

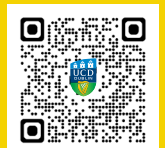


UCD SCIENCE

Stage 1 Guide
& Core Module Tables
2024/25

STAGE
1

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MOORE AUDITORIUM



Contents

| | |
|--|-----------|
| Streams and Degree Subjects within Science | 1 |
| Modules required for BSc Degrees within Science | 2 |
| • Biological, Biomedical & Biomolecular Sciences Stream | 3 |
| • Earth & Environmental Sciences Stream | 3 |
| • Chemistry (includes Medicinal/Sustainable) Stream | 4 |
| • Mathematics (includes Applied/Financial/Statistics) Stream | 4 |
| • Physics (includes Theoretical/Astronomy & Space Science) Stream..... | 5 |
| • Science, Mathematics & Education Stream | 5 |
| Conditional Core Modules..... | 7 |
| Mathematics Requirements | 8 |
| Core Modules required for Stage 1 | 9 |
| Top Tips | 11 |
| Later Stages of the Degree Programme | 11 |

Science

UCD offers one of the widest choices of science subjects in Ireland, providing access to 26-degree subjects in Biological, Biomedical, Biomolecular Sciences, Chemistry, Earth and Environmental Sciences, Mathematics, Physics, including fully accredited Science, Mathematics and Education degrees.

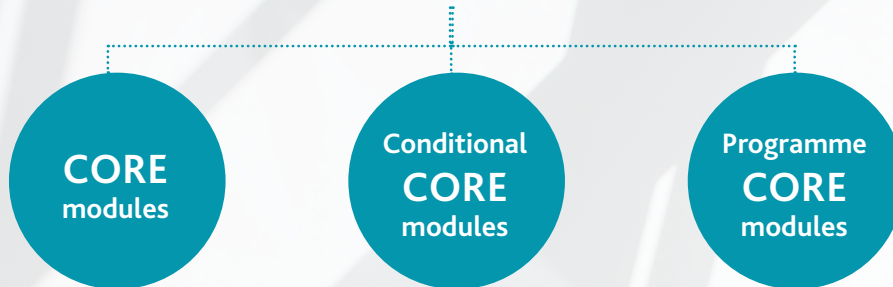
Table 1 Streams and Degree Subjects within Science

| Stream | Degree Subjects |
|---|--|
| Biological, Biomedical & Biomolecular Sciences Stream | Biochemistry & Molecular Biology Cell & Molecular Biology Environmental Biology Genetics Microbiology Neuroscience Pharmacology Physiology Plant Biology Zoology |
| Earth & Environmental Sciences Stream | Earth Sciences Environmental Biology |
| Chemistry (includes Medicinal/ Sustainable) Stream | Chemistry Chemistry with Environmental & Sustainable Chemistry Medicinal Chemistry & Chemical Biology |
| Mathematics (includes Applied/ Financial/Statistics) Stream | Applied & Computational Mathematics Financial Mathematics Mathematics Statistics |
| Physics (includes Theoretical/ Astronomy & Space Science) Stream | Physics Physics with Astronomy & Space Science Theoretical Physics |
| Science, Mathematics & Education Stream | Applied Mathematics, Mathematics & Education Biology, Mathematics & Education Chemistry, Mathematics & Education Computer Science, Maths. & Education Physics, Mathematics & Education |
| Explore Multiple Streams | Students can select a number of streams in the Explore Multiple Streams option. As with all streams in Stage 1, careful selection of modules will ensure that you keep your options open for Stage 2. The information in Table 2 will guide you when you come to choose your modules for Stage 1. |

The course in Stage 1 is divided into 12 modules. Students choose their modules in order to fulfil the requirements of the subjects that they wish to continue with in the degree programme.

Students can either focus on a particular area, but must fulfil the requirements for at least 2 subjects, or choose to cover the core requirements for a wide range of subjects.

Modules required for BSc Degrees within Science



A module that students must do as part of their programme.

Students must take these modules in Stage 1 of the Science programme if they have not achieved a grade or completed the subject at Leaving Certificate standard, or equivalent.

Are also compulsory, but students can choose to take them in Stage 1 or Stage 2; or in Stage 2 or 3.

