



*In Profile...*

**Amanda Hemmings**  
(4th year  
Physics with  
Philosophy  
graduate)



“ I thoroughly enjoyed my time at York and met some fantastic people. That’s one of the advantages of studying a combined subject; you get to meet so many different people with diverse interests. York is a friendly city with a fantastic range of pubs and close enough to Leeds for the serious clubber. The physics department is welcoming and you don’t feel like you are just a number like some of my sixth form friends did in their departments. I got to know many of my lecturers well, and there was always someone to ask for help. The philosophy department is very supportive and has inspiring lecturers in many of the subjects you are likely to study. Studying physics with philosophy is not easy but is very rewarding; you develop a range of skills that few other students can match. I found this stimulating while studying, and now that I have graduated, very useful. ”

**Visiting the Department**

There are a number of open days throughout the Autumn and Spring terms to which all those to whom we make an offer to study in the Department will be invited. They comprise an introductory talk by the Admissions Tutor, a tour of campus and the department with an undergraduate guide, lunch, opportunities to ask questions of staff individually, and a mini-lecture on a physics topic.

The University holds two pre-application Open Days, usually in July and October at a time when you are considering which degree programmes and universities to put on your UCAS form. See the Open Day website for dates:

[www.york.ac.uk/admissions/openday](http://www.york.ac.uk/admissions/openday)

**Enquiries**

The following additional leaflets are also available:

- Physics Degree,
- Theoretical Physics Degree,
- Physics with Astrophysics Degree,
- Physics combined with study abroad,
- Physics with a Foundation Year

If you would like a copy of these leaflets, or require any further information, then please contact:

**The Admissions Tutor  
Department of Physics  
University of York  
York**

**YO10 5DD**

Tel. **01904 432241**

Fax. **01904 432214**

email: **physics-undergraduate-admissions@york.ac.uk**

Departmental website:  
[www.york.ac.uk/physics](http://www.york.ac.uk/physics)

UCAS codes for all our degree programmes can be found on the departmental website or in the University prospectus.

**Further Information**

The University of York has established an international reputation for the high quality of both its teaching and research. The University enjoys an exceptional record in external assessments of its teaching quality, and its academic staff are viewed as among the country’s top researchers.

York is a distinctive university: large enough to provide a vibrant social and cultural life, yet small enough to feel friendly and welcoming to all students. The University’s college system enables students to make friends easily, and encourages them to get involved in the huge range of social, musical and sporting activities on offer.

Situated in 200 acres of attractively landscaped parkland, with all the major facilities at hand, the University is also within easy reach of the city centre. More than an historic city, York’s lively cultural scene, and impressive leisure and sports facilities, mean that it can offer something for everyone.

If you would like to find out more about the University, opportunities to visit or admissions please contact the Admissions and Schools Liaison:

Tel. **01904 433196**

or

email: **admissions-liaison@york.ac.uk**

University website: [www.york.ac.uk](http://www.york.ac.uk)

# Joint-subject Physics Degrees

This leaflet addresses the particular details of the various joint-subject physics degree programmes. It should be read in conjunction with the “Physics Degree” leaflet.

All our joint-subject degree programmes (except Mathematics with Physics) are accredited by the Institute of Physics.

**Why Study Physics with Philosophy?**

This degree programme aims to give a wider academic perspective, which draws on both the science and the humanities heritage. This degree is not intended as primarily one of the philosophy of science, but naturally lectures and seminars on this subject are included. The nature of the combination of these two subjects is such that they form a good basis for postgraduate study in physics while also offering entry into other disciplines.

This degree programme can be taken as a 3-year BSc or a 4-year MPhys. In addition, either option can be combined with a Year in Europe.

**Why Study Physics with Business Management?**

This degree programme provides a good



grounding in physics coupled with a study of business management. The physics is of sufficient depth for it to be possible for you to pursue a higher degree in physics if you wish. This degree is ideal if you want a management career in a scientific based industry, but the range of expertise and knowledge gained will open up career prospects varying from scientific research through to general management.

This degree programme can be taken as a 3-year BSc, a 4-year BSc with a Year in Europe or as a 4-year MPhys.

**Why Study Mathematics and Physics?**

This degree programme includes a good all-round knowledge of physics, but with an even greater emphasis on the study of pure mathematics than the Theoretical Physics degree programme. It emphasises the mathematical structure of physical theory. The final year research project may be in either physics or mathematics.

This degree programme can be taken as a 3-year BSc, a 4-year BSc with a year in Europe, or as a 4-year MPhys (or MMath). Our typical BSc offer is a grade A in Mathematics, B in

Physics and B in another A-level. Our typical MPhys offer is grades AA in Physics and Mathematics and grade B in another A-level. The third A-level may be General Studies. Other qualifications will also be considered. Additional information on this degree programme is available from the Department of Mathematics. A degree programme of Mathematics with Physics is also offered with even greater weighting towards the mathematical content.

**Teaching Excellence**

One area of great concern to students and staff alike is the quality of the teaching provided. The Department was awarded the maximum mark of 24 out of 24 for the teaching quality in the most recent Subject Review of all its degree programmes, performed by the Quality Assurance Agency.



