

UCD SCIENCE

SUMMARY TABLES OF DN200
STAGE 1 AND STAGE 2 CORE MODULES 2023-2024

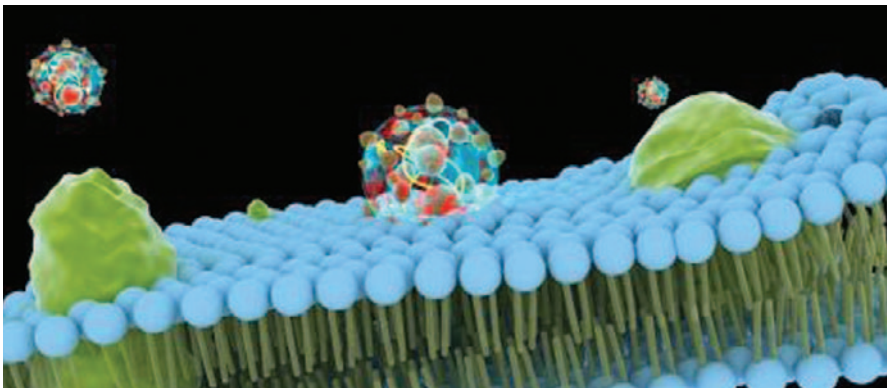


University College Dublin
Ireland's Global University

SUMMARY TABLES

OF STAGE 1 AND STAGE 2 CORE MODULES

UCD Science (DN200) is a diverse and flexible programme. Students can complete a degree in any one of the 27 subjects offered. It is possible to keep your options open by fulfilling the core (compulsory) requirements for a number of subjects.



Students do not have to make a decision on their final choice of subject/major until the Spring Trimester of Stage 1 for progression to Stage 2 and the Spring Trimester of Stage 2 for progression to Stage 3. The following tables are a summary of the modules you will need to take to fulfil the requirements for different degree subjects. They show that a number of subjects are compatible and have some of the same core

requirements and if you select carefully you can fulfil the degree requirements and combine a number of subjects.

For each subject there are modules that you may have to do depending on what you have studied already (Conditional Core), modules that you must do in a particular stage (Core) and modules that you must do either in Stage 1 or Stage 2 or in Stage 2 or Stage 3 (Programme Core).

Core Modules required for Stage 1 Biological, Biomedical & Biomolecular Sciences Stream; Earth & Environmental Sciences Stream and Chemistry Stream in DN200

Conditional core (may need to be taken in Stage 1 depending on LC results)
 Core (taken in Stage 1) Programme core (taken in Stage 1 or 2)
 Students can take either module to progress to Stage 2 GEOL

Module Code	Title	Trimester	BBB Stream									EES		Chemistry Stream			
			Biochem	Gene	Micro	Neuro	Pharm	Physiol	CELB	Plant	Zool	Env. Bio.	Geol.	Chem.	Chem. Biophys.	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 ^B	Biology in Action	Aut															
BIOL10140 ^B	Life on Earth	Aut															
BMOL10030 ^B	Biomedical Sciences	Spr															
GEOL10020	Earth Science and Materials	Spr															
GEOL10060	Introduction to Earth Sciences	Aut or Spr															
MATH00010 ^A	Introduction to Mathematics	Aut															
MATH10290 ^C	Linear Algebra for Science	Spr															
MATH10310 ^D	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. ^D Students required to take MATH10310 can take MATH10350 instead





Core modules required for Stage 1 Mathematics; Physics; Mathematics, Science and Education Streams in DN200

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

Module Code	Title	Trimester	Maths stream				Physics Stream			Maths and Education Stream				
			ACM	Fin Maths	Maths	Stats	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	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
BIOL10110	Biology-Cell Biology&Genetics	Spr									Green			
CHEM10050	Basis of Organic & Biol Chem	Spr									Green	Green		
BIOL00010	Fundamentals of Biology	Aut									Black			
CHEM00010	Introductory Chemistry	Aut										Black		
PHYC10070	Foundations of Physics	Aut					Black	Black	Black	Black				Black
BIOL10130 ^B	Biology in Action	Aut									Yellow			
BIOL10140 ^B	Life on Earth	Aut									Yellow			
BMOL10030 ^B	Biomedical Sciences	Spr									Yellow			
MATH00010 ^{A&D}	Introduction to Mathematics	Aut					Black	Black	Black					
CHEM20140	Introductory Transition Metal	Spr										Yellow		
CHEM20100	Basis of Inorganic Chemistry	Aut										Yellow		
ACM10080	Intro to Applied & Comp Math	Aut	Black				Black	Black	Black	Black				Black
ACM10060 ^C	Appl of Differential Equations	Spr	Green	Green	Green	Green	Yellow	Yellow	Green	Green	Yellow	Yellow	Green	Green
MATH10340	Linear Algebra 1 (MPS)	Spr	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
MATH10350	Calculus (MPS)	Aut	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
STAT10060	Statistical Modelling	Spr	Green	Green	Green	Green					Green	Green	Green	Green
MATH10040	Numbers & Functions	Aut		Yellow	Yellow					Yellow			Yellow	
MATH10320	Mathematical Analysis	Spr	Yellow	Yellow	Yellow	Yellow				Yellow			Yellow	Yellow
ECON10720	Microeconomics for Business	Spr		Yellow										
PHYC10080	Frontiers of Physics	Spr					Green	Green	Green					Green
PHYC10050	Astronomy & Space Science	Aut					Yellow	Yellow	Yellow					
PHYC10250	Thermal Physics and Materials	Spr					Yellow	Yellow	Yellow					Yellow
PHYC20080	Fields, Waves and Light	Aut					Yellow	Yellow	Yellow					Yellow
MATH10410	Maths & Science Education	Spr								Green	Green	Green	Green	Green
COMP10020	Introduction to Programming II	Spr											Green	
COMP10290	Computation for Scientists	Aut											Black	
COMP10040	Intro to Comp Architecture	Aut											Yellow	