Table 2 Modules required for B.Sc. Degrees within Science

Key: For modules marked with a plus symbol (+) Please refer to Table 4 Mathematics requirements table for further required criteria.

| Biological, Biomedical & Biomolecular Sciences Stream | | | |
|---|---|--|---|
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Biochemistry & Molecular Biology Cell & Molecular Biology Environmental Biology Genetics Microbiology Neuroscience Pharmacology Physiology Plant Biology Zoology | <i>Refer to table 3 on page 7 for further details on these modules</i> BIOL00010 Fundamentals of Biology CHEM00010 Introductory Chemistry MATH00010 Introduction to Mathematics PHYC10070 Foundations of Physics (this is a conditional core for Neuroscience and Physiology) | SCI10010 Scientific Enquiry BIOL10110 Cell Biology & Genetics CHEM10050 Basis of Organic & Biol Chem MATH10290 Linear Algebra for Science + MATH10310 Calculus for Science + <i>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</i> | At least two of: BIOL10130 Biology in Action BIOL10140 Life on Earth BMOL10030 Biomedical Sciences |
| Earth & Environmental Sciences Stream | | | |
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Environmental Biology <i>Students who complete the modules for this subject will also be eligible for subjects listed under the Biological, Biomedical and Biomolecular Stream in Stage 2.</i> | <i>Refer to table 3 on page 7 for further details on these modules</i> BIOL00010 Fundamentals of Biology CHEM00010 Introductory Chemistry MATH00010 Introduction to Mathematics PHYC10070 Foundations of Physics (PHYC10070 a conditional core for Neuroscience and Physiology) | SCI10010 Principles of Scientific Enquiry BIOL10110 Cell Biology & Genetics CHEM10050 Basis of Organic & Biol Chem MATH10290 Linear Algebra for Science + MATH10310 Calculus for Science + <i>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</i> | At least two of: BIOL10130 Biology in Action BIOL10140 Life on Earth BMOL10030 Biomedical Sciences |
| Earth Sciences | <i>Refer to table 3 on page 7 for further details on these modules</i> MATH00010 Introduction to Mathematics | SCI10010 Principles of Scientific Enquiry GEOL10060 Intro to Earth Sciences MATH10290 Linear Algebra for Science + MATH10310 Calculus for Science + <i>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</i> | GEOL10070 Understanding Earth Systems |

| Chemistry (includes Medicinal/Sustainable) Stream | | | |
|--|--|--|---|
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Chemistry Chemistry with Environmental and Sustainable Chemistry Medicinal Chemistry and Chemical Biology | <i>Refer to table 3 on page 7 for further details on these modules</i> CHEM00010 Introductory Chemistry MATH00010 Introduction to Mathematics BIOL00010 Fundamentals of Biology (conditional core for Medicinal Chemistry) | SCI10010 Principles of Scientific Enquiry CHEM10050 Basis of Organic & Biol Chem MATH10290 Linear Algebra for Science + MATH10310 Calculus for Science + BIOL10110 Cell Biology & Genetics (core module for Medicinal Chemistry) <i>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</i> | CHEM20140 Intro Transition Metal Chem CHEM20100 Basis of Inorganic Chemistry |

| Mathematics (includes Applied/Financial/Statistics) Stream | | | |
|---|---|---|---|
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Applied & Computational Mathematics Mathematics Financial Mathematics Statistics | <i>Refer to table 3 on page 7 for further details on these modules</i> ACM10080 Intro to Applied & Comp Math (conditional core for Applied & Computational Mathematics only) COMP10290 Computation for Scientists | SCI10010 Principles of Scientific Enquiry ACM10060 Appl of Differential Equations MATH10340 Linear Algebra (MPS) MATH10350 Calculus (MPS) STAT10060 Statistical Modelling | MATH10040 Numbers & Functions (required for Mathematics & Financial Maths) MATH10320 Mathematical Analysis (required for Applied & Computational Mathematics; Financial Math., Mathematics & Statistics) ECON10720 Microeconomics for Business (required for Financial Maths) |

| Physics (includes Theoretical/Astronomy & Space Science) Stream | | | |
|---|--|--|--|
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Physics Physics with Astronomy & Space Science Theoretical Physics | <i>Refer to table 3 on page 7 for further details on these modules</i> ACM10080 Intro to Applied & Comp Math MATH00010 Introduction to Mathematics PHYC10070 Foundations of Physics COMP10290 Computation for Scientists | SCI10010 Principles of Scientific Enquiry PHYC10080 Frontiers of Physics MATH10340 Linear Algebra (MPS) MATH10350 Calculus (MPS) or MATH10400 Calculus (Online) | ACM10060 Appl of Differential Equations PHYC10050 Astronomy & Space Science PHYC10250 Thermal Physics and Materials PHYC20080 Fields, Waves and Light |

