

FACULTY OF NATURAL SCIENCES

GUIDE TO APPLICANTS FOR STAND-ALONE COURSES IN SCIENCE

2020/2021



THE OPEN UNIVERSITY OF SRI LANKA

GUIDE TO APPLICANTS FOR STAND-ALONE COURSES IN SCIENCE 2020/2021

The “Guide to Applicants” provides you information you would require to enroll in the stand-alone courses offered by the Faculty of Natural Sciences, The Open University of Sri Lanka. Enrolling in stand-alone courses will enable you to obtain knowledge in specific areas without having to register for a complete programme of study.

Most of the stand-alone courses are offered as part of the B.Sc. Degree Programme

Registration of students for stand-alone courses will take place on 29th February 2020 at Colombo Regional Centre, The Open University of Sri Lanka, Nawala, Nugegoda and you will be notified about your date of registration and details regarding payment of course fees before registration. There will be an orientation session on 29th February 2020 from 9.30 am to 12.00 noon and it is compulsory that you attend this pre-registration orientation session on 29th February 2020 at the Board Room of the Faculty of Natural Sciences, Colombo Regional Centre, The Open University of Sri Lanka, Nawala, Nugegoda.

This guide provides you instructions to fill your application form, information on courses offered by the different Departments in the Faculty, the study system at OUSL, etc.

Applicants who wish to obtain further details regarding courses can contact the coordinator/Stand-Alone courses via telephone.

Dr. L.K.R. Jayakody
Coordinator/Stand-alone courses
Telephone: 0112881005

Contents

	Page
Introduction	1
Stand-Alone Courses for Students not Registered for a Regular Programme of Study	1
System of Study and Evaluation	4
Registration and Fees	5
Credit Rating of Courses	5
Credit Certificate	5
Maximum Number of Courses that can be Offered	5
Standard of the Courses	6
Medium of Instruction	6
Target Clientele	6
Further Information Regarding the Stand-Alone Courses in Science	8
Course Description	8
Important Dates to Remember	8
Appendix	9
Instructions to fill the Application Form	11
Addresses of Regional and Study centres	12

1. Introduction

Stand-alone courses are offered by The Open University of Sri Lanka (OUSL) to enable those who wish to obtain more information & additional knowledge in a specific area without having to register for a complete programme of study.

In pursuance of this general objective, the Faculty of Natural Sciences announces and makes available the **Stand Alone Courses in Science**. Stand-alone courses that will be offered during the academic year 2020/2021 are detailed in this guide (Section 2 & Table 1, Pages 2 & 3).

Prospective applicants are reminded that the OUSL adopts open and distance learning (ODL) study system which involves a minimum of regular face to face classes. Open University courses are therefore ideally suited for employed persons. The minimum age for enrollment will be 15 years as at the last date of receiving applications.

2. Stand-Alone Courses for Students not Registered for a Regular Programme of Study

Students who do not wish to register for a regular programme of study are given the opportunity to offer Stand-Alone Courses. Such students may **register for courses up to an academic value of 15 credits per academic year**.

Details regarding course fees, etc, are given on pages 2 & 3 (Table 1). Some courses presently offered by the Faculty for the B.Sc. Degree Programme (Levels 3, 4 & 5) are offered as Stand-Alone Courses. Students who follow these as stand-alone courses will therefore follow the relevant courses in a manner identical to the B.Sc. degree in respect of the course duration, assignments, assignment tests, practical classes (where relevant), day schools, and final examinations. Day Schools and Practical Classes in Science disciplines will be held mainly at the Colombo, Kandy and Matara Regional Centres.

Applications for stand-alone courses close on **21st January 2020** and registration will take place on **29th February 2020**. *Applicants are informed that they will be required to pay the full course fee on the registration day. It will not be possible for them to add or drop or postpone courses after registration. No refunds will be given after registration. Applicants will be called for an orientation session on 29th February 2020 (on the registration day) to decide on the course units they would like to register. Late registration will be on 04th March 2020*

