Ollscoil na Gaillimhe
University of Galway

Bachelor of Science Degree
College of Science and Engineering
2023/2024

BSc BIOMEDICAL SCIENCE

www.universityofgalway.ie/science-engineering/

Overview

Year 1	Year 2	Year 3	Year 4
[60 Credits]	**[60 Credits]**	**[60 Credits]**	**[60 Credits]**
There are 60 credits of Core modules.	There are 20 credits of Core modules. Choose 2 pathways to a total value of 40 credits: Anatomy Biochemistry Pharmacology Physiology	There are 15 credits of Core modules. Choose two optional modules to a value of 10 ECTS: (Enrolment in an elective is subject to having the pre-requisites, space in the module and timetable compatibility) one of: Developmental Biology or Introduction to Toxicology or Endocrinology or Neurophysiology or Mathematical Molecular Biology I and one of: Introduction to Bioinformatics or Human Reproductive Anatomy or Neuropharmacology or Exercise Physiology or Renal Physiology or Mathematical Molecular Biology II Choose one Pathway to a value of 35 credits: Anatomy Biochemistry Pharmacology Physiology	Choose one module to a value of 5 Credits: Modern Biotechnologies Advanced Technologies for Therapeutics Immunology Anatomy for Clinical Needs Choose one Pathway to a value of 55 credits: Anatomy Biochemistry Pharmacology Physiology

Module Descriptors for Years 1 to 4 are available at: https://www.universityofgalway.ie/science-engineering/undergraduateprogrammes/biomedical-science.html#course_outline

BSc Biomedical Science

Year 1	Year 2	Year 3	Year 4
[Core: 60 credits]	**[Core: 20 credits; Pathways: 40 credits]**	**[Core: 15 credits; Options: 10 credits; Pathway: 35 credits]**	**[Options: 5 credits; Pathway: 55 credits]**
Full Year – Semester 1 and Semester 2 BM111 **Introduction to Biomedical Research [5]** BO101 **Biology [15]** CH120 **Chemistry: Molecular Science [15]** PH101 **Physics [15]** *Semester 1* BM110 **Introduction to Science Communication [5]** *Semester 2* BM112 **Biomedical Debates [5]**	*Semester 1* BO201 **Molecular and Cellular Biology [5]** BI208 **Protein Structure and Function [5]** *Semester 2* BM202 **Biomedical Seminars [5]** BM204 **Community Knowledge Initiative Programme [5]**	*Semester 1* ST314 **Introduction to Biostatistics [5]** BM3101 **Research Methods in Biomedical Science [5]** BO3101 **Developmental Biology [5]*** PM311 **Introduction to Toxicology [5]*** SI209 **Endocrinology [5]*** SI3102 **Neurophysiology [5]*** MA215 **Mathematical Molecular Biology I[5]*** *Semester 2* BM406 **Applications of Biomedical Science [5]** SI328 **Exercise Physiology [5]*** AN3109 **Human Reproductive Anatomy [5]*** MA324 **Introduction to Bioinformatics [5]*** MA216 **Mathematical Molecular Biology II [5]*** PM3102 **Neuropharmacology [5]*** SI331 **Renal Physiology [5]***	*Semester 1* SI408 **Immunology [5]*** BI448 **Modern Biotechnologies [5]*** *Semester 2* PM435 **Advanced Technologies for Therapeutics [5]*** AN4110 **Anatomy for Clinical Needs [5]***
		*Select one 5-credit optional module in Semester 1 and one 5-credit optional module in Semester 2. Enrolment in an elective is subject to having the pre-requisites, space in the module and timetable compatibility.	*Select one 5-credit optional module. Enrolment in an elective is subject to having the pre-requisites, space in the module and timetable compatibility.