Science, Mathematics & Education Stream

| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
|---|---|---|---|
| Biology, Mathematics & Education | <p>Refer to table 3 on page 7 for further details on these modules</p> <p>BIOL00010 Fundamentals of Biology</p> | <p>SCI10010 Principles of Scientific Enquiry</p> <hr/> <p>BIOL10110 Cell Biology & Genetics</p> <hr/> <p>CHEM10050 Basis of Organic & Biol Chem</p> <hr/> <p>MATH10290 Linear Algebra for Science + or MATH10340 Linear Algebra (MPS) +</p> <hr/> <p>MATH10410 Maths & Science Education</p> <hr/> <p>MATH10350 Calculus (MPS)</p> <hr/> <p>STAT10060 Statistical Modelling</p> <hr/> <p><i>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</i></p> | <p>At least two of:</p> <p>BIOL10130 Biology in Action</p> <hr/> <p>BIOL10140 Life on Earth</p> <hr/> <p>BMOL10030 Biomedical Sciences</p> <hr/> <p>ACM10060 Appl of Differential Equations</p> <hr/> |
| Applied Mathematics, Mathematics & Education | <p>Refer to table 3 on page 7 for further details on these modules</p> <p>ACM10080 Intro to Applied & Comp Math</p> <hr/> <p>COMP10290 Computation for Scientists</p> | <p>SCI10010 Principles of Scientific Enquiry</p> <hr/> <p>ACM10060 Appl of Differential Equations</p> <hr/> <p>MATH10350 Calculus (MPS)</p> <hr/> <p>MATH10410 Maths & Science Education</p> <hr/> <p>MATH10340 Linear Algebra (MPS)</p> <hr/> <p>STAT10060 Statistical Modelling</p> | <p>MATH10040 Numbers & Functions</p> <hr/> <p>MATH10320 Mathematical Analysis</p> <hr/> |
| Computer Science, Mathematics & Education | <p>Refer to table 3 on page 7 for further details on these modules</p> <p>COMP10290 Computation for Scientists</p> | <p>SCI10010 Principles of Scientific Enquiry</p> <hr/> <p>ACM10060 Appl of Differential Equations</p> <hr/> <p>MATH10350 Calculus (MPS)</p> <hr/> <p>MATH10410 Maths & Science Education</p> <hr/> <p>MATH10340 Linear Algebra (MPS)</p> <hr/> <p>STAT10060 Statistical Modelling</p> <hr/> <p>COMP10020 Introduction to Programming II</p> | <p>MATH10040 Numbers & Functions</p> <hr/> <p>MATH10320 Mathematical Analysis</p> <hr/> |

| Science, Mathematics & Education Stream | | | |
|---|--|--|--|
| Degree Subjects | Conditional Core Modules | Core Modules | Programme Core Modules |
| Chemistry, Mathematics & Education | <p>Refer to table 3 on page 7 for further details on these modules</p> <p>CHEM00010 Introductory Chemistry</p> | <p>SCI10010 Principles of Scientific Enquiry</p> <p>CHEM10050 Basis of Organic & Biol Chem</p> <p>MATH10290 Linear Algebra for Science + or MATH10340 Linear Algebra (MPS) +</p> <p>MATH10350 Calculus (MPS)</p> <p>MATH10410 Maths & Science Education</p> <p>STAT10060 Statistical Modelling</p> <p>Please refer to table 4 on page 8 for modules listed with a plus symbol (+)</p> | <p>ACM10060 Appl of Differential Equations</p> <p>CHEM20140 Intro Transition Metal Chem</p> <p>CHEM20100 Basis of Inorganic Chemistry</p> |
| Physics, Mathematics & Education | <p>Refer to table 3 on page 7 for further details on these modules</p> <p>ACM10080 Intro to Applied & Comp Math</p> <p>PHYC10070 Foundations of Physics</p> <p>COMP10290 Computation for Scientists</p> | <p>SCI10010 Principles of Scientific Enquiry</p> <p>PHYC10080 Frontiers of Physics</p> <p>MATH10350 Calculus (MPS)</p> <p>MATH10340 Linear Algebra (MPS)</p> <p>MATH10410 Maths & Science Education</p> <p>ACM10060 Appl of Differential Equations</p> <p>STAT10060 Statistical Modelling</p> | <p>MATH10320 Mathematical Analysis</p> <p>PHYC10250 Thermal Physics and Materials</p> <p>PHYC20080 Fields, Waves and Light</p> |

