**THE OPEN UNIVERSITY OF
SRI LANKA
THE DEGREE OF BACHELOR
OF EDUCATION HONOURS IN
NATURAL SCIENCES
DEGREE PROGRAMME**

ACADEMIC YEAR 2020/2021

General information about the Degree of Bachelor of Education
Honours in Natural Sciences Degree Programme

CONTENTS

GENERAL INFORMATION ABOUT THE DEGREE OF BACHELOR OF EDUCATION HONOURS IN NATURAL SCIENCES DEGREE PROGRAMME

2020/2021

1.0   INTRODUCTION

The General Information about The Degree of Bachelor of Education Honours in Natural Sciences Degree Programme is offered by the Faculty of Education in collaboration with the Faculty of Natural Sciences of the Open University of Sri Lanka. The curriculum and the evaluation of this programme of study, is determined by the two Faculties.

General information regarding the Open University, its study system and the curriculum of the General Information about The Degree of Bachelor of Education Honours in Natural Sciences Degree Programme, is introduced in this prospectus.

As this programme is conducted in the distance mode you will have only limited opportunities of meeting or contacting members of the academic staff. Therefore it is essential that you read this brochure thoroughly and understand the procedures for overcoming difficulties you may face while following the programme. If you face problems with respect to any matter related to this programme, do not hesitate to contact the coordinator of the programme in the Department of Secondary and Tertiary Education of the Faculty of Education.

We wish you all success in the Degree of Bachelor of Education Honours in Natural Sciences Degree Programme.

2.0 GENERAL INFORMATION

2.1 The Open University of Sri Lanka

The Open University of Sri Lanka (OUSL) which was established in 1980, is a national university constituted under the University Act No. 16 of 1978 and the OUSL Ordinance No. 1 of 1990 and has the same legal and academic status as any other national university in Sri Lanka. It is one of the recognized university in Sri Lanka where students are able to pursue further education through distance education mode.

The Open University comprises of a Central Campus which is located in Nawala, Nugegoda, Six Regional Centers (Colombo, Kandy, Matara, Jaffna, Anuradhapura and Batticaloa.

The OUSL currently consists of six faculties of, viz. the Faculty of Humanities and Social Sciences, the Faculty of Natural Sciences, the Faculty of Engineering, Health Sciences, Faculty of Management Studies and the Faculty of Education.

2.2 The Faculty of Education

The Faculty of Education consists of three departments, viz. the Department of Secondary and Tertiary Education, the Department of Early Childhood and Primary Education and the Department of Special Needs Education. The Department of Secondary and Tertiary Education conducts this General Information about the Degree of Bachelor of Education Honours in Natural Sciences Degree Programme.

2.3 The Study System of OUSL

The OUSL adopts a multimedia study system, with a strong emphasis on distance mode of learning. Students are supported through print materials, audio-visual aids, day schools, laboratory sessions, field work, tutor clinics, workshops and online learning.

2.4 Courses and Programmes

In the Open University vocabulary a **course** is a **unit of study**, which is generally completed within an academic year. A course can either be compulsory or optional.

A **programme of study** consists of a combination of compulsory and optional courses. To meet the criteria for an award of a certificate, a Diploma or a Degree it is necessary to complete a programme of study successfully.

The programmes of study offered by the Open University are as follows:

1. Foundation Programmes
2. Certificate Programmes
3. Higher Certificate Programmes
4. Diploma Programmes
5. Bachelor's Degree Programmes
6. Post Graduate Diploma Programmes
7. Postgraduate Degree Programmes
8. Continuing Education Programmes
9. Stand Alone Courses

Foundation Programmes provide opportunities to enroll for Degree Programmes. These Programmes are offered in two levels namely Level 1 (F1) and Level 2 (F2). A student who completes any Foundation Programme in Arts, Commerce, Physical Sciences, Biological Sciences, or Technological

Sciences attains qualifications similar to the level required to enter a conventional University.

