

DIPLOMA PROGRAMME IN ENVIRONMENTAL SCIENCE

The Department of Botany wishes to announce a **new Diploma Programme in Environmental Science** in 2017. This programme is designed to suit those who are already employed in various fields related to the Environmental Science to upgrade their knowledge and skills and also for those who wish to employ in this field and for the general public to acquire knowledge in this area. It is a thirty (30) credit programme at Levels 3 as per SLQF guidelines.

Admission Requirements:

- At least three passes at the General Certificate of Education (Advanced Level) Examination in any stream in any number of attempts or
- successfully completed any Foundation Programme / Certificate Programme in Environmental Science/ Certificate Programme in Wildlife Conservation and Management conducted by the Open University of Sri Lanka

and

- At least a Credit Pass (old scheme) or B Pass (new scheme) in English Language at the G.C.E.(O.L.) Examination

Level and Credit-rating of the Programme:

This programme is of an academic value of thirty (30) credits at Levels 3.

Duration: One academic year

Medium of Instruction: English

Method of Delivery: This programme is to be delivered through Open and Distance Learning with supplementary on-line component.

Course Fee: Rs. 40,000.00

Aims of the Programme:

The **broad aim** of the programme is to educate the interested members of the public on environment and human interactions with it as well as the current trends of environmental degradation, with a view to enhancing the public awareness on these aspects.

The specific objectives of this Diploma Programme in Environmental Science are to:

- a) provide basic knowledge to the interested personnel on environment in general and other related issues and also to upgrade the knowledge of those who are already employed in related sectors .
- b) improve the skills of students in holistic appraisal of environmental issues.
- c) develop skills in identifying the causes of environmental degradation and develop sustainable measures.

- d) To develop enthusiasm and improve knowledge among personnel on conserving natural resources, environment management programmes, planning projects, financial management, implementation and extension and conducting research on relevant issues.

Target Group:

This Diploma Programme in Environmental Science is specifically designed for those who:

- are already employed in sectors related to Environmental Science such as those employed in the fields related to Education, Environment, Forests, Wildlife, Law, Economic Developments, research institutions, other nature related both public and private organizations including non-governmental organizations to upgrade their knowledge and skills in current employment
- wish to obtain an academic qualification in the field of Environment in order to get an employment in the relevant field
- wish to widen knowledge in the field of Environmental Science and acquire skills for their own personal interest.

Learning Outcomes / Course Objectives:

Upon completion of this course, along with the enhancement of knowledge and skills, the learner should be able to:

- understand course structure, delivery, requirements and expectations;
- familiarise with different kinds of environmental issues, their fundamental structures and the impact of human affairs on the existence of the environment
- propose plans for solid waste disposal and ascertain the importance of biodegradation and biodegradable products in maintaining the equilibrium of nature.
- improve the quality of life through understanding the role of environment on human health.
- Employ policies and understand sociological aspects in the field
- Outline current environment related research interests;
- Demonstrate basic scientific skills in the field.

Course Structure

This will comprise of both theory including a project study (27 credits) and practical course units (9 credits) at Level 3.

The theory component will be made up as follows with six (6) modules/units;

PSD1110 – Planet Earth and its Environment (3 credits)

- Components of the Earth
- Geological aspects of the Environment
- Man's impacts on the Environment

PSD1211 –Biodiversity (6 credits)

- Biodiversity and the Environment
- Concepts and Ideas of Biological diversity
- Ecological aspects of the Environment
- Human Population Dynamics

PSD1212 – Environmental Pollution and Controlling Methods (6 credits)

- Air pollution
- Land Pollution
- Water Pollution(Fresh water and Marine)
- Pollution Monitoring methods and Sampling Techniques
- Conservation and management of the Environment
- Cleaner Production
- Solid waste Management
- Hazardous/Industrial waste management
- Sustenance of the Environment

PSD1113 - Environmental Issues in Public Health (3 credits)

- Environmental Disasters and their alleviation
- Chemical toxicity in the environment
- Environmental Geology and Public health

PSD1114 - Environmental Laws of Sri Lanka (3 credits)

- Major laws related to the Environment
- Case studies
- Arbitration and issues with applications

PSD1115 – Sociological aspects and Environmental Economics (3 credits)

- Social issues related to the environment
- Environmental Economics
- Environmental policies and Ethics
- Environmental evaluations

PSD1216 – Research Project (6 credits)

Following successful completion of the taught part of the course, students embark on a closely supervised research project/Literature review intended to expand the skills and knowledge base acquired in earlier modules and also to gain experience in gathering information, planning and investigation, writing proposals, analyzing and interpreting information and report writing on an environmental issue. In order to fulfill these, students will be required to carry out a mini research project. Duration of the mini-project would be approximately 4 - 6 months.

