



University College Dublin  
Ireland's Global University

## MSc Physics (Negotiated Learning) (1 Year Full Time)

Physics provides us with a model of the universe, on an incredible range of scales, from inside the nucleus of the atom towards the edge of the observable universe. Advances in Physics underpin many technological developments, for example our knowledge of electron transport in semiconductors has led us to the point where computer processors and memory are almost ubiquitous.

This UCD MSc in Physics is a uniquely flexible and innovative programme. It offers a negotiated learning (NL) model for students with a Physical Science of Engineering

background that allows you to customise your learning path and to tailor what you learn to your own specific needs and career aspirations. It can prepare you either for further research in a PhD programme, or employment directly after graduation. Once you are accepted onto the programme we will guide you through a student needs assessment to establish your prior experience, personal knowledge gaps and your career plans. You have the option to select modules with a very specific thematic focus or you may select modules for a broader overarching qualification from the programme.

### Key Fact

Modules in the programme are delivered by research active staff, many of whom are researching in the topic on which their module is delivered. The programme allows you to take modules from many UCD Schools, including Business, Chemistry, Computer Science, Mathematics and Statistics and the UCD Innovation Academy.

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## Why study at UCD?



### Tradition

Established 1854, with 160 years of teaching & research excellence



### Global profile

UCD is ranked in the top 1% of higher education institutions worldwide



### Global community

Over 6,000 international students from over 120 countries study at UCD



### Global careers

Degrees with high employability; dedicated careers support; 1 year stay-back visa



### Safety

Modern parkland campus with 24 hour security, minutes from Dublin city centre

## Course Content and Structure

90 credits  
taught masters

30 - 60 credits  
taught modules

30 - 60 credits  
project

### Modules in the programme include:

- EUV Science & Technology
- Graduate Tutoring & Demonstrating
- Applied Quantum Mechanics
- Applied Optics
- Lasers & Spectroscopy
- Nanomaterials
- Biomimicry
- The Space Environment
- Quantum Condensed Matter
- Advanced Statistical Mechanics
- Nanomechanics



Modules and topics shown are subject to change and are not guaranteed by UCD.

## Career Opportunities

This is a relatively new programme so the number of graduates is low. Two graduates have gone on to PhD programmes. The MSc will prepare you for employment in the semiconductor industry as a process engineer, the financial sector as a modelling and data expert, as a secondary school teacher, or as an engineer in the space sector. Prospective employers include Intel Ireland, Airbus, Analog Devices, Met Éireann, and companies in the Irish Financial Services Centre.



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## Fees and Scholarships

Tuition fee information is available on [www.ucd.ie/fees](http://www.ucd.ie/fees). Please note that UCD offer a number of postgraduate scholarships for fulltime, self-funding international students, holding an offer of a place on master's programmes. Please see [www.ucd.ie/international/scholarships](http://www.ucd.ie/international/scholarships) for further information.

## Apply Now

Please apply early online at [www.ucd.ie/apply](http://www.ucd.ie/apply)

## Entry Requirements

- Entrance to this programme requires a degree in physics, chemistry, engineering, material sciences or a related discipline with a significant physics content. An upper second class honours or international equivalent is required. In special circumstances, students with a strong physics background and lower second class honours degree may be accepted.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent. Applicants with an IELTS score of at least 5.5 may apply for admission to the UCD Pre-Masters Pathway programme.

## Accommodation

UCD has accommodation for over 2,500 students across five locations. Places are limited and more information is available at [www.ucd.ie/residences/](http://www.ucd.ie/residences/) For information and advice on living off campus, please contact the UCD Residences Off-Campus Office or the UCD Student Union Accommodation Services. Please visit [www.ucd.ie/residences/accommodationbooking-support/](http://www.ucd.ie/residences/accommodationbooking-support/) for further details.

## Related Masters Programmes of Interest

- MSc Space Science & Technology
- MSc NanoBio Science
- MSc Computational Physics
- MSc Applied Mathematics & Theoretical Physics
- MSc Nanotechnology

## Graduate Profile

### Oisín Maguire, PhD Student in Plasma Spectroscopy, UCD School of Physics

I chose to study the MSc in Physics (Negotiated Learning) due to its flexibility and engaging topics: from nano-mechanics and nano-optics to plasma physics.

A wide variety of prospective research projects will fit practically every student, regardless of their specific background and research interests.

Overall, this MSc gave me the insight I needed to progress my career and the knowledge that is required to have a successful career, both in academia and industry. I fully recommend it for anybody who wants to progress in a physics-based career. On completing this programme, you are ready to start a PhD in related areas, or ready for employment in industry.

## EU Enquiries

Associate Professor Dominic Zerulla ✉ : [dominic.zerulla@ucd.ie](mailto:dominic.zerulla@ucd.ie)  
☎ : +353 1 716 2507 [www.ucd.ie/courses/msc-physics-negotiated-learning](http://www.ucd.ie/courses/msc-physics-negotiated-learning)  
UCD School of Physics, University College Dublin, Belfield, Dublin 4.

## Non-EU Enquiries

✉ : [internationaladmissions@ucd.ie](mailto:internationaladmissions@ucd.ie)  
[www.ucd.ie/international](http://www.ucd.ie/international)