Explore Multiple Streams

The “Explore Multiple Streams” option is for students who are interested in degrees in different streams. For example, a student may be interested in Genetics and Chemistry. As Genetics is in the Biological, Biomedical & Biomolecular Sciences stream and Chemistry is in the Chemistry stream, students interested in these subjects can choose Explore Multiple Streams.



Scan the QR code and select the 'View All Modules' section of this webpage of this webpage for further information on modules and streams.





Conditional Core Modules

Some students may not have a sufficiently strong background in a subject and may be required to take an introductory module in the subject before they can take more advanced modules. Table 3 below outlines the specific prior learning requirements associated with these modules.

Table 3: Prior Learning requirements

| Relevant Leaving Certificate Subject | Requirement (Conditional Core Module) | Rule |
|--------------------------------------|---|---|
| Applied Mathematics | ACM10080 Applied Mathematics, Methods & Applications | For the degrees where ACM10080 appears as a Conditional Core Module in Table 1, students must take ACM10080 or have attained a minimum grade H5 in Leaving Certificate Higher Applied Mathematics (A Level; Grade C). |
| Biology | BIOL00010 Fundamentals of Biology | To take BIOL10110, BIOL10130 and BIOL10140 students must have taken BIOL00010 or have attained a minimum grade O2 or H6 in Leaving Certificate Biology (A Level; Grade D). |
| Chemistry | CHEM00010 Introductory Chemistry | To take CHEM10050, students must have taken CHEM00010 or have attained a minimum grade O1 or H5 in Leaving Certificate Chemistry (A Level; Grade C). |
| Mathematics | MATH00010 Introductory Mathematics | Students who did not achieve a minimum grade O1 or H5 in Leaving Certificate Mathematics (GCSE; Grade A*, A Level; Grade C) must take MATH00010 in addition to other required Mathematics modules. |
| Physics | PHYC10070 Foundations of Physics ACM10080 Intro to App & Comp Math | Students who wish to take Physics subjects must have attained a minimum grade of H5 in Higher Leaving Certificate Physics (A Level; Grade C). Otherwise, they must take PHYC10070 in Stage 1. Students who wish to pursue Neuroscience, Physiology or Biology, Mathematics & Education must have undertaken Leaving Certificate Physics or must take PHYC10070 in Stage 1. To take any Physics subjects, students must take ACM10080 or have attained a minimum grade of H5 in Leaving Certificate Higher Applied Mathematics. |
| Computer Science | COMP10290 Computation for Scientists | Students who wish to remain eligible for Mathematics or Physics subjects in Stage 2 who did not achieve H5 or higher in Higher Leaving Cert Computer Science (or equivalent) must take COMP10290 in Stage 1. |

Mathematics

Students are required to take at least two modules in Mathematics (Linear Algebra and Calculus) during their degree in UCD. Mathematics teaching has been tailored to meet the requirements of different subjects. Mathematics is fundamental to many disciplines of Biology and Chemistry. You should consider studying Mathematics to the level of your ability. If you are unsure, you may sample the Mathematics modules required for the Physics or Mathematical subjects (MPS) (i.e. MATH10340 Linear Algebra (MPS) and MATH10350 Calculus (MPS)). If you find those modules too challenging you may change to Mathematics for the Sciences (i.e. MATH10290 and MATH10310) in the first two weeks of the Autumn Trimester. However, keep in mind that MATH10340 and MATH10350 are required core modules for the Mathematics, Physics and some of the Education based degree subjects. **Keep in mind that MATH10340 and MATH10350 are required core modules for the Mathematics, Physics and some of the Education based degree subjects.**

