
JOINT DEGREE PROGRAMME NUS BACHELOR OF SCIENCE (HONOURS) IN LIFE SCIENCES WITH UNIVERSITY OF DUNDEE

1. Overview of Programme

This Joint Degree Programme (JDP) National University of Singapore (NUS) Bachelor of Science (Honours) in Life Sciences [BSc (Hons)] with University of Dundee (UoD) is designed to be completed in four years, and to be taught in NUS and UoD. The Programme combines the strengths of both universities' undergraduate curricula, integrates overseas experience into the undergraduate studies, and awards a jointly validated BSc (Hons) degree qualification.

NUS students in this JDP will complete the degree requirements as per that of NUS BSc (Hons) degree in Life Sciences. Participants will spend the first two-and-a-half years in NUS before moving to and staying at UoD for three regular semesters (i.e. the 6th to 8th semesters inclusive of their course of undergraduate studies). This study abroad segment thus includes the Honours year.

2. Three Tracks to Choose From

The curriculum of the study abroad segment at UoD is designed to focus on a selected area in Life Sciences. Started with drug development, two more tracks are now available for participants in the JDP to choose from. By completing the requirements of each track, the corresponding Life Sciences Major specialisation will be conferred.

- Drug Design and Discovery – Biomedical Science Specialisation (BMS)
- Developmental Biology – Molecular and Cell Biology Specialisation (MCB)
- Plant Science – Molecular and Cell Biology Specialisation (MCB)

Life Sciences at the UoD is of the highest rated for Biological Sciences in the UK. The Drug Discovery Unit (DDU) of the UoD School of Life Sciences is actively developing drugs for the treatment of neglected tropical diseases including malaria, leishmaniasis, Chaga's disease, African sleeping sickness and tuberculosis and translating innovative drug targets in oncology, eczema, type-2 diabetes, anti-bacterials and anti-virals.

[University of Dundee](#) | [School of Life Sciences](#) | [Drug Discovery Unit](#)

NUS students are set to conduct their Honours year research projects in UoD focusing on their chosen tracks.

3. JDP Requirements

NUS participants in this JDP will complete in NUS: 52 MC (Modular Credits) of Major requirements, 8 MC of Faculty requirements, 20 MC of General Education, and 20 MC of Unrestricted Elective Modules. In UoD, NUS students will fulfil 35 MC towards the Major requirements and 25 MC towards the Unrestricted Elective Modules. Please refer to the following summary of programme requirements and the recommended study plans for this JDP in Annexes A, B and C (pages 4-6).

Graduation Requirements	NUS BSc (Hons) in Life Sciences	
	Single Degree	Joint Degree
Major	84 MC	87 MC
Faculty Requirements	8 MC	8 MC
General Education	20 MC	20 MC
Unrestricted Free Electives	48 MC	45 MC
Total	160 MC	160 MC

4. Admissions

Open to Year 1 Life Sciences Major in NUS Faculty of Science.

Eligible undergraduate candidates will need to gain entry to NUS Faculty of Science and declare to read Life Sciences Major as the primary discipline.

Application window is at the end of the first semester in the first year of the candidature. Life Sciences Majors in the senior years may apply but the study plan may deviate as scheduled. All applicants will go through a selection and shortlisted applicants will be required to attend an interview to assess their academic competencies, aptitude and suitability for the programme, as well as other relevant criteria.

5. Continuation Requirements

NUS students in this JDP must maintain a CAP of 4.00 or above (out of 5.00) for the BSc (Hons) degree. A student whose CAP falls below 4.00 for any semester will be reviewed for continuation with the programme. The student may exit the JDP and complete the default BSc/BSc (Hons) degree in NUS, the latter if the student meets the Honours requirements and wishes to pursue the Honours class. NUS students in this programme can choose to withdraw and continue with the default BSc/BSc (Hons) degree.

6. Application for Cohort AY2020/21 Intake

Interested Life Sciences Major freshman of Cohort AY2020/21 may look out for the call for application via NUS email during the first semester. Applicants should expect a CAP of at least 4.00 at the end of first semester, and shortlisted candidates will be required to attend an interview.

Application window	Latter half Semester 1 AY20/21 (i.e. Oct-Nov 2020)
Online application portal	The portal will be accessible during the application window. Please click here to apply.
Documents to prepare for uploading as part of application	In a single PDF document labelled with applicant's name: - One-page personal statement of interest in this programme and highlights of relevant credentials (max. 500 words);
Interview	Shortlisted applicants will be informed the mode of interview and it will tentatively take place in November 2020 (may be subjected to changes).
Application outcome	All applicants will be informed the outcome after Semester 1 AY20/21 results release by 31 December 2020 .

7. Enquiry

Please contact Life Sciences Enquiry dbsbox2@nus.edu.sg.

Please see recommended study plans for this JDP on Pages 4-6.

Please see the list of courses in University of Dundee and corresponding NUS module codes to be mapped to for credit-and-grade transfer, on Page 7.

