Study units for the National Diploma: Nature Conservation

(offerred by the School of Environmental Sciences)
Telephone number 011 471 2355

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FIRST LEVEL

ANS101T Animal Studies I (Examination: 1 x 3 hour paper)
Co-requisite: PSO141Q, DNA011B
Syllabus: Principles of taxonomy; invertebrata: elementary description of morphology, feeding; life cycles and ecology of the following phyla: protozoa, porifera, coelenterata, platyhelminthes, aschelminthes, annelida, arthropoda, mollusca, echinodermata; game diseases.

RGB111N See Computer Usage

CAM151W Conservation Administration I (Examination: 1 x 3 hour paper)
Syllabus: Introduction; conservation organizations and their responsibilities; administration and management; legislation; law enforcement.

CVC111Q Conservation Communication I (Examination: 1 x 3 hour paper)
Syllabus: Principles of communication: communication process, the causes of poor communication, guidelines for effective communication. Application of conservation communication: government policy on environmental education, environmental education, extension, interpretation, liaison, intercultural communication.

CDM121U Conservation Development I (Examination: 1 x 3 hour paper)
Syllabus: Introduction to conservation development; history of world conservation; history of conservation in Africa; history of conservation in South Africa; conservation philosophies; the world conservation strategy; national policy for the environment; conservation in the developed and developing world situations in Southern Africa; role of nature conservation within the broader concept of environmental conservation.

CEC131S Conservation Ecology I (Examination: 1 x 3 hour paper)
NB
The practical component of this subject will be done at the Basic practical

Syllabus: Introduction to ecological concepts; identification of the different components of an ecosystem; energy; productivity and biogeochemical cycles in the ecosystem.

PSO141Q Plant Studies I (Examination: 1 x 3 hour paper)
Co-requisite: ANS101T, DNA011B
Syllabus: The plant cell; plant anatomy; external morphology; basic plant physiology; systematics of the plant kingdom: bacteria, algae, fungi, Bryophyta, Pteridophyta, gymnospermae, angiospermae.

HBB121R Resource Management I (Examination: 1 x 3 hour paper)

NB

Mathematics is strongly recommended as prerequisite.

The practical component of this study unit will be done at the Basic Practical.

Syllabus: Principles of collection, analysis and interpretation of data; monitoring of animals: numbers, condition, monitoring populations (age structure, sex ratios, reproduction, mortality and births); soil management (soil conservation and erosion control).

SSC151N Soil Science I (Examination: 1 x 3 hour paper)

NB
The practical component of this study unit will be done at the Inland Practical.

Syllabus: Characteristics of soil; soil classification and identification; soil fertility; environmental influences on soil.
Similar study units: GMT111N, ASC111R

SECOND LEVEL

ANS211S Animal Studies II (Examination: 1 x 3 hour paper)
Prerequisite: ANS101T
Syllabus: Vertebrata: taxonomic and morphological characteristics of: chondrichthyes, osteichthyes, amphibia, reptilia, aves, mammalia; comparative anatomy and physiology of vertebrata; discussion of the following: integument, skeleton and teeth, nervous system, digestive system, excretory system, vascular system, muscle physiology, reproductive system, endocrine system, respiratory system; techniques: measurement of vertebrates, post-mortem, sampling blood, preservation of specimens, collection of smaller vertebrates, other.
CVC281T  Conservation Communication II (Examination: 1 x 3 hour paper)

The practical component of this study unit will be done at the Inland Practical.

Prerequisite: CVC111Q
Syllabus: Programme planning and execution; methodology of communication: Verbal and non-verbal communication.

CEC211Q  Conservation Ecology II (Examination: 1 x 3 hour paper)

Assignments cannot be completed during the winter months.

Prerequisite: CEC131S
Syllabus: Identification of limiting factors in the ecosystem; basic geology; soils and climate; population dynamics; organization and functioning at species and community level; succession in the ecosystem.

PSO281Z  Plant Studies II (Examination: 1 x 3 hour paper)

Prerequisite: PSO141Q, DNA011B
Co-requisite: DNA030I
Syllabus: Collection and preservation of plant specimens; management of a small herbarium; the use of keys in the identification of indigenous flowering plants; taxonomic concepts and scientific naming of plants; distinguishing characteristics of most important plant families and plant invaders; endemic and endangered plants.

HBB281X  Resource Management II (Examination: 1 x 3 hour paper)

The practical component of this study unit will be done at the Inland Practical.

Prerequisite: HBB121R
1. MANAGEMENT OF ANIMALS
Syllabus: Water provision; supplementary feeding; social behaviour; game farming; harvesting of animals; management of hunting; management of migrating and endangered species.

2. PLANNING AND DEVELOPMENT OF PROTECTED AREAS
Syllabus: Categories of protected areas; planning and development; environmental impact; buffer zones.

THIRD LEVEL

ANS321W  Animal Studies III (Examination: 1 x 3 hour paper)

Prerequisite: ANS211S
Syllabus: Etiology of vertebrates: habitat selection, social behaviour, reproductive behaviour, feeding behaviour; adaptations; zoogeography of vertebrates; applied zoogenetics (population genetics).

CEC331Z  Conservation Ecology III (Examination: 1 x 3 hour paper)

Assignments cannot be completed during the winter months.

Prerequisite: CEC211Q
Co-requisite: DNA020M
Syllabus: Paleoeology; aquatic ecology including marine, estuarine, and freshwater habitats; terrestrial ecology with special reference to South African biomes; environmental pollution.

PSO391W  Plant Studies III (Examination: 1 x 3 hour paper)

Assignments cannot be completed during the winter months.

Prerequisite: PSO281Z, DNA030I
Syllabus: Identification, classification and description of plant communities; vegetation management: veld evaluation, vegetation monitoring, measurement of productivity and utilization, fire as a management tool, management of endangered plants, management of plant invaders, management of various vegetation communities.

HBB331V  Resource Management III (Examination: 1 x 3 hour paper)

The practical component of this study unit will be done at the Marine Practical.

Prerequisite: HBB281X
Syllabus:
1. MANAGEMENT OF FRESHWATER RESOURCES: Mountain catchment areas; river systems; management of a farm dam; aquaculture; endangered fish species; public freshwater angling.
2. MANAGEMENT OF MARINE RESOURCES: Estuaries; intertidal zone; subtidal zone; line fish; pelagic, midwater and demersal trawling; marine birds and mammals.
3. PROBLEM ANIMALS: Ecology of various species; damage to man’s commodities; identification of predation; control methods.

**2 Experiential Learning**

NCP101N/NCP201N Nature Conservation Application I and II

*Also see notes on experiential learning in the College calendar.*

**Prerequisite:** DNA011B

(Experiential Learning: No formal examination. Complete prescribed projects)

**Syllabus:** Research and monitoring; reserve management; administration; district services; environmental education and extension work.

**3 Practical Contact Courses**

*NB* This practical contact course is offered more than once. Use the unit code next to the date you would like to attend. Refer to tables in Annexure B of the College calendar.

DNA011B Basic Practical Contact Course (First week)

DNA012B Basic Practical Contact Course (Second week)

DNA013B Basic Practical Contact Course (Third week)

*Co-requisite:* It is compulsory to register for Plant Studies I and Animal Studies I together with registering for this practical

DNA030I Inland Practical Contact Course

*Co-requisite:* It is compulsory to register for Plant Studies II together with registering for this practical

DNA020M Marine Practical Contact Course

*Co-requisite:* It is compulsory to register for Conservation Ecology III together with registering for this practical