Ollscoil Chathair
Bhaile Átha Cliath
Dublin City University

BSc Applied Physics – INTRA Programme (DC193)

Objective

The Objective of this four-year, full-time degree is to produce graduates with a thorough understanding of physics, with an emphasis on modern technological applications, well-developed skills in modern laboratory techniques and the capacity to adapt to new developments.

The courses taught within the degree programme provide substantial specialisation in the following areas:

— Computer programming, mathematics and computational physics

— Electronics and instrumentation

— Lasers, optics, spectroscopy and optoelectronics

— Semiconductor materials, physics, devices and technology

Programme Summary

During the first two years, courses are provided in classical and modern physics as well as in mathematics, electronics and computing. From second year on, in addition to core modules students can choose from a suite of specialist areas including, for example, computational physics, sensors and digital signal processing. There is a strong emphasis on developing practical laboratory skills. Several final year Applied Physics students have received national awards from the Institute of Physics and the Instrument Society of America for their project work. An important element of Applied Physics at DCU is the emphasis placed on project work, report writing, oral presentations and laboratory skills throughout the four-year programme.

Relevant Work Experience

DCU's work experience programme INTRA (INtegrated TRAining) is a central feature of education at DCU and an integral part of most undergraduate and some postgraduate degree programmes. Students from BSc Applied Physics are eligible to participate in an eight month INTRA placement at the end of third year, from February to September inclusive.

Work Areas

Students from BSc Applied Physics will have the ability to work in the roles listed below:

— Manufacturing

— Process Control

— Optoelectronics

— Medical Physics

— Meteorology

— Education and Training

— Semiconductor Fabrication

— Instrumentation

— IT Support

— Environmental Monitoring

— Energy Sources

— Laboratory Research

— Electronics n Telecommunications

— Software Engineering

— Radiation Protection

— Conservation

— Desk Research Student

Students are available for interview from October onwards. For more information, contact:

INTRA Unit, Student Support & Development, DCU, Glasnevin, Dublin 9. Ireland.

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E: carol.power@dcu.ie

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in/dcu-intra-office

Year 1	Year 2	Year 3	Year 4
Physics Laboratory	Quantum Physics	**Core Modules**	**Core Modules**
Physics 1	Advanced Programming	Quantum Physics II	Introduction to Differential Equats and Apps to Mechanics
Introduction to Computing	Calculus of Several Variables	Physics Laboratory V	Quantum Electronics
Inorganic and Physical Chemistry	Digital and Analogue Electronics	Statistical Physics	Electrodynamics
Mathematics for Physicists	Linear Mathematics	Wave Optics	Applied Spectroscopy
The Universe	Vibrations and Waves	**Optional Modules**	Professional Development
Thermal and Physical Properties of Matter	Electromagnetism	Introduction to Numerical Methods	Final Year Project
Introduction to Programming	Physics of Renewable Energy	Semiconductor Physics 1	**Optional Modules**
Electricity and Magnetism	Solid State Particles	Stellar Physics	High Energy Astrophysics
	Laboratory General Physics		Biophotonics
	Relativity, Nuclear and Particle Physics		Advanced Biomaterials and Processing Techniques

INTRA