Students must take one Mathematics module in the Autumn Trimester. If a student is required to do MATH00010, then their Calculus module must be deferred until Stage 2. Students who wish to pursue Physics subjects but who have to take MATH00010 in Autumn, MATH10400 can be taken in the Summer Term to ensure they meet the prior learning requirements for Stage 2 Physics modules. If you are interested in pursuing your studies in Mathematics to a higher level, you should seek academic advice in relation to the mathematics modules you should study.

Table 4: Mathematics Requirements

| Subjects/Areas | Mathematics Topics | | Comment (to substitute Mathematics modules, you must contact the Science Office www.ucd.ie/askscience) |
|---|--------------------|-----------|--|
| | Linear Algebra | Calculus | |
| 1 <u>Biological Biomedical and Biomolecular Sciences</u> <u>Chemistry; Medicinal Chemistry; Environmental and Sustainable Chemistry</u> | MATH10290 | MATH10310 | MATH10340 should be taken instead of MATH10290 if students want to keep Mathematical and Physics subjects open. MATH10350 should be taken instead of MATH10310 if students want to keep the Education degrees or Mathematical and Physics Science subjects open. |
| 2 <u>Earth and Environmental Science</u> | MATH10290 | MATH10310 | MATH10340 should be taken instead of MATH10290 if students want to keep Mathematical and Physics Science subjects open. MATH10350 should be taken instead of MATH10310 if students want to keep the Education degrees or Mathematical and Physical Science subjects open. |
| 3 <u>Mathematics; Financial Mathematics;</u> <u>Applied and Computational Mathematics; Statistics</u> | MATH10340 | MATH10350 | Students who have not attained at least a H3 in Leaving Certificate Mathematics (or equivalent) are strongly advised to consult with either the School of Physics or the School of Mathematics and Statistics – depending on their main area of interest. |
| 4 <u>Mathematics, Physics & Education; Applied Mathematics and Education</u> <u>Computer Science, Mathematics and Education</u> | MATH10340 | MATH10350 | Students who have not attained at least a H3 in Leaving Certificate Mathematics (or equivalent) are strongly advised to consult with either the School of Physics or the School of Mathematics and Statistics – depending on their main area of interest. |
| 5 <u>Physics; Theoretical Physics;</u> <u>Physics with Astronomy & Space Science</u> | MATH10340 | MATH10350 | For students who wish to pursue Physics subjects, MATH10400 can be taken in the Summer Trimester instead of MATH10350 if a student must take MATH00010 in Trimester 1 (Autumn Trimester). |
| 6 <u>Biology, Mathematics & Education</u> <u>Chemistry, Mathematics & Education</u> | MATH10290 | MATH10350 | MATH10340 can be taken instead of MATH10290 if students want to keep Mathematical and Physical Science subjects open. MATH10350 also fulfils the requirements for all BBB, CCS and Earth Science subjects (see above). |

Core Modules required for Stage 1

Biological, Biomedical & Biomolecular Sciences Stream; Earth & Environmental Sciences Stream and Chemistry Stream

- Conditional core (may need to be taken in Stage 1 depending on LC results)
- Programme core (taken in Stage 1 or 2)
- Core (taken in Stage 1)

