

## Games Programmer

A games programmer uses programming and scripting languages to write code that controls how a game looks and works. This could be puzzle, adventure, role-play, combat, shooters or sports. They produce games for different platforms: PCs, laptops, consoles, the internet, interactive TV and mobile phones.

They can also be called gameplay, engine, physics or animation programmers.

### The Work

You could be:

- liaising with other team members, for example the games designer, graphic designer, artists and technical architects
- producing technical specifications (documents that instruct how the game should be programmed) for different components of the game
- writing code in programming languages, such as C++ or Java, to develop front end (what the player sees) and back end (how the game actually works) elements
- developing 2D and 3D graphics, such as scenery or characters, and sound
- specialising in physics programming – creating moveable objects to behave as realistically as possible, for example running water, waves or character movement
- programming the artificial intelligence (AI) aspects of the game – how characters not controlled by the player behave, for example footballers passing the ball
- working with testers to fix any faults, known as bugs, and rewriting code
- researching new technology, platforms and ideas.

### Pay

The figures below are only a guide. Actual pay rates may vary, depending on:

- where you work
- the size of company or organisation you work for
- the demand for the job.

For many vacancies salaries depend on skills and experience. Starting salaries are usually around £22,000 to £25,000 a year. With experience this can rise to around £35,000 to £50,000 a year or more. Senior programmers may earn £65,000 or more a year. Salaries are usually higher in London.

You might earn extra through profit sharing, bonus payments and performance-related pay.

### Conditions

- You will spend most of your time working at a computer in an office or studio.
- You work with other professionals, such as designers, computer animators, programmers and testers.
- Although you work basic office hours, you might have to work overtime to meet deadlines and the

environment can be pressurised.

## Getting In

- The majority of entrants to the computer games industry are graduates. Some have degrees (SCQF Levels 9-11) in maths, physics or computer science, but there are also degrees in computer games subjects, at Abertay, Edinburgh Napier, Glasgow Caledonian, Heriot-Watt and the West of Scotland universities. Glasgow School of Art also offer a degree in Games and Virtual Reality.
- Entry requirements for most of these courses are 4-5 Highers usually including Maths and preferably Physics or a computing or technological subject, plus English and Maths at National 5.
- If you have a degree in a relevant subject you could do a postgraduate games development or computer games technology course at Abertay University.
- The ScreenSkills website lists endorsed degree courses for the computer games industry.
- You may need a portfolio of work demonstrating the work you have done in games development.
- Studying for a relevant Foundation Apprenticeship while in fifth and sixth year at school could count towards entry to a course. Entry requirements vary between colleges, but you usually need relevant subjects at National 5 such as Maths, Physics or Computing Science.
- Due to the competitive nature of this sector, it helps if you demonstrate a real passion for gaming.

Job vacancies are often advertised on the internet. There is a lot of competition for jobs.

## What Does It Take

You need to have:

- creativity and problem solving skills
- an analytical, logical approach
- good ability in maths and physics
- excellent IT and programming skills
- a genuine enthusiasm for gaming
- knowledge of different game types and platforms
- good communication skills for liaising with other professionals.

You need to be able to:

- keep up to date with new technology and game trends
- pay attention to detail
- work alone and as part of a team
- work under pressure, accept criticism and meet deadlines.

## Training

- Training is often on the job.
- You could take short training courses in other programming and scripting languages and artificial intelligence techniques.

## Getting On

- Skilled developers are in demand and with experience you can specialise or move on to become a team or project leader.
- You may be able to work overseas in Europe, USA, Canada, Australia and Japan.

## More Information

- Computer games are increasingly used as educational tools to get across ideas about, for example, maths, science or social studies
- The University of Abertay has the UK's first university Centre of Excellence for Computer Games Education.
- BAFTA Young Game Designers is a competition with different categories for 10-14 and 15-18 year olds. You can write and illustrate your idea to enter the 'Game Concept Award' or make your own game to enter the 'Game Making Award'. See the [BAFTA Young Game Developer](#) website for more details.

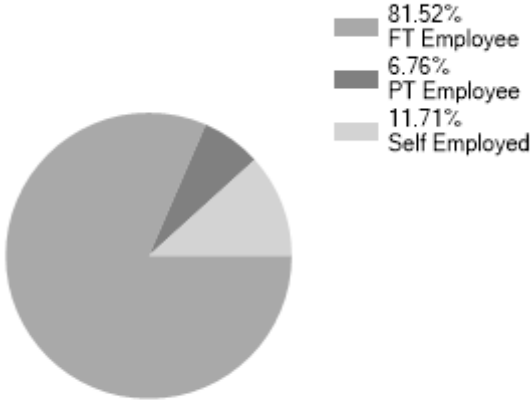
For more information please see organisations listed below:

- [BCS, The Chartered Institute for IT](#)
- [British Academy of Film and Television Arts](#) (BAFTA)
- [ScreenSkills](#)
- [TIGA](#)

## Contacts

Statistics

Employment Status UK %

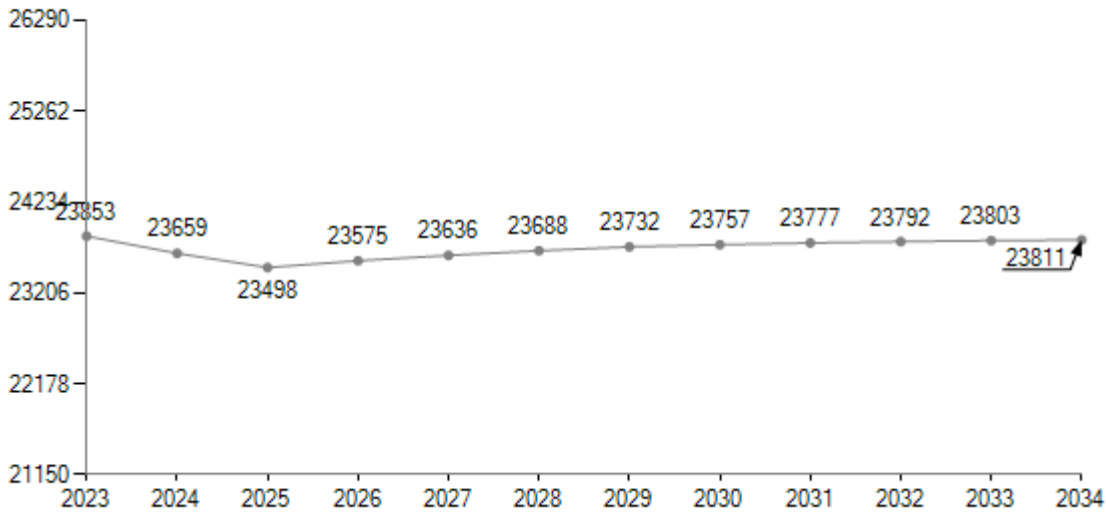


Past Unemployment - Scotland

No Claimant statistics available for Scotland.

LMI data powered by [LMI for All](#)

Predicted Employment in Scotland



LMI data powered by [Lightcast](#)