Table 1 - Stand-Alone Courses offered in 2020/21

* Course Code for the B.Sc. Degree Programme

** Course Code for Stand -alone courses

Level	Course Code *	Course Code **	Course Title	Course Fee (Rs.)
Botany				
4	BYU4301	BYE4301	Genetics and Evolution	20,790
	BYU5300	BYE5300	Environmental and Applied Microbiology	20,790
	BYU5301	BYE5301	Plant Pathology	20,790
	BYU5304	BYE5304	Soils and plant Growth	20,790
	BYU5306	BYE5306	Plant Breeding	20,790
	BYU5308	BYE5308	Post- harvest Technology of Fresh Produce	20,790
	BYU5609	BYE5609	Horticulture	41,580
Chemistry				
	CYU4301	CYE4301	Concepts in Chemistry	20,790
	CYU5300	CYE5300	Organometallic Chemistry	20,790
	CYU5301	CYE5301	Concepts in Spectroscopy	20,790
	CYU5304	CYE5304	Chemistry of Biomolecules	20,790
	CYU5307	CYE5307	Chemical aspects of food Industry	20,790
Physics				
3	PHU3300	PHE3300	General & Thermal Physics	20,790
	PHU3301	PHE3301	Basic Electromagnetism	20,790
	PHU3302	PHE3302	Waves in Physics	20,790
	PHU5302	PHE5302	Atmospheric Physics	20,790
	PHU5304	PHE5304	Biophysics	20,790
	PHU5305	PHE5305	Essentials of Geology	20,790
	PHU5307	PHE5307	Medical Physics	20,790
PHU5311	PHE5311	Astronomy	20,790	
Zoology				
	ZYU5300	ZYE5300	Aquatic Biology	20,790
5	ZYU5301	ZYE5301	Fish Biology & Fishery management	20,790
	ZYU5302	ZYE5302	Conservation & Management of Biodiversity	20,790
	ZYU5304	ZYE5304	Parasitology	20,790
	ZYU5305	ZYE5305	Human Biology	20,790
	ZYU5306	ZYE5306	Entomology	20,790

Stand-Alone Courses (continued)

Level	Course Code *	Course Code **	Course Title	Course Fee (Rs.)
Applied Mathematics				
3	ADU3300	ADE3300	Vector Algebra	20,790
	ADU3201	ADE3201	Basic Statistics	13,860
	ADU3302	ADE3302	Differential Equations	20,790
4	ADU4300	ADE4300	Statistical Distribution Theory	20,790
	ADU4301	ADE4301	Newtonian Mechanics I	20,790
	ADU4302	ADE4302	Vector Calculus	20,790
	ADU4303	ADE4303	Applied Linear Algebra and Differential Equations	20,790
5	ADU5300	ADE5300	Linear Programming	20,790
	ADU5301	ADE5301	Regression Analysis I	20,790
	ADU5302	ADE5302	Mathematical Methods	20,790
	ADU5303	ADE5303	Newtonian Mechanics II	20,790
	ADU5304	ADE5304	Operational Research	20,790
	ADU5305	ADE5305	Statistical Inference	20,790
	ADU5306	ADE5306	Fluid Mechanics	20,790
	ADU5307	ADE5307	Numerical Methods	20,790
ADU5308	ADE5308	Graph Theory	20,790	
Pure Mathematics				
3	PEU3300	PEE3300	Mathematical Logic & Mathematical Proofs	20790
	PEU3301	PEE3301	Foundation of Mathematics	20,790
	PEU3202	PEE3202	Vector Spaces	13,860
4	PEU4300	PEE4300	Real Analysis I	20,790
	PEU4301	PEE4301	Real Analysis II	20,790
	PEU4302	PEE4302	Linear Algebra	20,790
	PEU4303	PEE4303	Group Theory I	20,790
5	PEU5300	PEE5300	Riemann Integration	20,790
	PEU5302	PEE5302	Combinatorics	20,790
	PEU5303	PEE5303	Number Theory	20,790
	PEU5304	PEE5304	Introduction to Complex Analysis	20,790
	PEU5305	PEE5305	Complex Analysis I	20,790
Open Elective Courses				
5	ADU5318	ADE5318	Bio Statistics (Non-Mathematics Students)	20,790
	ADU5319	ADE5319	Design and Analysis of Experiments	20,790
	ADU5320	ADE5320	Introduction to MATLAB Software	20,790

3. System of Study & Evaluation

The system of study adopted for all the courses offered is based on the principles of distance education with minimal face to face instruction. Attendance at Day Schools is strongly recommended. All interested applicants are reminded that these courses can be followed by them while being employed or otherwise occupied.

