



UCC School of Physics – Frequently Asked Questions (2026)

1. What points are required for entry to the School of Physics' degree programmes?

Entry via CK408 (Physics & Astrophysics) has been competitive in recent years: **CAO points in 2024, 2025 and 2026 were 567, 565 and 582, respectively.** CK408 is the entry stream for students interested in pursuing a Single Honours B.Sc. degree Physics, a Single Honours B.Sc. degree in Astrophysics, or a Joint Honours B.Sc. degree in Mathematical Sciences & Physics.

Entry via CK406 (Chemical Sciences) is generally less competitive: **CAO points in 2024, 2025 and 2026 were 521, 510 and 510, respectively.** CK406 is the entry stream for students interested in pursuing a Single Honours B.Sc. degree in Chemical Physics. The Chemical Physics programme run jointly by the Schools of Physics and Chemistry, and Chemical Physics students take a roughly 50:50 split of physics and chemistry courses (known in UCC as “modules”).

Entry via CK407 (Mathematical Sciences) has also been competitive in recent years: **CAO points in 2024, 2025 and 2026 were 566, 577 and 589, respectively.** CK407 is an alternative entry stream for students interested in pursuing a Joint Honours B.Sc. degree in Mathematical Sciences & Physics.

2. What subjects should I have studied in the Leaving Certificate?

Full details of entry requirements for the CK408 (Physics & Astrophysics), CK406 (Chemical Sciences), and CK407 (Mathematical Sciences) streams can be viewed on the dedicated course webpages:

<https://ucc.ie/en/ck408>



<https://ucc.ie/en/ck406>



<https://ucc.ie/en/ck407>



At least six subjects must be presented at the Leaving Certificate: minimum grade H4 in one subject, minimum grade H5 in one subject, and minimum grade O6/H7 in four other subjects.

For entry to **CK408 or CK406**, you require: English (O6/H7), Irish (O6/H7), Mathematics (O6/H7 or H4*), and a Lab Science (O6/H7 or H4*).

*If the H4 is in Mathematics, Applied Mathematics, or Computer Science then an O6/H7 in a Lab Science subject is also required. Lab Science subjects are Physics, Chemistry, Biology, Physics with Chemistry, and Agricultural Science.

For entry to **CK407**, you require: English (O6/H7), Irish (O6/H7), and Mathematics (H3).



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3. What will I study in year 1?

Each academic year consists of two 12-week semesters, each of which is followed by a 1-week study break and a 2-week exam period. In each year of study, you are required to take 60 credits worth of modules. Typically, students take 30 credits of modules per semester (in most cases, six 5-credit modules). Some modules have both a continuous assessment component and a final exam, while others are 100% continuous assessment with no final exam.

In CK408 year 1, depending on the specific degree programme you pursue, you take 40-45 credits of mandatory modules, and 15-20 credits of elective modules. Mandatory modules are in Physics, Mathematics, Applied Mathematics, and Statistics. Available elective modules span Physics, Mathematics, Applied Mathematics, Statistics, Computer Science, and Biology.

In CK406 year 1, if you opt to pursue the B.Sc. (Hons.) Chemical Physics programme, you take 55 credits of mandatory modules and 5 credits of elective modules. Mandatory modules are in Physics, Chemistry, Mathematics, and Applied Mathematics. Available elective modules span Computer Science, Biology, Microbiology, and Geology.

In CK407/408 year 1, entrants who wish to pursue the Joint Honours B.Sc. in Mathematical Sciences & Physics make this choice formally in year 2. In year 1, students follow a blended CK407/408 programme, taking 40 credits of mandatory modules, and 20 credits of elective modules. Both CK407 and CK408 allow students to select the Joint Honours in Mathematical Sciences & Physics in year 2, provided they have taken appropriate credit loads in both Physics and Mathematics in year 1. For CK408, mandatory modules are as described above. For CK407, mandatory modules are in Mathematics, Applied Mathematics and Statistics, and electives span Physics, Chemistry, Biology, Statistics, Computer Science, Mathematics, Economics and Accounting. CK407 students who intend to pursue the Joint Honours in Mathematical Sciences & Physics must take, as part of their electives, the full 20 credits of available Physics modules.