Table 5: Core Module Summary by Streams

| Module Code | Title | Trimester | Biological, Biomedical & Biomolecular Sciences (BBB) Stream | | | | | | | | | | Earth & Environmental Sciences Stream (EES) | | Chemistry Stream | | | | |
|-------------|---------------------------------|------------|---|----------|--------------|--------------|--------------|------------|----------------------------|---------------|---------|-----------------------|---|-----------|-------------------|-----------------|---|---|---|
| | | | Biochemistry & Molecular Biology | Genetics | Microbiology | Neuroscience | Pharmacology | Physiology | Cell and Molecular Biology | Plant Biology | Zoology | Environmental Biology | Earth Sciences | Chemistry | Chem. Envl & Chem | Med Chem & Chem | | | |
| SCI10010 | Scientific Enquiry | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| BIOL10110 | Biology-Cell Biology & Genetics | Spr | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | ● | |
| CHEM10050 | Basis of Organic & Biol Chem | Spr | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | | |
| BIOL00010 | Fundamentals of Biology | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | ● | |
| CHEM00010 | Introductory Chemistry | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | | |
| PHYC10070 | Foundations of Physics | Aut | | | | ● | | ● | | | | | | | | | | | |
| BIOL10130 | Biology in Action | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| BIOL10140 | Life on Earth | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| BMOL10030 | Biomedical Sciences | Spr | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | |
| GEOL10060 | Introduction to Earth Sciences | Aut or Spr | | | | | | | | | | | ● | | | | | | |
| GEOL10070 | Understanding Earth Systems | Spr | | | | | | | | | | | ● | | | | | | |
| MATH00010 | Introduction to Mathematics | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| MATH10290 | Linear Algebra for Science | Spr | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| MATH10310 | Calculus for Science | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | |
| CHEM20140 | Introductory Transition Metal | Spr | | | | | | | | | | | | | ● | ● | ● | | |
| CHEM20100 | Basis of Inorganic Chemistry | Aut | | | | | | | | | | | | | ● | ● | ● | | |

NOTES:

A Students required to take MATH00010 must defer MATH10310 or MATH10350 until Stage 2.

B Students must take at least 2 of BIOL10130, BIOL10140 or BMOL10030 in either Stage 1 or Stage 2.

C Students required to take MATH10290 can take MATH10340 instead. MATH10340 is required for all Mathematical or Physical Science degrees.

D Students required to take MATH10310 can take MATH10350 instead. MATH10350 is required for all Education, Mathematical or Physical Sciences degrees.

Core Modules required for Stage 1

Mathematics; Physics; Mathematics, Science and Education Streams

- Conditional core (may need to be taken in Stage 1 depending on LC results)
- Programme core (taken in Stage 1 or 2)
- Core (taken in Stage 1)

Table 6: Core Module Summary by Streams

| Module Code | Title | Trimest. | Maths stream | | | | Physics Stream | | | Maths and Education Stream | | | | |
|-------------|------------------------------------|----------|---------------------------------------|-----------------------|-------------|------------|----------------|---------------------------|---------------------|----------------------------|-------------------------|--------------------|-----------------------|-------------------|
| | | | Applied and Computational Mathematics | Financial Mathematics | Mathematics | Statistics | Physics | Astronomy & Space Science | Theoretical Physics | Appl Maths, Maths & Ed. | Bio, Maths, Maths & Ed. | Chem, Maths, & Ed. | CompSci, Maths, & Ed. | Phys, Maths & Ed. |
| SCI10010 | Scientific Enquiry | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| BIOL10110 | Biology-Cell Biology & Genetics | Spr | | | | | | | | | ● | | | |
| CHEM10050 | Basis of Organic & Biol Chem | Spr | | | | | | | | | ● | ● | | |
| BIOL00010 | Fundamentals of Biology | Aut | | | | | | | | | ● | | | |
| CHEM00010 | Introductory Chemistry | Aut | | | | | | | | | | ● | | |
| PHYC10070 | Foundations of Physics | Aut | | | | | ● | ● | ● | | | | | ● |
| BIOL10130 | Biology in Action | Aut | | | | | | | | | B | | | |
| BIOL10140 | Life on Earth | Aut | | | | | | | | | B | | | |
| BMOL10030 | Biomedical Sciences | Spr | | | | | | | | | B | | | |
| MATH00010 | Introduction to Mathematics | Aut | | | | | A D | A D | A D | | | | | |
| CHEM20140 | Introductory Transition Metal Chem | Spr | | | | | | | | | | ● | | |
| CHEM20100 | Basis of Inorganic Chemistry | Aut | | | | | | | | | | ● | | |
| ACM10080 | Intro to Applied & Comp Math | Aut | ● | | | | ● | ● | ● | ● | | | | ● |
| ACM10060 | Appl of Differential Equations | Spr | ● | ● | ● | ● | ● | ● | ● | ● | C | C | ● | ● |
| MATH10290 | Linear Algebra for Science | Spr | | | | | | | | | ● | ● | | |
| MATH10340 | Linear Algebra (MPS) | Spr | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● |
| MATH10350 | Calculus (MPS) | Aut | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| STAT10060 | Statistical Modelling | Spr | ● | ● | ● | ● | | | | ● | ● | ● | ● | ● |
| MATH10040 | Numbers & Functions | Aut | | ● | ● | | | | | ● | | | ● | |
| MATH10320 | Mathematical Analysis | Spr | ● | ● | ● | ● | | | | ● | | | ● | ● |
| ECON10720 | Microeconomics for Business | Spr | | ● | | | | | | | | | | |
| PHYC10080 | Frontiers of Physics | Spr | | | | | ● | ● | ● | | | | | ● |
| PHYC10050 | Astronomy & Space Science | Aut | | | | | ● | ● | ● | | | | | |
| PHYC10250 | Thermal Physics and Materials | Aut | | | | | ● | ● | ● | | | | | ● |
| PHYC20080 | Fields, Waves and Light | Spr | | | | | ● | ● | ● | | | | | ● |
| MATH10410 | Maths & Science Education | Spr | | | | | | | | ● | ● | ● | ● | ● |
| COMP10020 | Intro to Programming II | Spr | | | | | | | | | | | ● | |
| COMP10290 | Computation for Scientists | Aut | ● | ● | ● | ● | ● | ● | ● | ● | | | ● | ● |

