COURSE CONTENT

Date	:	11 November 2014
Academic Year	:	2017/2018
Study Year (if applicable)	:	
Course Code & Title	:	ES4301 Conservation Biology and Biodiversity
Academic Unit	:	3 AU
Pre-requisite	:	AAB20D Ecology and ES2301 Principles of Heredity and Ecological Genetics and ES3301 Plant and Animal Physiology
Course Description	:	

ES4301 Conservation Biology and Biodiversity
[Lectures: 39 hours; Tutorials: NA; Pre-requisites: AAB20D and ES2301 and ES3301; Academic Unit: 3.0]

Learning Objective
This course starts by giving the students various definitions and measures of biodiversity. Throughout the course, the students will learn the importance of conservation and environmental impact assessments during the planning stages of large development projects. They will understand why it is important to prevent species extinction, what happens when a keystone taxon goes extinct and how this influences ecosystem dynamics. By the end of the course, the students will also gain an appreciation of how can the establishment of protected reserves limit the impact of other threats to biodiversity such as habitat destruction, fragmentation and degradation.

Content
This class will make the students familiar with the challenge of maintaining the balance between catering for a growing human population while protecting biological diversity from a species to whole ecosystem levels.

Course Outline		Lecture
1	Introduction to the course	1 hour
1	What is biodiversity?	2 hours
2	Food chains and food webs. Keystone species and keystone resources.	3 hours
3	Ecological economics: long- and short- term value of biodiversity	3 hours
4	Habitat fragmentation and habitat destruction	3 hours
5	Environmental degradation, pollution and other modern threats to biodiversity	3 hours

6	Definitions and rates of extinction.	3 hours
7	Vulnerability to extinction, effective population size and the problem of small populations	3 hours
8	Applied population biology	3 hours
9	Legal implications for conservation. The role of Zoos, Aquariums, Botanical Gardens and Seed banks	3 hours
10	Protected areas: design and management	3 hours
11	Ecosystem management and approaches to ecosystem restoration	3 hours
12	Sustainable Development	3 hours
13	Review Summary	3 hours

Learning outcome

Students will learn the importance of biodiversity and the threats that it is facing in modern society. They will also understand the importance of creating and maintaining protected areas to conserve populations and species and the challenges that human society is facing for sustainable development.

Student Assessment

Students will be assessed by:

a. 5 fortnightly quiz, each fortnightly quiz is 15% (75%)
b. End of course review (25%)

Each fortnightly quiz will be a multiple-choice set of questions on the topics covered in the previous 2 weeks of the course. The end of course review will be a multiple-choice set of questions on the topics covered in all classes in the course.

Textbook

Richard B. Primack – A Primer of Conservation Biology – Fourth Edition – Sinauer Associates
Assigned readings and class notes