Annex A

**Schedule for Completion of Joint Degree Programme
NUS BSc (Hons) in Life Sciences with University of Dundee
Cohort AY2018/19 onwards**

(A) Area of Focus – Drug Design and Discovery

		NUS	UoD
Year 1	1 st Semester (Sem 1) & 2 nd Semester (Sem 2)	LSM1102 Molecular Genetics (4MC) LSM1105 Evolutionary Biology (4MC) LSM1106 Molecular Cell Biology (4MC) CM1121 Organic Chemistry 1 (4MC) ST1232 Statistics for Life Sciences (4MC) CS1010/x or COS2000 (4MC) – Faculty Requirements (Computational Thinking) SP1541 Exploring Science Communication through Popular Science (4MC) – Faculty Requirement (English Communication) General Education Modules (20MC) - GER, GEH, GEQ, GES, GET.	
	3 rd Semester (Sem 1) & 4 th Semester (Sem 2)	LSM2191 Laboratory Techniques in Life Sciences (4MC) LSM2234 Introduction to Quantitative Biology (4MC) LSM2241 Introductory Bioinformatics (4MC) Pass 1 module (4MC): - LSM2211 Metabolism and Regulation {elective added} - LSM2232 Genes, Genomes and Biomedical Implications - LSM2233 Cell Biology CM2121 Organic Chemistry 2 (4MC) Unrestricted Elective Modules (16MC)	
Year 3	5 th Semester (Sem 1)	LSM3211 Fundamental Pharmacology (4MC) LSM3225 Molecular Microbiology in Human Diseases (4MC) LSM3231 Protein Structure and Function (4MC) LSM3243 Molecular Biophysics (4MC)	
	6 th Semester (Sem 2)		BS32003 Drug Discovery and Development (15 credits) BS32007 Organic Synthesis (15 credits) BS32010 Applied Bioinformatics (15 credits) BS32012 Project B/Lab Mini-project (15 credits)
Year 4	7 th Semester (Sem 1) & 8 th Semester (Sem 2)		BS31004 Biochemistry and Cell Biology (15 credits) BS41004 Research Project: Biological Sciences (40 credits) BS41005 Research Skills in Biological Sciences (20 credits) BS42004 Advanced Modern Drug Discovery (15 credits) BS42011 Advanced Organic Chemistry (15 credits) One BS4xxxx course (15 credits)

Notes:

In NUS, 52 MC for Major, 8 MC of Faculty Requirement, 20 MC of General Education and 20 MC of Unrestricted Elective Modules are to be completed.

In UoD, 35 MC for Major (modules in bold); and 25 MC of Unrestricted Elective Modules are read (not bold).

Annex B

**Schedule for Completion of Joint Degree Programme
NUS BSc (Hons) in Life Sciences with University of Dundee
Cohort AY2018/19 onwards**

(B) Area of Focus – Developmental Biology

		NUS	UoD
Year 1	1 st Semester (Sem 1) & 2 nd Semester (Sem 2)	LSM1102 Molecular Genetics (4MC) LSM1105 Evolutionary Biology (4MC) LSM1106 Molecular Cell Biology (4MC) CM1401 Chemistry for Life Sciences (4MC) ST1232 Statistics for Life Sciences (4MC) CS1010/x or COS2000 (4MC) – Faculty Requirements (Computational Thinking) SP1541 Exploring Science Communication through Popular Science (4MC) – Faculty Requirement (English Communication) General Education Modules (20MC) - GER, GEH, GEQ, GES, GET.	
	3 rd Semester (Sem 1) & 4 th Semester (Sem 2)	LSM2191 Laboratory Techniques in Life Sciences (4MC) LSM2232 Genes, Genomes and Biomedical Implications (4MC) LSM2233 Cell Biology (4MC) Pass 1 module (4MC): - LSM2211 Metabolism and Regulation - LSM2231 General Physiology Unrestricted Elective Modules (20MC)	
Year 3	5 th Semester (Sem 1)	LSM3217 Human Ageing (4MC) LSM3233 Developmental Biology (4MC) LSM3234 Biological Imaging of Growth and Form (4MC) Pass 1 module (4MC): - LSM3215 Neuronal Signaling and Memory Mechanisms - LSM3216 Neuronal Development and Disease	
	6 th Semester (Sem 2)		BS32005 Cell & Developmental Biology (15 credits) BS32006 Cell Signalling (15 credits) BS32012 Project B/Lab Mini-project (15 credits) BS32029 Cell Proliferation and Survival Mechanisms Underlying Disease (15 credits) <i>[Exemption of BS31004 as pre-requisite needed.]</i>
Year 4	7 th Semester (Sem 1) & 8 th Semester (Sem 2)		BS31006 Gene Regulation & Expression (15 credits) BS41004 Research Project: Biological Sciences (40 credits) BS41005 Research Skills in Biological Sciences (20 credits) BS42008 Stem Cells in Development and Disease (15 credits) BS42010 Advanced Gene Regulation and Expression (15 credits) BS42013 Advanced Cell Signalling (15 credits)

Notes:

In NUS, 52 MC for Major, 8 MC of Faculty Requirement, 20 MC of General Education and 20 MC of Unrestricted Elective Modules are to be completed.