During the practical sessions, students will acquire the skills and techniques in the proper handling

and use of scientific apparatus and equipment, conducting scientific investigations and keeping and maintaining of laboratory records, gaining knowledge in techniques in identifying environmental pollution and mitigation measures

Attendance (100%) at practical sessions and submission of completed practical records are compulsory to calculate the Continuous Assessment Mark. (Practical exemptions may be granted for those who fulfill the above requirements in a previous year).

To obtain first hand information on components of the environment, natural resources, environmental disasters, waste water treatment plants in industries, students will be provided with the opportunity of visiting relevant organisations (at least three) such as a natural/disturbed forest, extraction of metals, air pollution monitoring and industrial waste treatment plant. Submission of a complete report based on one visit will be required for evaluation at the end of the visits.

All theory units will be supplemented by **well-developed online resources** which can be accessed through Moodle. However, **a total of 1500 hrs** approximately will have to be spent to complete the academic work of this programme.

Summary of Course Structure:

Course Code, Title & Credit-rating	No . of Sessions	Day Schools (Hours) + Practical Hours	CA Tests	Final Examination
PSD1110 – Planet Earth and its Environment (3 credits)	12	Day school (6 hours) + 1 field trips(12 hours) + Report writing (24 hrs) + Lab practical (8 hours)	01 OBT + Home Assignment	Theory Examination (2 hours)
PSD1211 – Biodiversity (6 credits)	20	Day School (12 hrs) + 2 field trips(36hrs) + Report writing (36hrs) + Home assignment (36hrs)	01 OBT + 01 NBT	Theory Examination (2 ½ hours)
PSD1212 – Environmental Pollution and Controlling Methods (6 credits)	25	Day Schools (18hrs) + 2 field trips (36hrs) + Report Writing(36hrs) + Lab practical (16 hrs) + Lab report (30 hrs)	02 OBT + 01 NBT	Theory Examination (2 ½ hours)
PSD1113 - Environmental Issues in Public Health (3 credits)	10	Day Schools (6hrs) + Presentation(54 hrs)	01 OBT + 01 NBT	Theory Examination (2 hours)

PSD1114 - Environmental Laws of Sri Lanka (3 credits)	10	Day schools (6 hrs) + Report writing (24 hrs) + Home assignment(12hrs)guest lecture (3 hrs)	01 OBT + 01 NBT	Theory Examination (2 hours)
PSD1115 – Sociological aspects and Environmental Economics (3 credits)	12	Day Schools(6 hrs) + Guest Lecture(3hrs) + Report writing (24 hrs)	01 OBT + 01Home Assignment	Theory Examination (2 hours)
PSD1216–Research Projects (6 credits)		Day schools (15hrs) + 4 months work(2 reports + 2 presentations	Oral Presentation	Oral Presentation

Teaching Strategy:

Teaching component will include printed course material supplemented with on-line component, Videos, Day schools, and Discussion Classes.

In addition, there will be Laboratory-based practical sessions and field visits to different field applications. Whenever necessary, additional and updated knowledge will be given through guest lectures.

Day Schools

A total of twenty five(25) Day Schools including one orientation and six revision day schools are to be held for this programme. The programme will be developed and delivered by the staff of the Department of Botany, Chemistry, Physics, Zoology, and *experts from other Departments of other Faculties or from outside organizations.*

Assessment and Evaluation

Assessment and evaluation will be carried out on the 36 credit component offered for the Program at Level 3.

Continuous Assessments:

The continuous assessment mark(CAM) will be calculated from the marks of the CA tests and the practical assessment mark. *Participation and obtaining a minimum of 30% at the practical test will be compulsory.* The PSD 1216 will be assessed by the students' progress. The Continuous Assessment Tests shall have Multiple Choice Questions, Structured-essay type and/or Essay-type questions. *The minimum Continuous Assessment Mark(CAM) mark for the computation of overall mark should be 30%. However, CAM will not be carried forward for a subsequent year.*

Final Examinations:

There will be one theory paper for each course, 02 hour duration for 3 credit courses and 2 1/2 hour duration for six credit courses. The PSD 1216 will be assessed using the final reports submitted and/or presentation. The students have to pass(at least C grades) all course units to get the certificate.

Overall mark:

The overall mark ‘Z’ and grade for each course will be determined by the combination of the continuous assessment mark ‘X’ and the final examination mark ‘Y’ in accordance with the following criteria.

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

If $Y < 40$, then $Z = Y$

A student will be awarded a grade depending on the overall mark (Z) as follows:

Range of Marks (Z%)	Grade
85-100	A ⁺
70-84	A
65-69	A ⁻
60-64	B ⁺
55-59	B
50-54	B ⁻
45-49	C ⁺
40-44	C
35-39	C ⁻
30-34	D ⁺
20-29	D
0-19	E

A⁺, A, A⁻, B⁺, B, B⁻, C⁺ and C are pass grades.

Award of Certificate:

On successful completion(at least C grades) of all the course units of the programme, a student will be awarded a Diploma in Environmental Science.