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 Students should also take either ACM10060 in Stage 1 or if not taken, take 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.

Core modules required for Stage 2 Biological, Biomedical and Biomolecular; and Earth & Environmental Sciences Degrees in DN200

■ Conditional core (may need to be taken in Stage 2, if not already taken in Stage 1 - depending on LC results, see Table 2 in Stage 1 Guide)
■ Core (taken in Stage 2) ■ Programme core (taken in Stage 1 or 2) ■ Programme core (taken in Stage 2 or 3)

Module Code	Title	Trimester	Biochem. & Molecular Biology	Microbiology	Pharmacology	Neuro-science	Genetics	Cell & Molecular Biology	Environmental Biology	Plant Biology	Zoology	Physiology	Geology
Any 2 of BIOL10130, BIOL10140 and BMOL10030													
MATH10310	Calculus for Science	Aut											
PHYC10070	Foundations of Physics	Aut				■						■	
BMOL20060	Biomolecular Lab Skills 1	Aut	■	■	■	■	■	■	■	■	■	■	
BMOL20070	Biomolecular Lab Skills 2	Spr	■	■	■	■	■ ^A						
BMOL20090	Molecular Genetics and Biotech	Aut	■	■	■	■	■					■	
BMOL20110	Biomolecular Sciences	Aut	■	■	■	■	■ ^A					■	
BIOC20060	Biochemistry in Action	Spr	■										
CHEM20090	Chemistry for Biology	Aut	■	■	■	■	■	■	■	■	■	■	
MICR20050	Microbio in Med, Biotech & Env	Spr		■									
PHAR20040	Pharmacology: Biomedical Science	Spr			■								
NEUR20050	Principles of Neuroscience	Spr				■							
GENE20020	Principles of Genetics	Spr					■						
CELB20060	Principles of Cell & Mol Biology	Aut						■					
BIOL20060	Scientific Communication	Spr					■ ^A	■	■	■	■		
ENVB20050	Principles of Env Biol & Ecology	Spr							■		■		
BOTN20050	Principles of Plant Biology	Spr								■			
ZOOL20030	Principles of Zoology	Spr									■		
PHYS20040	Cell and Tissue Physiology	Aut										■	
PHYS20030	Organ and Systems Physiology	Spr										■	
GEOL20250	Crystals to Sedimentary Rocks	Aut											■
GEOL20210	Field Geology and Mapwork	Spr											■
GEOL20200	Dynamic Earth	Aut											■

NOTES: ^AStudents who wish to pursue genetics in stage 3 must take BMOL20110 and either BMOL20070 or BIOL20060 in Stage 2

Core modules required for Stage 2 Chemistry and Chemical Science Degrees in DN200

■ Core (taken in Stage 2) ■ Programme core (taken in Stage 1 or 2)

Module Code	Title	Trimester	Chemistry	Biophysical Chemistry	Environmental Chemistry	Medicinal Chemistry
CHEM20140	Introductory Transition Metal	Spr	■	■	■	■
MATH10310 ^A	Calculus for Science	Aut	■	■	■	■
CHEM20040	Organic Chemistry (Level 2)	Aut	■	■	■	■
CHEM20080	Basis of Physical Chemistry	Aut	■	■	■	■
CHEM20100	Basis of Inorganic Chemistry	Aut	■	■	■	■
CHEM20120	Physical Chemistry (level 2)	Spr	■	■	■	■
CHEM20030	Functioning of Biomolecules	Spr		■		
CHEM20110	Env & Sustainable Chem.	Spr			■	
BMOL20090	Molecular Genetics and Biotech	Aut				■
BMOL20110	Biomolecular Sciences	Aut				■
BMOL20070	Biomolecular Lab Skills 2	Spr				■
CHEM20050	Med Chem and Chem Bio (level 2)	Spr				■
PHAR20040	Pharmacology: Biomedical Science	Spr				■

NOTES: ^AStudents who have already taken and passed MATH10350 do not need to take MATH10310.

