

# Using your *PHYSICS or ASTRONOMY* degree to get a job



## Making yourself employable

Studying for a degree in Physics or Astronomy is a sound basis from which to launch your career and employers recognise that a degree in Physics or Astronomy is a valued qualification. Apart from extending your knowledge of the subject, you will develop many of the scientific skills and 'employability' skills, which are necessary for most occupations.

According to a recent survey by PricewaterhouseCoopers, Physics and Astronomy graduates in the UK earn around 30% more during their career than someone with A levels and no degree - that is more than almost any other subject. However, in order to compete in a demanding marketplace, you will need to think about developing your skills and experience through participation in a range of activities, and presenting these to employers.

The earlier you start to plan ahead and take action, the greater the opportunities you will have to realise your potential. Make the most of every opportunity - after all, it's not just about getting a job after graduation, but developing yourself to provide a firm foundation for the next 40 years or so of your working life.

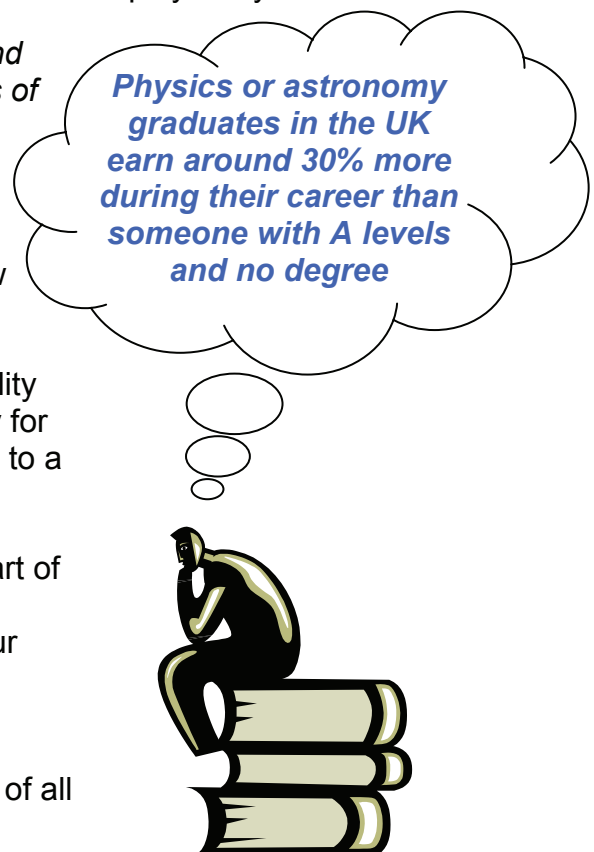
## What does 'Employability' mean?

The Confederation of British Industry (CBI) has defined employability as:

*"The possession by an individual of the qualities and competences required to meet the changing needs of employers, and thereby help realise his or her aspirations and potential in work."*

Employability skills are also often referred to as 'transferable' skills. Employers appreciate that new graduates may not have relevant work experience and specialist knowledge so will select candidates taking into account their transferable, or employability skills. It is up to you to develop the skills necessary for your chosen career and to present them effectively to a potential employer.

The skills and knowledge you are developing as part of your degree will serve you well, whether you are considering a career which is directly related to your degree, e.g. as a Research Scientist or Medical Physicist, or for non-related occupations, such as Finance, IT or Management; for which no degree discipline is specified and which make up over half of all graduate vacancies.



## Identifying your skills

It is important for you to identify and evidence the skills you develop during your degree so that you can present them effectively to prospective employers. To do this you first need to understand the range of skills employers expect you to develop. Your degree will provide you with the sorts of skills a physics or astronomy graduate can expect to learn and develop on a physics related course. Some of these skills are listed below.

### Physics transferable skills

<b>Employability Skills</b>	<b>Evidence</b>
Problem solving	Conduct experiments and apply knowledge and understanding to solve problems of an unfamiliar and familiar nature.
The ability to work with others in a team	Group laboratory projects, voluntary work
Communication skills, both oral and written	Listening, conveying complex information, presenting scientific material and arguments clearly and correctly, in writing, and orally during tutorials and seminars
Planning and organising skills	Planning, design and execution of practical investigations, from problem recognition to evaluation stages, organising workload
Decision making skills	Practical assignments, ability to select appropriate techniques and procedures.
Initiative	Practical investigations, recognition of novel problems
Independent learning skills	Time-management and organisational skills demonstrated through independent research

Employers have also identified the attributes they seek in the graduates they recruit and these are listed below.