Stand-alone Programmes are not linked to any key Programmes. These can be followed according to the individual needs of any person.

The academic value of a **Course** is expressed in terms of **Credit** rating. It does not mean a student's performance in an examination. (Eg. A Credit Pass at G.C.E. Ordinary Level or Advanced Level).

A credit is calculated on the basis of the number of hours a student has to spend in learning. 18 credits mean 450 (15 hours per week x 30 weeks) study hours. The maximum number of credits a student is permitted to register for an academic year is thirty (30). The minimum number of credits a student can register for an academic year is nine (9). Students who have enrolled for 30 credits may also enroll for **Courses** designated as Continuing Education up to a limit of further 9 credits.

Each course is assigned a course code consisting of seven (7) alphanumeric characters as follows:

First two letters - The field of study
Third letter   - The Programme of study
First digit   - Level of the study within the programme
Second digit - Credit rating *(Table 3)*
Last two digits - Unique serial number of course

Table 1: Course Codes according to Disciplines of Study

Faculty	Disciplines of Study	Course codes
Education	Education	ES
	Early Childhood	EC
	Special Needs Education	SN
Natural Sciences	Pure Mathematics	PE
	Botany	BY
	Chemistry	CY
	Physics	PH
	Zoology	ZY
	Applied Mathematics	AD
Engineering Technology	Civil Engineering	CE
	Communication Technology	TL
	Computer Science	CS
	Electrical Technology	TE
	Electronic Technology	TN
	Engineering	EN
	Mechanical Engineering	ME
	Textile Technology	TT
Humanities and Social Sciences	Language Studies	LS
	Management Studies	MS
	Legal Studies	LS
	Social Studies	SS
Health Sciences	Science in Nursing	NS
	Medical Laboratory Sciences	ML
	Bachelor of Pharmacy	BP

3.0 GENERAL INFORMATION ABOUT THE DEGREE OF BACHELOR OF EDUCATION HONOURS IN NATURAL SCIENCES DEGREE PROGRAMME

Degree of Bachelor of Education Honours in Natural Sciences Programme is an Inter-faculty programme offered by The Faculty of Education, in collaboration with The Faculty of Natural Sciences of the Open University of Sri Lanka. It is a four academic year programme, of which the first two years (Levels 3 and 4) will be devoted to the teaching of Science subjects and the other two years (Level 5 and 6) to Education subjects. It is a 122 credit programme in which candidates are required to acquire 30 credits at 3, 4,5 levels and 32 credits at level 6.

This programme is specially designed for secondary school Science/Mathematics teachers, as well as for those who aspire to become Science/Mathematics teachers.

3.1 Aims and Objectives

1. To provide further education opportunities for non-graduate Science/ Mathematics teachers in the education system.

2. To provide higher education opportunities for those who are qualified to enter a University.

3. To provide a professional qualification for science graduates who are willing to enter the teaching profession.

3.2 Admission Requirements

a) obtained a minimum of 3 passes at any number of sittings at the G.C.E. (Advanced Level) Examination in three Science subjects (from among, Biology/ Botany/ Zoology/ Chemistry/ Physics/ Combined Mathematics/ Applied Mathematics/ Pure Mathematics/ Mathematics),
   or,

b) obtained a minimum of 30 credits from among the approved Foundation Courses in Science offered by the Faculty of Natural Sciences,
   or,

c) a secured an equivalent or higher qualification acceptable to the Open University.