**This table shows the current structure of the Joint-subject Degree programmes**

Year	Core Physics	Physics with Business Management	Physics with Philosophy	Mathematics and Physics
<b>First</b>	Physics of Matter Mechanics Electromagnetism Vibrations and Waves Quantum Physics Skills	<i>core physics plus</i> Mathematics Special Relativity Optics Experimental Lab. <i>either</i> Experimental Lab. <i>or</i> Programming: Fortran 90 <i>choose one of</i> Stars and Planets Physics of Music  <i>plus 10 credits Business Management modules</i>	<i>core physics plus</i> Mathematics Special Relativity Experimental Lab. Programming: Fortran 90  <i>plus 40 credits Philosophy modules</i>	<i>core physics plus</i> Optics Programming: Fortran 90 Experimental Lab  <i>plus 60 credits Mathematics modules</i>
<b>Second</b>	Mechanics Solid State Physics Mathematics Quantum Mechanics Electromagnetism Numerical Methods Atomic Physics Skills	Physics with Business Management <i>core physics plus</i> Mathematics Physics in Action Special Relativity Particle Physics Experimental Lab.  <i>plus 10 credits Business Management modules</i>	<i>core physics plus</i> Mathematics Particle Physics Special Relativity  <i>plus 40 credits Philosophy modules</i>	<i>core physics plus</i> Physics in Action  <i>plus 50 credits Mathematics modules</i>
<b>Third</b>	Quantum Mechanics Thermodynamics Electromagnetism Solid State Physics Physical Optics Skills	<i>core physics plus</i> Atomic Physics Statistical Mechanics Magnetism and Superconductivity Physical Optics Nuclear Physics  <i>BSc only</i> BSc Project  <i>MPhys only</i> Advanced Experimental Laboratory Frontiers of Research  <i>plus 20 credits Business Management modules</i>	<i>core physics plus</i> Statistical Mechanics  <i>BSc only</i> <i>BSc Project plus choices from</i> Atomic Physics Nuclear Physics Plasma Physics Magnetism and Superconductivity Physical Optics Introduction to Quantum Computing  <i>MPhys only</i> Frontiers of Research and Advanced Computational Lab plus choices from Atomic Physics Nuclear Physics Plasma Physics Magnetism and Superconductivity Physical Optics Introduction to Quantum Computing  <i>plus 40 credits Philosophy modules</i>	<i>BSc or MMath choose one,</i> <i>MPhys choose two from</i> Atomic Physics Statistical Mechanics Nuclear Physics  <i>BSc only</i> Project (in Maths or Physics)  <i>MPhys only</i> Frontiers of Research  <i>plus 50-70 credits Mathematics modules</i>
<b>Fourth (MPhys or MMath only)</b>	<i>selection from</i> Nuclear Astrophysics Quantum Mechanics Nuclear Physics Physical Optics High Performance Computing Electromagnetic Theory Astrophysical Plasmas Solid State Physics Magnetism and Magnetic Materials Radiation and Matter Fluid Dynamics Phase Transitions and Critical Phenomena Plasma Physics for Fusion Satellite Remote Sensing of the Atmosphere Electron Microscopy Molecular Biophysics	<i>4 optional modules from fourth year of Physics degree plus 30 credits Business Management modules</i>	<i>3 optional modules from fourth year of Physics degree plus 40 credits Philosophy modules</i>	<i>MPhys only – MPhys Project, Skills, 3 optional modules from fourth year of Physics degree plus 40 credits of Mathematics modules</i>  <i>MMath only – no Physics Project or skills – 4 optional modules from fourth year of Physics degree plus 80 credits of Mathematics modules</i>



## In Profile...

**Tom Deakin**



**(4th year Physics with Philosophy graduate)**

“ The first thing to strike me about York was its uniqueness: a unique city, a unique university and a unique physics department; within minutes of my first visit, I knew that this was the place I wanted to spend four years of my life – first impressions do count!

The physics with philosophy course gives the opportunity to take the study of physics to a deeper level, by encouraging the asking of fundamental questions, scrutinising what we often take to be true, and seeing where the two disciplines become intertwined. The modular system in both departments gives a great deal of freedom, culminating in a degree where you know you've had the choice to pursue your own interests.

## Non-Physics Components

### Physics with Philosophy

In addition to the physics modules listed on the previous page, with this degree programme you will also take modules provided by the Department of Philosophy. There is a wide range and choice of philosophy modules available, and these will make up 1/3 of the overall degree programme.

In the third year, BSc students undertake a project in Physics; it may be possible to choose a project on the “philosophy of physics”. In the fourth year, students undertake a physics research project.

### Physics with Business Management

In addition to the physics modules listed on the previous page, with this degree programme you will also take modules provided by the Department of Electronics. These start with material on team building and project planning, and move through product design and basic economics, to information and people management, marketing and accounting. Approximately 1/6 of the overall degree programme will be devoted to such topics.

The final year MPhys research project may be in either physics or business management.

### Mathematics and Physics

In addition to the physics modules listed on the previous page, with this degree programme you will also take modules provided by the Department of Mathematics. For this reason, there is much less

mathematics teaching in the physics part of the programme. Physics will make up 1/2 of the taught modules, but the flexibility in the choice of final year research project (which may be in either department) means that the exact ratio of mathematics : physics is not prescribed. Consequently the 3-year degree will be BSc or BA, and the 4-year degree may be either MPhys or MMath.

### Year in Europe

If the Year in Europe is chosen, then the language modules required are in addition to the specialist modules, and therefore are taken in your spare time.