NOTES:

A Students required to take MATH00010 must defer MATH10310 or MATH10350 until Stage 2.

B Students must take at least two of BIOL10130, BIOL10140 or BMOL10030 in either Stage 1 or Stage 2.

C These students should take either ACM10060 in Stage 1 or ACM10100 in Stage 2.

D Students who wish to pursue Physical Sciences and who are required to take MATH00010 MUST achieve at least an A- and take MATH10400 in the Summer Trimester as a substitute for MATH10350.



Top Tips

- Students are required to study **twelve modules in a year** – it is recommended that you try to balance your workload as evenly as possible across the year, e.g. study six modules in the Autumn Trimester and six modules in the Spring Trimester. The maximum number permitted in a trimester is eight
- Eleven of your Stage 1 modules must be from within Science. As well as core modules, there are modules which students can choose from a selection offered in their programme (**Option Modules**).
You may take one non-science elective module in Stage 1 in the Spring Trimester. **Elective module** are additional to the programme requirements and give students the chance to explore learning outside of their degree programme or choose further modules from the range of subjects in science. You are advised to consider your choice of elective module carefully.
- The **wide variety of science modules** available in Stage 1, allows you to sample and experience a number of subjects, while also studying the core modules required for your discipline. **The choices you make in first year will have a bearing on**

Later Stages of the Degree Programme

In Stage 2, students must cover the requirements for a minimum of 2 or 3 subjects. Due to timetable and workload constraints not all combinations of subjects are possible in Stage 2. The choice of Stage 2 subjects that can be combined depends on the number of core modules shared between those subjects and the extent to which other requirements have been met in Stage 1.

your final degree subject(s). Make sure that you meet the core (compulsory) requirements for your subjects of choice and consider taking Programme Cores (**Table 2**) to reduce restrictions on your Stage 2 choices.

- The Level 0 and Level 1 modules required for entry to the degrees in the various subject areas are listed in Table 2.
- Laboratory and/or tutorial times for Science modules, where required, will be allocated at the start of term after you register online to your preferred area and your optional Science modules. Once the allocation to practicals and tutorials has been made, you will be able to see and print your individual timetable.
- **Attendance**
Lack of attendance at lectures, has been identified in several studies as a significant risk factor for having below average scores in Science courses. Students who attend >75% of lectures generally achieve higher grades.

In Stage 3 and Stage 4, students study one of their Stage 2 subjects to degree level and this subject is their degree major. The selection of degree major may be competitive. In the past few years, for example, Pharmacology, Physiology and Neuroscience, were competitive.

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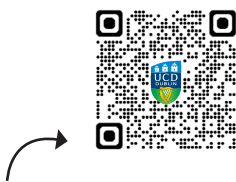
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