3.3   Pre-requisites to register for Level 3 courses

Pre-requisites required to register for any course in a particular discipline at Level 3 (Table 2) are:

Table 2:

Discipline	Pre-requisites G.C.E (A.L.)
Botany	Pass in Botany/Biology in G.C.E (A.L.) or Foundation
Chemistry	Pass in Chemistry in G.C.E (A.L.) or Foundation
Physics	Pass in Physics in G.C.E (A.L.) or Foundation
Zoology	Pass in Zoology/Biology in G.C.E (A.L.) or Foundation
Computer Science	3 passes in G.C.E. A/L or Foundation in approved Science sub- jects
Applied Maths	Pass in Applied Maths/ Combined Maths/Higher Maths in G.C.E. A/L or Foundation in science /Foundation courses in Mathematics
Pure Maths	Pass in Pure Maths/ Combined Maths/ Higher Maths in G.C.E. A/L or Foundation in science /Foundation courses in Mathematics

3.4 Duration

A minimum of four academic years are required to complete the programme.

3.5 Work Load

A student will be required to complete courses adding up to a total of 122 credits for the Bachelor of Education Honours in Natural Sciences Degree. Those who are without exemptions are also required to register for English and Mathematics courses. The maximum number

of credits a student can register for in one academic year is 30.

3.6 Exemptions

Candidates may be exempted from the requirement of obtaining credits in certain courses by virtue of other qualifications. Specific exemptions from Foundation levels and Level 3 are indicated in Appendix I.

Exemptions from the Level 3 would not be given at the registration. Students need to apply for exemptions from a committee appointed by the Faculty of Natural Sciences, before the add/ drop period.

Teachers who have successfully followed the 3-year Teacher Education programme of a National College of Education and hold the Diploma in Teaching Science/Mathematics would be exempted from Level 5 of this Programme.

A student granted an exemption from a particular course of study would be deemed to have obtained a final mark of 40 and a C grade in that particular course, irrespective of whatever mark he/she may have received at an equivalent course/examination.

Start at OUSL (three months)

Before commencing the Degree of Bachelor of Education Honours in Natural Sciences programme, all students are compelled to follow the StART@OUSL[Students Academic Readiness Training at OUSL]

It is three months training programme to facilitate students to develop their study skills in order to become independent learners in the Open and Distance Learning (ODL) system of the Open University. It comprises three compulsory courses and three optional courses offered at Level 3, the first year of the degree programme

Compulsory courses:

- FDE3020 Empowering for Independent Learning (EfIL) - (Free)
- LEE3410 English General Academic Purposes (EGAP) - Rs. 5500/=
- CSE3213 ICT Skills - Rs. 3000/=

A Student should offer all three compulsory courses to complete the StART@ OUSL programme.

However, you may also offer some of the optional courses if you so wish con- sidering the following information.

Social Harmony - 3 Compulsory Day Schools plus Multicultural Interactive Session

Soft Skills for Personality Development – 8 Activity based practical ori- ented workshops. Attendance compulsory for all workshops

PLEASE NOTE

1. IT IS COMPULSORY THAT YOU SHOULD PASS THE EfIL COURSE (FDE3020) FOR YOU TO REGISTER AT LEVEL 4.

2. IT IS COMPULSORY THAT YOU SHOULD PASS THE COURSES LEE3410, CSE3213 and CYE3200 FOR YOU TO REGISTER AT LEVEL 5.

3.7 Courses

3.6.1 Courses offered for Level 3 of the Degree of Bachelor of Education Honours in Natural Sciences programme are given in Tables 4 and 5 in Appendix II.

Please note that you have to register for the Continuing Education Courses LEE 3410 (English) and CYE 3200 (Mathematics for students offering Chemistry, Botany or Zoology), if not exempted, as a Compulsory Requirement.

3.6.2 Courses offered for Level 4 of the Degree of Bachelor of Education Honours in Natural Sciences programme are given in following Table 6 in Appendix II.

Please note that admission requirements at Level 4 are

Passes/exemption/ valid OCAM (Over all Continuous Assessment Mark /concurrent Registration in the 30 credits of specified compulsory course requirement at Level 3, and, Passes/ exemption/ OCAM in LEE3410 (English) and CYE3200 (Mathematics for Students offering Chemistry, Botany or Zoology)

3.8   Media of Instruction

The medium of instruction at level 3 will be in either Sinhala, Tamil or English. A student may choose any one of these. The courses at level 4 will be in English. Courses at Level 5 and 6 will be in either Sinhala, Tamil or English.