Detailed breakdowns of mandatory and elective modules are provided for year 1 on the course webpages linked, above, and for years 2-4 via UCC's Academic Programme Catalogue:

<https://ucc-ie-public.courseleaf.com/programmes>





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Where module codes listed on course webpages are hyperlinked, clicking on them will bring you to the full module description in UCC's Book of Modules. Detailed descriptions of all modules listed in the Academic Programme Catalogue can be viewed via the Book of Modules:

<https://ucc-ie-public.courseleaf.com/modules>



4. What will I study after year 1?

For years 2, 3 and 4, detailed information regarding degree programme requirements is available via UCC's Academic Programme Catalogue, linked above.

CK408 entrants who pursue the **B.Sc. (Hons.) Physics** degree take 55 + 5 credits of mandatory + elective modules in year 2, 50 + 10 credits of mandatory + elective modules in year 3, and 10 + 50 credits of mandatory + elective modules in year 4. Mandatory modules in years 2 and 3 are primarily in Physics, with minor elective credit loads in Applied Mathematics and Mathematics. Available modules in year 4 are exclusively in Physics, but with broad flexibility to choose from a range of specialised courses. The mandatory 10 credits in year 4 is a research project, which is performed in a research group in the School of Physics or Tyndall National Institute.

CK408 entrants who pursue the **B.Sc. (Hons.) Astrophysics** degree follow the same curriculum as the B.Sc. (Hons.) Physics degree in years 1 and 2. In year 3, B.Sc. (Hons.) Astrophysics students take 55 + 5 credits of mandatory + elective modules: the 5-credit difference vs. the B.Sc. (Hons.) Physics degree reflects that 3rd year B.Sc. (Hons.) Astrophysics students take a mandatory 5-credit module in Observational Astrophysics. In year 4, B.Sc. (Hons.) Astrophysics students take 25 + 35 credits of mandatory + elective modules: the 15-credit difference vs. the B.Sc. (Hons.) Astrophysics degree reflects that 4th year B.Sc. (Hons.) Astrophysics students take mandatory 5-credit modules in Gravitation & Cosmology, Stars & the Interstellar Medium, and Galactic & Extragalactic Astrophysics.

CK406 entrants who pursue the **B.Sc. (Hons.) Chemical Physics** degree do not have elective modules in years 2 and 3: in each of these years students take 25 credits of Chemistry modules, 25 credits of Physics modules, and 10 credits of Mathematics/Applied Mathematics modules. In year 4, B.Sc. (Hons.) Chemical Physics students take 40 + 20 credits of mandatory + elective modules. Mandatory modules include 20 credits of Chemistry, and 10 credit research projects in



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each of Chemistry (semester 1) and Physics (semester 2). Elective modules are in Physics, with 10 credits of modules chosen from a 25-credit option pool.

CK407/408 entrants who pursue the **B.Sc. (Hons.) Mathematical Sciences & Physics** degree do not have elective modules in year 2: students must take 20 credits of Mathematics, 25 credits of Physics, and 15 credits of Applied Mathematics. In year 3, students take 35 + 25 credits of mandatory + elective modules. Mandatory modules include 5 credits of Mathematics, 5 credits of Applied Mathematics, and 25 credits of Physics. Elective modules consist of 10 credits in Physics, and 15 credits of Mathematics, Applied Mathematics and Statistics (chosen from a 55-credit option pool). In year 4, B.Sc. (Hons.) Mathematical Sciences & Physics students take 10 + 50 credits of mandatory + elective modules. The mandatory 10 credits in year 4 is either a Mathematical Sciences or Physics research project. Elective modules include 25 credits of Mathematics, Applied Mathematics and Statistics (chosen from a 40-credit option pool), and 25 credits of Physics (chosen from a 65-credit option pool).

