

LONDON'S GLOBAL UNIVERSITY



UCL

Astrophysics
MSci/BSc at UCL

www.ucl.ac.uk/ug-astrophysics

ASTROPHYSICS AT UCL

The Astrophysics degree programme provides a solid foundation in fundamental physics, in the context of the grand challenges of science: from subatomic particles to the origins of the Universe.

Astrophysics is the application of core physics to many of the most basic questions challenging science today: how did the Universe begin, and what is its fate? What is it made of? What is the origin of the elements? Is there life beyond Earth? On the largest scales, investigations in astrophysics have already set the scale of the cosmos, and have led to the unforeseen discoveries of dark energy and dark matter; at the other extreme, it is detailed studies of the Sun that have largely led to insights into subatomic processes controlling the nature of the elusive neutrino.

Our Astrophysics programmes address these questions by delivering a basic physics training, but set in the context of specialised courses in cosmology, planetary sciences, and galactic astrophysics. This training includes core transferable skills in communications, information technology, mathematics, and problem-solving. An astrophysics degree therefore provides exactly the same marketable elements as any other physics-based degree, but offers additional motivation and opportunities to would-be students with particular interests in the oldest of the observational sciences. Many graduates go on to undertake research degrees, but others go into careers in finance, journalism, teaching, IT, television, medical sciences... indeed, any field where computing, numeracy, and logical thought processes are valued.

UCL Physics and Astronomy hosts a large, vigorous group of academic staff with astrophysics research interests ranging from Earth and planetary atmospheres, through exoplanetary studies and stellar astrophysics, to cosmology. This ensures a very broad base of expertise to underpin specialised courses. Our dedicated teaching observatory, in the easily accessible suburb of Mill Hill (pictured opposite), is one of the best-equipped in the UK, with both large traditional telescopes, and modern computer-controlled systems.



Programme structure

The programme is offered both as a three-year BSc and a four-year MSci, with common structures and subjects for the first two years. However, the additional fourth year allows for a greater depth of study and we recommend you apply for an MSci initially, as this keeps more options open.

Core courses in the first two years provide a grounding in mathematics, classical and quantum physics as well as basic astrophysics. The second and third years also provide for optional courses to further enhance and enrich your knowledge of astrophysics topics. You will undertake practical work at UCL's University of London Observatory (ULO) and benefit from our close association with the Royal Astronomical Society.

Both the MSci and BSc are accredited by the Institute of Physics and include the very latest developments and discoveries in the field, based on our highly-rated research. Collaborative links with both international research laboratories and industry provide insight into the practical application of your studies.

Entry requirements

A levels: AAA-AAB to include Mathematics and Physics. A pass in a further subject at **AS level** or equivalent is also required.

IB Diploma: 36-38 points with a score of 17-18 points in three higher level subjects to include Mathematics and Physics.

Other qualifications: UCL accepts a number of other UK qualifications and a range of overseas qualifications. Further details can be found at www.ucl.ac.uk/study/undergraduate-study



Programme structure includes

YEAR ONE

- Atoms, Stars and the Universe
- Practical Astronomy at the Observatory
- Mathematical Methods
- Classical Mechanics
- Waves Optics and Acoustics

YEAR TWO

- Astrophysical Processes: Nebulae to Stars
- Physics of the Solar System
- Quantum Physics
- Mathematical Methods
- Practical Astrophysics

YEAR THREE (MSci)/FINAL YEAR (BSc)

- The Physics of Stars
- Physical Cosmology
- Practical Astronomy at the Observatory
- Field trip to Observatoire de Haute Provence (France)

FINAL YEAR (MSci)

- Research Project
- Advanced Physical Cosmology
- Maths for General Relativity
- High Energy Astrophysics
- Plus further optional courses

How to apply

Application for a place on the Astrophysics programmes should be made through UCAS (www.ucas.com) quoting the codes and full title as follows:

Astrophysics	4FT Hon MSci F511
Astrophysics	3FT Hon BSc F510

Why UCL?

- UCL is one of the world's very best universities, and is consistently ranked in the global top 25 in a wide range of world rankings.
- In the Research Assessment Exercise (2008), at least 50% of the research undertaken by staff at UCL was rated in the top two categories of 4* and 3* (research of 'world-leading' or 'internationally-excellent' quality).
- UCL's location in central London offers outstanding academic, professional and social benefits.
- UCL guarantees accommodation to all first-year undergraduate students (subject to conditions).

To find out more about studying at UCL, visit: www.ucl.ac.uk/study

Further information

Enquiries should be directed to: physast-admissions@ucl.ac.uk

General information is available at: www.ucl.ac.uk/ug-astrophysics

THE ALUMNI VIEW

Laura Watson

Astrophysics MSci
(graduated 2009)

“I chose to study Astrophysics at UCL due to the comparatively high astronomy content of the programme and the observation facilities at the University of London Observatory (ULO). A few of my courses have been held at the ULO, where I've had the opportunity to use the telescopes and learn other skills required for practical astronomy. During my third year, I participated in a field trip to L'Observatoire de Haute-Provence, in south-east France. I would highly recommend it to anyone thinking of taking this degree.”