3.9   Evaluation

Evaluation of this programme includes continuous assessment tests, laboratory work, fieldwork, teaching practice, observations and a project.

A student's progress is assessed continuously throughout the course by means of continuous assessment through both theory and practical assignments and at the end of the course by means of a Final Examination. Performance at continuous assessment will be considered in deciding the eligibility to sit the Final Examination. Minimum OCAM for the courses conducted by Natural Sciences is 35.

The overall assessment mark (Z%) of in respect of any course shall be based on both the Overall Continuous Assessment Mark (X%) and the mark obtained at the Final Examination (Y%), and shall be computed as follows:

(a)   For courses at Levels 3 and 4 offered by the Faculty of Natural Sciences the following grading system shall be applied.

Each student who sits the final examination in a course will be awarded a grade dependent on the overall assessment mark (Z) as follows:

If $Y \geq 40$, then $Z = 0.4 X + 0.6 Y$
If $30 \leq Y < 40$, then $Z = 0.4 X + 0.6 Y$, subject to a maximum of 40
If $Y < 30$, then $Z = Y$

(b)   For courses at Levels 5 and 6 offered by the Faculty of Education, the following grading system shall be applied.

If $Y \geq 40$, then $Z = (0.4 X + 0.6 Y)$
If $Y < 40$, then $Z = Y$

For each course, an overall Grade and a Grade Point Value will be awarded based on Z% as shown below.

Table 3: The overall assessment mark Z%

Range of Marks (Z%)	Overall Grade	Grade Point Value
85-100	A+	4.00
70-84	A	4.00
65-69	A⁻	3.70
60-64	B+	3.30
55-59	B	3.00
50-54	B⁻	2.70
45-49	C+	2.30
40-44	C	2.00
35-39	C⁻	1.70
30-34	D⁺	1.30
20-29	D	1.00
00-19	E	0.00

A^+, A, A⁻, B^+, B, B⁻, C^+, and C are Pass grades. OCAM (Overall Continuous Assessment Mark) should be more than 35 at Levels 3 & 4 for all the courses offered by Natural Science Faculty. Absentees for a final examination will be assigned a RX Grade.

3.10   Fees

The fees for Levels 3 and 4 payables by the students registered for Degree of Bachelor of Education Honours in Natural Sciences programme in year 2020/ 2021 are given below.

Table 4: Fees for Degree of Bachelor of Education Honours in Natural Sciences Programme Level 3 &4

Course Fee for the Academic Year 2019/ 2020	
Registration Fee	Rs. 400.00
Facilities Fee	Rs. 1,500.00
Library Fee	Rs. 100.00
Refundable Lab Deposit	Rs. 1,100.00
Tuition Fees(per credit) (Levels 3 and 4)	Rs. 2,530.00
StART@OUSL (Full Package)	Rs. 8500.00(Full package) also refer note

If you wish to cancel your registration and withdraw from the programme of study you will be required to inform the relevant Assistant Director/Regional Center.

A refund will be made only if you notify before the Add/Drop date.

You will be receiving **two separate vouchers;** one for B.Sc. programme and the other for StART@OUSL Programme.

You are required to make **payments for both vouchers** before coming for registration.

Level 3 & 4 s	For 18 Credits (Rs.)	For 24 Credits (Rs.)	For 30 Credits (Rs.)
	45,540.00	60,720.00	75,900.00

3.11   Award of the Degree

The Degree of Bachelor of Education Honours in Natural Sciences will be awarded in accordance with the provisions of the Open University Regulations.

This table provides information on qualifications accepted for exemptions in (A.L.) passes.