Core modules required for Stage 2 Mathematics & Physics Degrees in DN200

Core (taken in Stage 2)
 Programme core (taken in Stage 1 or 2)
 Programme core (taken in Stage 2 or 3)
 Programme Core for all Stage 2 Physics if PHYC10250 completed in Stage 1

Module Code	Title	Trimester	Maths	ACM	Fin. Maths	Stats	Physics	Theoretical Physics	Astron. & Space
ACM20030	Computational Science	Aut							
MATH20060	Calculus of Several Variables	Aut							
MATH20300	Linear Algebra 2 (MathSci)	Aut							
STAT20110	Introduction to Probability	Aut							
ACM20150	Vector Calculus	Spr							
MATH20310	Groups, Rings and Fields	Spr							
STAT20100	Inferential Statistics	Spr							
MATH10040	Numbers & Functions	Aut							
MATH10320	Mathematical Analysis	Spr							
ACM20050	Classical Mechanics	Aut							
ACM20060	Oscillations and Waves	Spr							
FIN20040	Foundations of Finance	Aut							
ECON10720	Microeconomics for Business	Spr							
STAT20230	Modern Regression Analysis	Aut							
STAT20180	Intro to Bayesian Analysis	Spr							
PHYC20020	Introductory Quantum Mechanics	Aut							
PHYC20060	Methods for Physicists	Spr							
PHYC20090	Electronics and Devices	Spr							
PHYC20080	Fields, Waves and Light	Aut							
ACM10060	Appl of Differential Equations	Spr							
PHYC20100	Thermo & Stat Physics	Aut							
PHYC10250	Thermal Physics and Materials	Spr							
PHYC20040	Exploring the Solar System	Spr							
PHYC10050	Astronomy & Space Science	Aut							



Core modules required for Stage 2 Science, Mathematics and Education Degrees in DN200

Core (taken in Stage 2)
 Programme core (taken in Stage 1 or 2)
 Programme core (taken in Stage 2 or 3)
 Programme Core for all Stage 2 Physics if PHYC10250 completed in Stage 1

Module Code	Title	Trimester	Maths, Appl Maths, Ed.	Maths, CompSci, Ed.	Maths, Physics, Ed.	Maths, Biol., Ed. (A)	Maths, Biol., Ed (B)	Maths, Chem., Ed
Choose 1 of GENE20020, MICR20050 or PHAR20040 ^B							B	
Any 2 of BIOL10130, BIOL10140 or BMOL10030								
ACM20030	Computational Science	Aut						
ACM20050	Classical Mech. & Special Rel.	Aut						
EDUC20030	Key Ideas in Education	Aut						
MATH20060	Calculus of Several Variables	Aut						
MATH20300	Linear Algebra 2 (Math Sci)	Aut						
STAT20110	Introduction to Probability	Aut						
ACM20060	Oscillations and Waves	Spr						
ACM20150	Vector Calculus	Spr						
MATH20310	Groups, Rings and Fields	Spr						
MATH10040	Numbers & Functions	Aut						
MATH10320	Mathematical Analysis	Spr						
BMOL20060	Biomolecular Lab Skills 1	Aut						
CELB20060	Principles of Cell&Mol Biology	Aut						
MST20070	Multivariable Calculus	Aut						
BIOL20060	Scientific Communication	Spr						
BOTN20050	Principles of Plant Biology	Spr						
EDUC20020	Science and Maths Pedagogy	Spr						
ENVB20050	Principles of EnvBiol&Ecology	Spr						
CHEM20090	Chemistry for Biology	Aut						
ACM10100 ^A	Differential & Diff Equations	Spr						
MST20040	Analysis	Spr						
BMOL20090	Molecular Genetics and Biotech	Aut						
BMOL20110	Biomolecular Sciences	Aut						
BMOL20070	Biomolecular Lab Skills 2	Spr						
CHEM20040	Organic Chemistry (Level 2)	Aut						
CHEM20080	Basis of Physical Chemistry	Aut						
CHEM20100	Basis of Inorganic Chemistry	Aut						
MST20010	Algebraic Structures	Aut						
CHEM20120	Physical Chemistry (level 2)	Spr						
CHEM20140	Introductory Transition Metal	Spr						
COMP20250	Introduction to Java	Aut						
COMP10050	Software Engineering Project 1	Spr						
COMP10040	Intro to Comp Architecture	Aut						
COMP20280	Data Structures	Spr						
PHYC20020	Introductory Quantum Mechanics	Aut						
PHYC20060	Methods for Physicists	Spr						
PHYC20090	Electronics and Devices	Spr						
PHYC20080	Fields, Waves and Light	Aut						
PHYC10250	Thermal Physics and Materials	Spr						
PHYC20100	Thermo & Stat Physics	Aut						

NOTES: ^A If ACM10060 was not taken in Stage 1, then ACM10100 must be taken in Stage 2. ^B Chose any 1 of three modules in Stage 2: GENE20020, MICR20050 or PHAR20040 to progress

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