<b>Employer Skills</b>	<b>Evidence</b>
Cognitive Skills/Brainpower	The ability to identify and solve problems; work with information and handle a mass of diverse data, assess risk and draw conclusions.
Generic Competencies	High-level and transferable key skills such as the ability to work with others in a team, communicate, persuade and have interpersonal sensitivity.
Personal Capabilities	The ability and desire to learn for oneself and improve one's self awareness and performance. To be a self starter (creativity, decisiveness, initiative) and to finish the job (flexibility, adaptability, tolerance to stress).
Technical Ability	For example, having the knowledge and experience of working with relevant modern laboratory equipment.
Business and/or Organisation Awareness	An appreciation of how businesses operate through having had (preferably relevant) work experience.
Practical Elements - Vocational Courses	Critical evaluation of the outcomes of professional practice; reflect and review own practice; participate in and review quality control processes and risk management.

You should identify examples of how you have developed your employability skills and map these against the attributes and qualities desired by employers. This will enable you to make it explicit to employers about the wide range of skills you possess.

## Evidencing your skills

1. Find out what skills employers want. Make a list of employability skills you have and which ones you still need to develop.
2. If you use a Progress File or PDP, record your evidence here as a personal record. For example, make detailed notes of a project you have undertaken. Record the skills you have developed from successfully undertaking the project, such as identifying and solving a problem, analysing information, team-working and communication skills. Did you have to present the results? Reflect on what you have achieved, and consider any feedback you received. If you do not record details, it can be difficult to recall them in the future. It is not enough to list your skills in an application - you will also need to provide supporting evidence. Picture yourself having to discuss the project in detail in a year's time in front of an interview panel.
3. What skills have you developed from work experience and extracurricular activities? For example, have you organised an event for a club or society? If so, this might provide evidence of your organisational skills, your time-management skills and planning skills.

### ***Physics education develops strong intellectual and practical skills, well matched to the evolving needs of employers***

4. If you don't have a hobby or part time job perhaps you could consider one to help develop some additional employability skills. Voluntary work is another way of developing these skills. Even if the work is only casual it can still help you develop a wide range of skills.
5. For a list of occupations which match your interests, values and motivations, use a career development tool, such as Prospects Planner ([www.prospects.ac.uk](http://www.prospects.ac.uk)) or Windmills ([www.windmillsprogramme.com](http://www.windmillsprogramme.com)). This will help when deciding which career to choose. Also find out what services are offered by your University Careers Service.
6. Find out if the sector you are interested in has a professional body or association, which has regional meetings you can attend. Speak to friends and family who work in an area of interest to you to generate opportunities and contacts - as well as providing evidence of developing your interpersonal and influencing skills, and motivation.

## Getting that job!

Now that you have a better idea of the sorts of employability skills you can expect to develop during your physics or astronomy degree and which skills employers often look for; you can start to make the most of selling yourself to employers. Knowing what skills you will develop during your degree and being able to match them to what employers are looking for will help you get that dream job.

However, you must make the most of your opportunities to develop yourself so here are some tips for achieving that goal.

- *Learn to appreciate what type of work interests you then consider the types of skills employers look for. There are sources of help such as provided by careers services to help you identify what type of career interests you.*
- *Review your skills regularly.*
- *Make efforts to fill any skills gaps by doing extra activities, such as joining a club, taking on a part time job, or doing volunteer work.*
- *When applying for jobs don't underestimate the time it takes to complete the application form. An employer can tell when a form has been rushed.*
- *Ask a critical friend to check your job applications, you may be underselling yourself.*

**Graduates in physics or astronomy can earn around £185,000-£190,000 more in lifetime earnings than achieved by those with 2 or more 'A' levels**

## Links to help and employability resources

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

Windmills. ([www.windmillsprogramme.com](http://www.windmillsprogramme.com))

National Association of Student Employment Services [www.nases.org.uk](http://www.nases.org.uk)

Institute of Physics (IoP) Careers section <http://careers.iop.org/>

Card sort exercise <http://www.physsci.heacademy.ac.uk/Resources/DownloadsDetail.aspx?id=2>

Hobsons Graduate Employment and Training <http://www.get.hobsons.co.uk/>



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