GCE A/L Sri Lanka		Qualifications Accepted for Exemptions										
		OUSL Foundation course in Science / London A Levels						Institute of Chemistry Lab Technicians Certificate (LTCC)/(DLTC)	Diploma in Sci / Maths (AUC), Diploma in Teaching Sci / Maths (NIE), Trained Teachers Certificate		Science Teachers Diploma	
New Scheme	Old Scheme	Pure Maths (Com. Maths/Higher Maths)	App. Maths	Physics	Chemistry	Botany (Biology)	Zoology (Biology)		Maths	Sci.	Phy. Sci.	Bio.Sci.
Combined Maths / Higher Maths	Pure Maths	X							X			
	App. Maths		X						X			
Physics	Physics			X						X	X	
Chemistry	Chemistry				X			X		X		
Biology	Botany					X				X		X
	Zoology						X			X		X

This table provides information on qualifications accepted for exemptions in (A.L.) passes.

GCE A/L Sri Lanka		Qualifications Accepted for Exemptions										
		OUSL Foundation course in Science / London A Levels						Institute of Chemistry Lab Technicians Certificate (LTCC)/(DLTC)	Diploma in Sci / Maths (AUC), Diploma in Teaching Sci / Maths (NIE), Trained Teachers Certificate		Science Teachers Diploma	
New Scheme	Old Scheme	Pure Maths (Com. Maths/Higher Maths)	App. Maths	Physics	Chemistry	Botany (Biology)	Zoology (Biology)		Maths	Sci.	Phy. Sci.	Bio.Sci.
Combined Maths / Higher Maths	Pure Maths	X							X			
	App. Maths		X						X			
Physics	Physics			X						X	X	
Chemistry	Chemistry				X			X		X		
Biology	Botany					X				X		X
	Zoology						X			X		X

* IELTS and TOEFL scores should be obtained not more than 3 years prior to the date of request.

Specific Exemption for ICT Skills (CSE3213)

UCTIT	
ICT Technician	
	Successful completion of CPCA; Short course in Professional Computer Applications offered by the Department of Computer Science, The Open University of Sri Lanka.

Course Code	1st year Examination in Science of a recognized University		National Diploma in Mathematics	GCE A/L-Combined/Higher/Pure/Applied Maths, Trained Teachers' Certificate in Maths, PSF1301+PSF2301/PSF1302/PSF1302+ and PSF2302 NDT/JTO/IESL PartI
	Pure Mathematics	Applied Mathematics		
CYE3200	X	X	X	X

APPENDIX - II

Table 6 - Level 3 Courses

Course Code	Credits	Course Title
Discipline-based and Open Elective Courses		
Botany		
BYU3301	3	Organization of Cells and Plant Biochemistry
BYU3500	5	Diversity of Plants
Chemistry		
CYU3300	3	Basic Principles of Chemistry I
CYU3201	2	Basic Principles of Chemistry II
CYU3302	3	Basic Practical Chemistry
Physics		
PHU3300	3	General and Thermal Physics
PHU3301	3	Basic Electromagnetism
PHU3202	2	Waves in Physics
Zoology		
ZYU3500	5	Animal Life and Diversity
ZYU3301	3	Biogeography
Computer Science		
CSU3200	2	Introduction to Computer Programming
CSU3301	3	Database Design and Implementation
CSU3302	3	Data Structures & Algorithms
Applied Mathematics		
ADU3300	3	Vector Algebra
ADU3201	2	Basic Statistics
ADU3302	3	Differential Equations
Pure Mathematics		
PEU3300	3	Mathematical Logic and Mathematical Proofs
PEU3301	3	Foundations of Mathematics
PEU3202	2	Vector Spaces

Open Elective Courses

Course Code	Credits	Course Title
Level 3		
LLU3261	2	Understanding Law
MSU3208	2	Managing Your Work and People
DSU3298	2	Introduction to Sri Lankan Society
FNU3200	2	Ethics in Science & Technology
ADU3218	2	Basic Statistics
FNU3201*CS	2	Communication Skills
Note: ADU3218 is for Mathematics students not offering Applied Mathematics.		