Courses offered for B.Sc. Degree Programme

Evaluation will be based on continuous assessments and a final examination. Only students obtaining 35% in continuous assessment in a particular course will obtain eligibility to sit for the final examination. The final overall mark and the grade for the course will be computed on the basis of 40% from the continuous assessment and 60% from the final examination, subject to the student obtaining a minimum mark of 30% at the final examination.

Overall Mark (Z) and Grade for B.Sc. courses

The overall mark, “Z%” of a student who is eligible to sit the final examination in respect of any course shall be based on Overall Continuous Assessment Mark (OCAM), “X%” and the Final Examination Mark (FEM), “Y%” and shall be computed as follows.

If $Y \geq 40$ and, 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 $Z = Y$

For each course an overall grade will be awarded as shown below.

A+	: 85-100
A	: 70-84
A-	: 65-69
B+	: 60-64
B	: 55-59
B-	: 50-54
C+	: 45-49
C	: 40-44
C-	: 35-39
D+	: 30-34
D	: 20-29
E	: 0-19

A+, A, A-, B+, B, B-, C+, and C are Pass grades. A student who fails to obtain the minimum mark (X%) for the continuous assessment in a particular course shall be deemed to have failed that course and be awarded a F grade.

4. Registration & Fees

The following fees are payable **in full** at registration which will take place at New CRC building, Colombo Regional Centre, OUSL.

Registration fee	:	Rs. 400/= (irrespective of the number of courses)
Facilities fee	:	Rs. 1,500/= (irrespective of the number of courses)
Tuition fees	:	As indicated in the Table 1, pages 2-3 (The course fee varies with the level and credit rating of the course).

Applicants are informed that it will not be possible to add or drop or postpone courses after registration. A firm decision should therefore be made before applicants register for stand-alone courses. No refunds will be possible after registration.

5. Credit rating of Courses

General information in respect of course codes, course levels, credit ratings, credit maximum etc. are given in Appendix (page 09).

The credit rating signifies the 'academic value' of each course. The average amount of study expected from a typical student is estimated to be 05 hours per week for 15 weeks (i.e. a total of **75 hours**) for a **three credit** course. The corresponding average study expected from a student offering a **six credit course is 150 hours** while those offering a **nine credit course is 225 hours**. However, the actual study necessary will differ from one student to another.

Applicants are informed that some of these courses offered by the Open University are not available in a number of Sri Lankan Universities even at special degree level.

6. Credit Certificate

Credit Certificates in respect of each course will be issued upon request to all students who obtain at least the overall minimum Pass mark in the course .

7. Maximum number of courses that can be offered

The maximum number of stand-alone courses that can be offered in one academic year amounts to a credit rating of 15 (i.e. five 3 credit courses or some other appropriate combination).

8. Standard of the Courses

Level 3 Courses are equivalent to B.Sc. degree (1st year) standard

Level 4 Courses are equivalent to B.Sc. degree (2nd year) standard

Level 5 Courses are equivalent to B.Sc. degree (3rd year) standard

9. Medium of Instruction

Degree Level Courses (Level 3) - English, Sinhala & Tamil

Degree Level Courses (Levels 4 & 5) - English only

10. Target Clientele

10.1 Botany

- (a) Courses in Botany would be of use to those involved in Agriculture, Food Industry & Research work in other fields of Biology.
- (b) B.Sc. graduates who wish to update their knowledge and keep abreast with applied topics outside the conventional areas in Botany.
- (c) Graduate Teachers could in particular make use of this unique opportunity to keep in touch with new information and ideas with changing school curriculum.

10.2 Chemistry

Chemistry courses would be beneficial to

- (a) Those persons in scientific fields (including school teachers) who wish to obtain knowledge in the relevant specific areas of Chemistry.
- (b) B.Sc. graduates who wish to update their knowledge and keep abreast with conventional areas of Organic/Inorganic Chemistry as well as applied topics outside the conventional areas. Graduate teachers could in particular make use of this unique opportunity.
- (c) School leavers, who wish to obtain advanced knowledge in specified applied areas of Chemistry for purposes of either obtaining middle or higher level employment in specific fields or proceeding to higher studies.
- (d) Anyone, with a basic knowledge of Chemistry, who wishes to obtain further knowledge in Chemical sciences at tertiary level without following a formal degree programme.