5. How many hours of lectures, tutorials and labs are these each week?

Weekly contact hours vary by programme and year. Each 5-credit module consists of 24 lectures (2 per week), and up to 12 tutorials (1 per week), for a maximum of 36 contact hours per semester. This results in a typical schedule consisting of 12 1-hour lectures per week, plus an additional ~3 hours spent in tutorials, and 3-6 hours spent in experimental or computational lab sessions. Outside of this indicative 21 contact hours per week, students are expected to work on assignments (e.g. problem sets and lab/project reports) and self-study of course material. Each 5-credit module has a nominal total workload of 125 hours, including lecture and tutorial attendance, assignments and self-study. Participation in any of the School's degree programmes should therefore be considered a full-time commitment.

6. How many people will be in my classes?

Typical annual CK408, CK406 and CK407 intakes are approximately 35, 10* and 60 students, respectively. Class sizes vary by programme, module and year. In year 1, you will likely share modules with students from other degree programmes (e.g. Mathematics, Chemistry) in large cohorts of up to 100 students. Other, more specialised courses will have smaller class sizes ~35. In years 2 and 3, typical class sizes are ~40. In year 4, specialised elective courses typically have class sizes of 10-25 students. These small classes, plus your involvement in laboratory modules and research projects, typically mean that you are on a first-name basis with several of your lecturers by the end of your degree programme. Involvement in research projects will also enable you to interact directly with, and work alongside, M.Sc. and Ph.D. research students and postdoctoral researchers in the School's research groups.

*The annual CK406 intake is approximately 35 students, but the Chemical Physics programme typically accepts a maximum of only 10 students per year.



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7. Will I be able to get involved in research?

Yes! We strongly believe that active participation in research is an indispensable component of a physicist's training. In year 4, all students undertake 10 or 20 credits of research work as part of their degree programme. Participation in research via competitive summer internships is also strongly recommended to students whose aim is to pursue research at postgraduate level.

In the summers following years 2 and 3, the School of Physics offers a small number of paid research internships to top-ranked students on a competitive basis. UCC's Tyndall National Institute, where the research groups of several of School faculty are based, also offers paid internships via the competitive Tyndall Summer Fellowship Programme. Tyndall internships are open to applications from undergraduate students at any institution in the Republic of Ireland, in any year of their degree programme. Outside of these local internship schemes, the School's students regularly apply to and participate in competitive international internship programmes (e.g. Naughton Foundation Research Experience for Undergraduates in the USA, and RISE internships in Germany). The School's faculty members regularly write reference letters for students applying to these programmes and are available to provide applicants with advice based on their own experience, and the experience of their research group members.

8. Are there study abroad options?

Yes! Students in all the B.Sc. (Hons.) degree programmes listed above have the option to study abroad in year 3. Students in the School have previously studied abroad at several institutions in Europe and North America. However, participation in study abroad programmes is typically restricted to students who maintain a First Class Honours academic standard (i.e. an aggregate grade of > 70%) in years 1 and 2. Students interested in study abroad opportunities are encouraged to reach out to the School early in year 2, to seek School approval and to discuss formal aspects (e.g. expected student course load while abroad, transferring credits between institutions, etc.) with the Third Year Coordinator.

9. What is student life like in the School of Physics?

We are a small, close-knit School that combines a hard-working academic environment with a friendly and supportive atmosphere. Moderate class sizes and shared modules mean that you spend a lot of time around your classmates and quickly become familiar with the School's faculty. Events like the annual Physics Formal present organised opportunities for socialising, with School-wide attendance from undergraduate students to professors. UCC's Physics & Astronomy Society (Physoc, @uccphysoc on Instagram) organises further social, scientific and professional events, ranging from student-staff socials to coffee mornings, talks on cutting-edge research, and mentoring by senior undergraduate and postgraduate students. Physoc also organises stargazing trips within Ireland, and international trips to locations such as CERN.

Undergraduate representatives serve on several School committees alongside faculty members and administrative and technical staff. These include the Outreach & Publicity Committee and the Equality, Diversity & Inclusion (EDI) Committee. The work of the EDI Committee is further



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supported by the Equal Physics Opportunities Network in Academia (EPONA, @uccepona on Instagram), a subcommittee of Physoc. This gives students an opportunity to provide feedback on School operations and policy to staff, to develop and maintain a supportive atmosphere in which every member of the School community is respected and empowered.

