

## What is Physics?

Physics aims to understand the nature of matter and energy at the subatomic particle level and itself. From fridges to communication and electrical systems, understanding physics is essential.

Physics underpins many of the technologies that have and will continue to be developed. Massively, leading to significant benefits. For example, in the fields of engineering, medicine, and other health sciences all use physics.

Modern physics has led to a deeper understanding of the universe and advances in technology.

Physics is the study of everything that exists and how it behaves. It is the foundation of many of the technologies we use every day, from the cars we drive to the computers we use. Physics is also the key to creating new technologies and understanding the behavior of the universe.

This resource is part of a set of brochures focused on subject majors; many can also be studied as minors.

## **What skills can graduates gain?**

Through studying a degree in Physics, graduates develop a valuable set of skills and competencies, which can include:

- An understanding of how to apply scientific methodologies
- Mathematical confidence
- Technology and computer literacy; able to use specialist software
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## What jobs and activities might graduates do?

Many Physics graduates are not employed as specific scientists – their physics can be applied to a range of jobs. See some job examples below.

### Field / Experimental

- Plan and carry out research experiments
- Maintain and calibrate equipment
- Liaise with scientists and industry personnel
- Collect and collate data, and draft reports

### Research

- Organise and conduct research
- Test theories and operate instruments
- Analyse data and scientific phenomena to develop explanatory theories
- Write reports and publish articles
- Consult with and advise industry

### Software Development

- Analyse customer needs, evaluate computer software and research new technologies
- Develop software programs for new products
- Manage software development projects

### IT

- Determine specifications and write code
- Build prototypes of software programs
- Test and fix computer programs and systems
- Maintain and upgrade programs and systems

### Medical

- Operate and improve diagnostic and therapeutic equipment
- Use knowledge and skills to help prevent, diagnose and treat different diseases/ conditions
- Ensure radiology, nuclear medicine and radiation treatments are safe and effective
- May develop and integrate technical aspects of websites/mobile apps along with other workers

### Patent

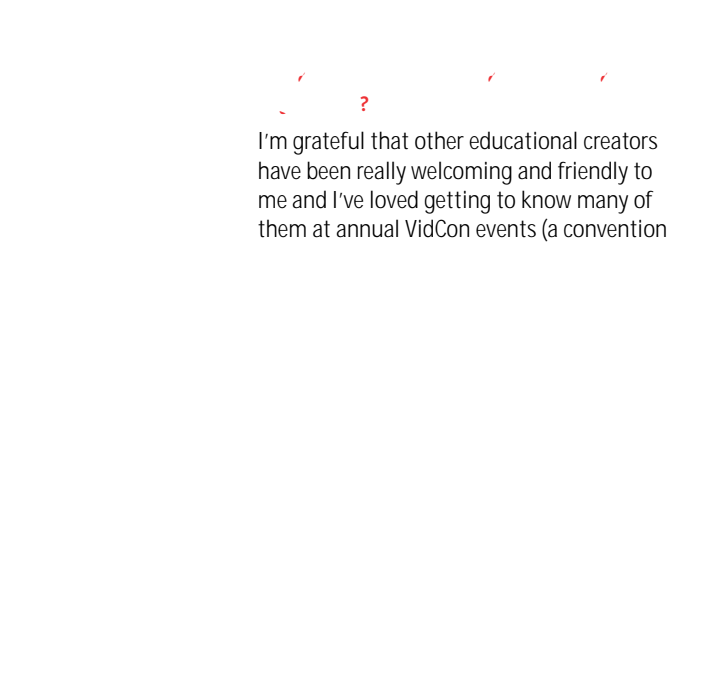
- Research technical or scientific documents, to assess if a product is new and innovative
- Maintain knowledge of laws and regulations
- Advise businesses, government and industry

### Weather

- Monitor weather systems and atmospheric patterns
- Analyse data and use forecasting models to predict weather conditions and climate trends
- Prepare weather maps, forecasts and alerts
- Design tests to measure air quality, ozone etc

### Other

- Actuary
- Acoustic consultant
- Astronomer
- Assistant professor
- Data analyst / scientist
- Engineer
- Electronics assembler / tester
- Game developer / designer
- Geophysicist
- Instrument technician
- Lab demonstrator
- Medical technician
- Private wealth assistant
- Metallurgist
- Operational researcher
- Patent attorney / examiner
- Secondary school teacher
- System and application development
- Seismologist.



I'm grateful that other educational creators have been really welcoming and friendly to me and I've loved getting to know many of them at annual VidCon events (a convention