In UoD, 35 MC for Major (modules in bold); and 25 MC of Unrestricted Elective Modules are read (not bold).

Annex C

**Schedule for Completion of Joint Degree Programme
 NUS BSc (Hons) in Life Sciences with University of Dundee
 Cohort AY2018/19 onwards**

(C) Area of Focus – Plant Science

		NUS	UoD
Year 1	1 st Semester (Sem 1) & 2 nd Semester (Sem 2)	LSM1102 Molecular Genetics (4MC) LSM1105 Evolutionary Biology (4MC) LSM1106 Molecular Cell Biology (4MC) CM1401 Chemistry for Life Sciences (4MC) ST1232 Statistics for Life Sciences (4MC) CS1010/x or COS2000 (4MC) – Faculty Requirements (Computational Thinking) SP1541 Exploring Science Communication through Popular Science (4MC) – Faculty Requirement (English Communication) General Education Modules (20MC) - GER, GEH, GEQ, GES, GET.	
Year 2	3 rd Semester (Sem 1) & 4 th Semester (Sem 2)	LSM2191 Laboratory Techniques in Life Sciences (4MC) LSM2233 Cell Biology (4MC) LSM2252 Biodiversity (4MC) LSM2254 Fundamentals of Plant Biology (4MC) Unrestricted Elective Modules (20MC)	
Year 3	5 th Semester (Sem 1)	LSM3233 Developmental Biology (4MC) LSM3258 Comparative Botany (4MC) Pass 2 modules (8MC): - LSM3256 Tropical Horticulture - LSM3259 Fungal Biology - LSM4251 Plant Growth and Development	
	6 th Semester (Sem 2)		BS32005 Cell & Developmental Biology (15 credits) BS32006 Cell Signalling (15 credits) BS32008 Plant Science (15 credits) BS32012 Project B/Lab Mini-project (15 credits) <i>[Exemption of BS31004 as pre-requisite needed.]</i>
Year 4	7 th Semester (Sem 1) & 8 th Semester (Sem 2)		BS31004 Biochemistry and Cell Biology (15 credits) BS41004 Research Project: Biological Sciences (40 credits) BS41005 Research Skills in Biological Sciences (20 credits) BS42005 Advanced Plant Science (15 credits) BS42010 Advanced Gene Regulation and Expression (15 credits) One BS4xxxx course (15 credits)

Notes:

In NUS, 52 MC for Major, 8 MC of Faculty Requirement, 20 MC of General Education and 20 MC of Unrestricted Elective Modules are to be completed.

In UoD, 35 MC for Major (modules in bold); and 25 MC of Unrestricted Elective Modules are read (not bold).

Annex D
UoD Courses and corresponding NUS Module Codes

UoD Course		NUS Module	
Code	Title	Code	Title
BS32010	Applied Bioinformatics (15 credits)	LSM3910	Applied Bioinformatics (5MC)
BS32007	Organic Synthesis (15 credits)	LSM3911	Organic Synthesis (5MC)
BS32012	Project B/Lab Mini-project (15 credits)	LSM3912	Project B/Lab Mini-project (5MC)
BS32003	Drug Discovery and Development (15 credits)	LSM3913	Drug Discovery and Development (5MC)
BS31004	Biochemistry and Cell Biology (15 credits)	LSM3914	Biochemistry and Cell Biology (5MC)
BS32005	Cell & Developmental Biology (15 credits)	LSM3915	Cell & Developmental Biology (5MC)
BS32006	Cell Signalling (15 credits)	LSM3916	Cell Signalling (5MC)
BS32008	Plant Science (15 credits)	LSM3918	Plant Science (5MC)
BS32029	Cell Proliferation and Survival Mechanisms Underlying Disease (15 credits)	LSM3919	Cell Proliferation and Survival Mechanisms Underlying Disease (5MC)
BS41004	Research Project: Biological Sciences (40 credits)	LSM4199	Honours Project in Life Sciences (16MC)
BS41005	Research Skills in Biological Sciences (20 credits)	LSM4991	Exchange Enrichment Module (4MC)
BS4xxxx	One BS4xxxx course (15 credits)	LSM4910	Exchange Enrichment Module for UoD JDP (5MC)
BS42011	Advanced Organic Chemistry (15 credits)	LSM4911	Advanced Organic Chemistry (5MC)
BS42004	Advanced Modern Drug Discovery (15 credits)	LSM4912	Advanced Modern Drug Discovery (5MC)
BS42010	Advanced Gene Regulation and Expression (15 credits)	LSM4915	Advanced Gene Regulation and Expression (5MC)
BS42013	Advanced Cell Signalling (15 credits)	LSM4916	Advanced Cell Signalling (5MC)
BS42005	Advanced Plant Science (15 credits)	LSM4918	Advanced Plant Science (5MC)
BS42008	Stem Cells in Development and Disease (15 credits)	LSM4919	Stem Cells in Development and Disease (5MC)