Numerous physics students are closely involved in UCC's Rocketry and Space Exploration Society (RSES, @uccrocketrysociety on Instagram), and membership of all UCC's academic, cultural and sporting societies and clubs is open to all students in the School of Physics.

10. What comes after my degree?

In recent years, our graduates have tended to split roughly 50:50 between directly entering the workforce and pursuing postgraduate qualifications. Graduates who have directly entered the workforce have sought entry-level roles across a range of industries or have joined graduate programmes in large multinationals, ranging from science and engineering to technical and financial consultancy. Our School of Physics Course Comparison Sheet, available alongside this document, lists several companies in which the School's graduates are employed.

Postgraduate study consists of pursuing a taught or research Master's qualification or pursuing a Ph.D. by research. Taught Master's degrees allow our graduates to rapidly develop industry-ready skills across a range of quantitative disciplines, with programmes in Data Science, Machine Learning and Artificial Intelligence, and in Quantitative Finance and Actuarial Science, being popular destinations. Physics graduates possess the mathematical and computational skills to rapidly transition into these areas: our B.Sc. graduates excel in these Master's programmes, and many have built successful careers in the tech and financial sectors.

Undertaking a Master's or Ph.D. by research is typically favoured by students with a strong academic track record who develop a deep passion for physics, and who want to transition into cutting-edge research. This can be motivated by acquisition of advanced technical skills that facilitate a high-value industry career (e.g. semiconductors, photonics, quantum), or to pursue a research and/or academic career in a professional laboratory or university. M.Sc. and Ph.D. qualifications build further on the foundational skills developed during a B.Sc. degree and have empowered our graduates to enter a range of fields from software development and data science to product design, manufacturing and consultancy.

11. What opportunities for postgraduate study and/or research are available?

The School of Physics is home to robust research activity. All faculty members manage research groups consisting of postgraduate students and postdoctoral researchers, in addition to undergraduate interns and project students.

The School has research strengths in astrophysics, in the broad areas of quantum and photonics, and in environmental physics. Our astrophysics research is led by four faculty members, with interests ranging from black holes and binary systems to planetary formation and large-scale



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galactic evolution. Our quantum and photonics research is led by >10 faculty members, whose activities range from fundamental theory and computation to experimental investigations of novel phenomena in emerging and quantum materials, in addition to device- and systems-level semiconductor photonics and bio-photonics, and in and quantum devices and their technological applications. Our quantum and photonics research is characterised by strong interactions with Tyndall National Institute. Our environmental physics research is led by a faculty member who is a core member of a large cohort of interdisciplinary Principal Investigators (PIs) spanning UCC's Sustainability Institute and School of Chemistry.

These diverse research groups regularly recruit M.Sc. and Ph.D. research students, depending on available research funding. Opportunities range from funded studentships associated with PI-led research grants, to individual (student-led) funding obtained via national competitions such as the Empower Programme (the successor to the Government of Ireland Postgraduate Scholarship Programme). Our B.Sc. graduates are strongly positioned to take advantage of these opportunities, or to apply to international M.Sc. and Ph.D. programmes in physics and related disciplines.

12. What is the impact of artificial intelligence (AI) in physics?

Generally, training in physics aims to produce graduates that are robust practical problem solvers, capable of addressing real-world systems and devising solutions to data-based and/or hands-on problems across a range of quantitative fields. Essentially, physicists are the type of problem solvers who can use AI as one of many tools in their problem-solving toolbox, rather than performing rote tasks that can be readily automated by AI. Through a combination of strong theoretical foundations, practical computational and experimental skills, and research experience, the School of Physics aims to equip graduates to adapt their expertise to a diverse range of careers across multiple industries. These broadly transferable skills enable graduates to approach unfamiliar problems, critically evaluate evidence, and develop solutions grounded in fundamental principles. When developed effectively, such capabilities can be enhanced and complemented by AI tools, while remaining difficult to replace through automation alone.