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BSc Biomedical Science – Anatomy Pathway

Year 1	Year 2	Year 3	Year 4
	[Pathway: 20 credits]	**[Pathway: 35 credits]**	**[Pathway: 55 credits]**
	Semester 1 AN2101 **Cells and Tissues [10]** *Semester 2* AN223 **Embryology & Development [5]** AN226 **Systems Histology [5]**	*Semester 1* AN3105 **Gross Anatomy I [10]** AN326 **Neuroanatomy [5]** *Semester 2* AN325 **Anatomy Research Mini Project [5]** AN3106 **Gross Anatomy II [10]** AN3109 **Human Reproductive Anatomy [5]**	*Semester 1* AN4101 **Gross Anatomy III [10]** AN4103 **Microscopy and Imaging [10]** AN441 **Physical Anthropology [5]** AN4109 **Research and Communication Skills in Anatomy [5]** *Semester 2* AN4107 **Anatomy of the Head and Neck [5]** AN444 **Research Project [20]**

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BSc Biomedical Science – Biochemistry Pathway

Year 1	Year 2	Year 3	Year 4
	[Pathway: 10 credits; Options: 10 credits]	**[Pathway: 35 credits]**	**[Pathway: 55 credits]**
	Semester 1 Select 10 credits from another pathway: **Anatomy** AN2101 **Cells and Tissues [10]*** **Pharmacology** PM209 **Applied Concepts in Pharmacology [5]*** PM208 **Fundamental Concepts in Pharmacology [5]*** **Physiology** SI2101 **Introductory Physiology [10]*** *Semester 2* BI206 **Gene Technologies and Molecular Medicine [5]** BI207 **Metabolism and Cell Signalling [5]**	*Semester 1* BI309 **Cell Biology [5]** BO3101 **Developmental Biology [5]** BI319 **Molecular Biology [5]** *Semester 2* BI325 **Biochemistry Research Mini Project [5]** BI313 **Cell Signalling [5]** BI317 **Human Molecular Genetics [5]** BI321 **Protein Biochemistry [5]**	*Full Year – Semester 1 and Semester 2* BI453 **Biochemistry Research Project [15]** BI446 **Current Topics in Bioscience [5]** BI447 **Literature Review and Presentation [10]** *Semester 1* BI445 **Biomolecules [5]** BI452 **Biochemistry Principles and Experimental Design [5]** *Semester 2* BI429 **Advanced Chromosome Biology [5]** BI449 **Molecular and Cellular Biology [5]** BI451 **Research Paper Analysis [5]**
	* Select modules to a value of 10 credits from another pathway		

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BSc Biomedical Science – Pharmacology Pathway

Year 1	Year 2	Year 3	Year 4
	[Pathway: 20 credits]	**[Pathway: 35 credits]**	**[Pathway: 55 credits]**
	Semester 1 PM209 **Applied Concepts in Pharmacology [5]** PM208 **Fundamental Concepts in Pharmacology [5]** *Semester 2* PM210 **Molecular Pharmacology and Signalling [10]**	*Semester 1* PM309 **Drugs and Disease I [10]** PM311 **Introduction to Toxicology [5]** *Semester 2* PM3103 **Advanced Pharmacology [5]** PM3102 **Neuropharmacology [5]** PM3101 **Pharmacology in Practice [5]** PM325 **Pharmacology Research Mini Project [5]**	*Semester 1* PM432 **Experimental Pharmacology [10]** PM431 **Research Project [20]** *Semester 2* PM436 **Advanced Toxicology [5]** PM433 **Drug Development and Emerging Therapies [10]** PM434 **Molecular Pharmacology and Therapeutics [10]**

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BSc Biomedical Science – Physiology Pathway

Year 1	Year 2	Year 3	Year 4
	[Pathway: 20 credits]	**[Pathway: 35 credits]**	**[Pathway: 55 credits]**
	Semester 1 SI2101 **Introductory Physiology [10]** *Semester 2* SI2102 **Systems Physiology [10]**	*Full Year – Semester 1 and Semester 2* SI329 **Laboratory Methods in Physiology [5]** *Semester 1* SI326 **Advanced Cardiovascular Physiology [5]** SI312 **Endocrinology [5]** SI311 **Neurophysiology [5]** *Semester 2* SI328 **Exercise Physiology [5]** SI325 **Physiology Research Mini Project [5]** SI331 **Renal Physiology [5]**	*Semester 1* SI438 **Advanced GIT [5]** SI422 **Advanced Neurophysiology [5]** SI4102 **Science Communication Skills [5]** SI437 **Reproduction and Aging [5]** SI436 **Therapeutics [5]** *Semester 2* SI4101 **Case Based Physiology [5]** SI432 **Pathophysiology [5]** SI435 **Research Project [20]**

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