs and foundation degrees are similar to those needed for the Foundation course mentioned above.

If you go on to a degree directly, you'll usually need:

- 2 or more A levels. Many courses ask that you have at least a B grade in an art-based subject.
- 4/5 GCSEs at grade C or above. A pass in English is often required.

To enter any course in art and design, you'll need a portfolio of your work.

Some universities accept the Welsh Baccalaureate as equivalent to 1 A-level.

Adult Opportunities

Age limits

It is illegal for any organisation to set age limits for entry to employment, education or training, unless they can show there is a real need to have these limits.

Skills/experience

Relevant skills gained, for example, in graphic design, are useful. However, entry to this work is very competitive.

To enter the work or relevant courses, you need to have a portfolio of work showing your ability.

Many illustrators use agents in order to find possible work. A list of relevant agents is listed on the Association of Illustrators (AOI) website.

Courses

If you don't have the qualifications needed to enter your chosen degree or HND course, a college or university Access course (eg, Access to Art and Design) could be the way in. No formal qualifications are usually required, but you should check individual course details.

They can lead to relevant degree/HND courses.

Part-time MA/PgD/PgCs in illustration are available at numerous universities and educational institutions.

Distance learning

The University of Hertfordshire offers an MA/PgD/PgC in Illustration by distance learning.

Further Information

Contacts

- **Apprenticeships: Get In. Go Far**
  National Apprenticeship Service (NAS)
  Tel: 0800 015 0400
  Email: nationalhelpdesk@findapprenticeship.service.gov.uk
  Website: www.apprenticeships.org.uk

- **Skills Development Scotland - Modern Apprenticeships**
  Tel: 0800 9178000
  Email: info@skillsdevelopmentscotland.co.uk
  Website: www.myworldofwork.co.uk/modernapprenticeships

- **ScreenSkills**
  Skills for the creative industries
  Email: info@creativeskillset.org
  Website: www.creativeskillset.org

- **Creative Choices**
  Publisher: Creative & Cultural Skills
  Email: info@creative-choices.co.uk
  Website: www.creative-choices.co.uk

- **Creative & Cultural Skills**
  Skills for craft, cultural heritage, design, literature, music, performing arts and visual arts
  Email: london@ccskills.org.uk
  Website: ccskills.org.uk

- **Institute of Scientific and Technical Communicators (ISTC)**
  Email: istc@istc.org.uk
  Website: www.istc.org.uk

- **Communicator**
  Publisher: Institute of Scientific and Technical Communicators
  Email: istc@istc.org.uk
  Website: www.istc.org.uk/our-publications/communicator/

- **Careers Wales - Welsh Apprenticeships**
  Tel: 0800 028 4844
  Website: ams.careerswales.com/

Related Careers

- Medical Illustrator
- Design Assistant
- Fashion Designer
- Graphic Designer
- Artworker
- Metal Engraver
- Visual Merchandiser
- Commercial Illustrator

- Signmaker
- Ceramics Designer
- Footwear Designer
- Furniture Designer
- Product Designer
- Vehicle Designer
- Interior Designer
- Jewellery Designer
- Packaging Designer
- Textile Designer
- Costume Designer
- Theatre Designer
- Musical Instrument Technician
- Picture Researcher
- Model Maker
- Picture Framer
- Designer
- Illustrator
- Artist
- CGI Artist
- VFX Artist
- Nostalgist