10.3 Mathematics (Applied & Pure Mathematics)

Mathematics courses would be beneficial to

- (a) Those persons in scientific fields (including school teachers) who wish to obtain knowledge in the relevant specific areas of Mathematics/Statistics.
- (b) Graduates who wish to update their knowledge and keep abreast with applied topics outside the conventional areas of Mathematics/Statistics. Graduate teachers could in particular make use of this unique opportunity.
- (c) School leavers, who wish to obtain advanced knowledge in specified applied areas of Mathematics/Statistics for purpose of either obtaining middle/higher level employment in specific fields/proceed to higher studies.
- (d) Anyone, with a basic knowledge of Mathematics, who wish to obtain further knowledge in Mathematics/Statistics without following a formal degree programme.

10.4 Physics

Science teachers, undergraduate level students, postgraduates (Physics & non-Physics), researchers, research assistants, senior technicians etc. will benefit by offering these courses. The entire syllabus is presented in the form of study material and will enable to refresh and acquire knowledge in Physics to enhance professional activities.

10.5 Zoology

These courses will be of beneficial to persons who wish to update their knowledge and keep abreast of new developments in applied topics. Teachers, researchers and others employed in specific fields of Zoology could in particular make use of this opportunity by following some or all of the Levels 5 Zoology courses offered as stand-alone courses.

11. Further Information Regarding Stand-Alone Courses In Science

Further information on stand-alone courses in Science can be obtained by contacting the Coordinator/Stand-alone courses or any one of the following :

Dean/Natural Sciences	Prof. J.C.N Rajendra	011 2881258
Head/Botany	Dr. H.L.D Weerahewa	0112881634
Head/Chemistry	Dr. R. Senthilnithy	0112881444
Head/Mathematics	Ms. K.D.V.F. Siriwardena	0112881309
Head/Computer Science	Mr. W.P.C.D. de Silva	0112881225
Head/Physics	Dr. N. Karthikeyan	0112881449
Head/Zoology	Dr. N.N. Punchihewa	0112881488
Coordinator/ stand-alone courses	Dr. L.K.R.R. Jayakody	0112881005

12. Course Descriptions

Description about course contents can be obtained by referring to the Guidebook, Faculty of Natural Sciences Academic Year 2020/2021. You could obtain your copy of the Prospectus on 29th February 2020 or contact Assistant Registrar/Natural Sciences.

13. Important Dates to Remember

- 21st January 2020 - Applications close (no extensions will be given)
- 29th February 2020 - Pre-registration Orientation Session (It is compulsory to attend this)
- 29th February 2020 - Registration for stand-alone courses (no changes can be made after registration)
- 04th March 2020 - Late Registration

Course information sheets should be collected from Departments after registration.

Please note that you will be given a separate application form on the registration day to indicate the Stand-Alone courses you are going to offer.

Appendix

Open University Vocabulary

In the Open University vocabulary, a programme of study consists of a combination of compulsory and optional courses. These programmes of study lead to Certificates, Diplomas or Degrees. The courses in the Bachelor's Degree in Science are offered as stand-alone courses.

In these programmes, each course is a unit of study normally completed within a period of one year or less. Upto two programmes can be offered simultaneously provided the maximum credit value of 30 in regular programmes of study is not exceeded. *30 Credits is recognized by the OUSL as the maximum work load a student could undertake in an academic year and corresponds approximately to the work-load undertaken in an academic year by a full-time student in a conventional university.*

Each course is assigned a course code which consists of 7 alphanumeric characters as follows:

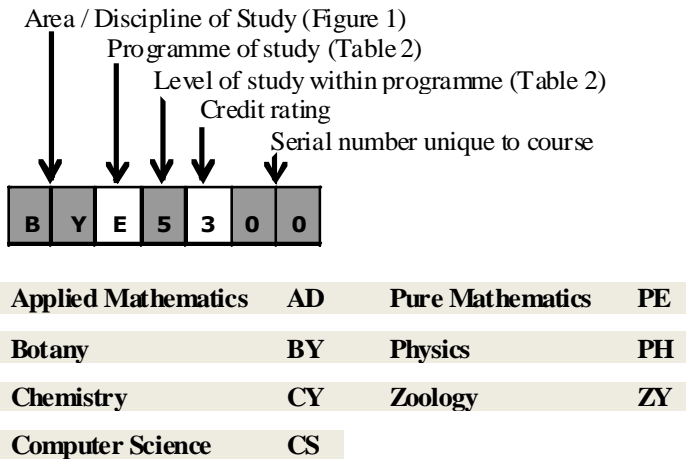


Figure 1 Disciplines/Areas of Study in the Faculty

Table 2 - Course Levels for Programmes of Study

Course Level	Programme of Study	
	Degree	Stand-alone courses
3	U3	E3
4	U4	E4
5	U5	E5
6	U6	E6
7	U7	E7

Credit Rating

The credit rating is the expression used in the OUSL to denote the “academic value” of a course. *The word ‘credit’ does NOT therefore imply any measure of academic performance at an examination (e.g. Credit pass at GCE Ordinary/Advanced Level Examination).*

* *Average* total time expected to be spent on self-study for courses whose (total) academic value is 15 credits is about 375 hours. For courses with other credit ratings, there will be a *pro rata* change in the required number of hours for self study. Therefore, for a 3 credit course, the time expected to be spent on self-study is about 75 hours. (i,e, 05 hours per week for 15 weeks)

Table 13 - Locations of Regional and Study Centres

Centre	Code	Address (Telephone)
The Open University Regional Centres (OURC)		
Colombo	WP10	OURC, Nawala, Nugegoda (011-2853930)
Jaffna	NP40	OURC, Browns Road, Kokuvil, Jaffna (021-2223374)
Kandy	CP20	OURC, Polgolla, Kandy (081-2494083 - 081-2494084)
Matara	SP30	OURC, Nupe, Matara (041-2222943)
Anuradhapura	NC50	OURC, Jayanthi Mawatha (Depot Area), Anuradhapura (025-2222871)
Batticaloa	EP60	OURC, 23, New Road, Batticaloa (065-2222264)
Badulla	UP80	OURC, 08, Bandaranayaka Mw, Badulla, (055-2228842)
Kurunegala	NW70	OURC, Negombo Rd, (Nissanka Mw Junction), Malkaduwwa, Kurunegala (037-2223473)
Ratnapura	SG90	OURC Hiddellana, Ratnapura (045-2228660)
The Open University Study Centres (OUSC)		
Ambalangoda	SP31	80/1, Polwatte Road, Halwatura Ambalangoda (091-2258585)
Ambalanthota	SP33	Rajasaranagama Road, Lunama South , Ambalanthota (047-2225533)
Ampara	EP61	Inginiyagala Road, Samapura, Ampara. (063-2222052)
Bandarawela	UP81	St. Thomas Road, Wewatenna, Bandarawela (057-2222820)
Galle	SP32	Labuduwa, Galle (091-2223784)
Gampaha	WP11	Gampaha Road, Miriswatte, Mudungoda. (033-2234571/033-2234572)
Hatton	CP21	Thondaman Vocational Training Centre, Hatton (051-2225139)
Kalutara	WP12	66/2, Nagoda Road, Kalutara (034-2223399)
Kegalle	SG91	Kumaratunge Munidasa Mawatha, Kegalle (035-2222501)
Moneragala	UP82	Technical College Junction, Sirigala, Potuvil Road, Moneragala (055-2277395)
Polonnaruwa	NC51	24 th Mile Post, Bendiwewa, Jayanthipura, Polonnaruwa (027-2225776)
Puttalam	NW71	1/137, Colombo Road, Puttalam (032-2266822)
Vavuniya	NP41	366, Kandy Road, Thekkawaththai, Vavuniya (024-2222995)
Killinochchi	NP42	155 th Mile Post, Kandy Road, Killinochchi (021-2283970)
Trincomalee	EP62	26/A, Post Office Rd, Trincomalee (026-2222088)
Kuliyapitiya	NW72	Technical College, Kuliyapitiya, (037-2281181, 037-2281271)
Mullaitiv	NP43	Aathiparasakthy Ariviyal College, Ward No. 04, Irranaipalai Veethy,
Mannar	NP44	Puthukkudiyiruppu, Mullaitiv. OUSC, RDS Building, Minor Seminary Road, Chavatkaddu, Mannar. (0232-251999)