Continuing Education Courses

Course Code	Credits	Course Title
Compulsory		
CYE3200	2	Mathematics for Chemistry and Biology
LEE3410	4	English for General Academic Purposes (EGAP)
FDE3020	0	Empowering for Independent Learning (EfIL)
CSE3213	2	Information & Communication Technology Skills

Abbreviations:

*CS - Compulsory for specialization in Computer Science

** - Offered only for 3-year degree

Table 7 - Level 4 Courses

Discipline-based Courses		
Course Code	**Credits**	**Course Title**
Botany		
BYU4300	3	Plant Physiology
BYU4301	3	Genetics and Evolution
BYU4302	3	Systematics of Higher Plants and Animals
BYU4303	3	Principles of Microbiology
Chemistry		
CYU4300	3	Inorganic Chemistry
CYU4301	3	Concepts in Chemistry
CYU4302	3	Practical Chemistry II
CYU4303	3	Organic Chemistry I
Physics		
PHU4300	3	Modern Physics
PHU4301	3	Electronics
PHU4302	3	Optics
PHU4303	3	Mathematical Methods for Physics
Zoology		
ZYU4300	3	Animal Form and Function
ZYU4301	3	Ecology
ZYU4302	3	Animal Development
ZYU4303	3	Animal Behaviour
Computer Science		
CSU4300	3	Operating Systems
CSU4301	3	Object Oriented Programming
CSU4302	3	System Analysis & Software Engineering
CSU4303	3	Computer Networks
Applied Mathematics		
ADU4300	3	Statistical Distribution Theory
ADU4301	3	Newtonian Mechanics I
ADU4302	3	Vector Calculus
ADU4303	3	Applied Linear Algebra and Differential Equa- tions
Pure Mathematics		
PEU4300	3	Real Analysis I
PEU4301	3	Real Analysis II
PEU4302	3	Linear Algebra
PEU4303	3	Group Theory I

APPENDIX - III

Instructions to fill the ONLINE Application Form of the Degree of Bachelor of Education Honours in Natural Sciences Programme 2020/ 2021

1. Click on the following locations and obtain a user name and password www.ou.ac.lk/ Online Application/create new account

   Note:

   • You need to provide information considered as MANDATORY including an email address and a mobile number, both of which may be your own or could be that of one of your friends. The officials may use them to communicate with you, to acknowledge receipt of your applications and to provide you additional information as and when necessary.

   • All OU centers will provide internet facilities for those who do not have access; see list.

2. Go to "Online Application" and fill the form and submit

3. Application fees: Rs. 350 by cash or credit/debit card

Online registration
Pathway:

Addresses of the Regional Centres :

Location	Code	Address	Telephone
Colombo	WP10	Asst. Director, Open University Regional Centre, Nawala, Nugegoda	011-2853930
Kandy	CP20	Asst. Director, Open University Regional Centre, Polgolla, Kandy	081-2494083
Matara	SP30	Asst. Director, Open University Regional Centre, Nupe,Matara	041-2222943
Jaffna	NP40	Co-ordinator, Open University Regional Centre, Technical College, Kokuvil, Jaffna	021-2223374
A'pura	NC50	Regional officer Jayanthi Mawatha, Anuradhapura	025-2222871
Batticalo	EP60	Open University Regional Centre, Bar Road,Batticaloa	065-2222264
Kurunegala	NW70	Open University Regional Centre, , Negombo Rd,(Nissanaka Mw Junction),Malkaduwawa Kurunegala.	0372223473
Badulla	UP80	Open University Regional Centre, , No. 08, Bandaranayaka Mw, Badulla.	055-2228842

The table title "The Open University Regional Centres (OURC)" spans the header.

Programme Coordinator : Dr.(Ms) D.V.M De Silva
0112- 881234 ,0718414494