COURSE SYLLABUS

1. Name of Curriculum: Bachelor of Science (Biological Science)
Bachelor of Science (Environment)
Mahidol University International College

2. Course Code: ICBI 320 / ICEN 320 **Course Title**: Population and Community Ecology

3. Number of Credits: 4 **(Lecture/lab)** (4 - 0)

4. Prerequisites:
ICNS 112, ICBI 241

5. Type of Course:
Elective for 3rd year students

6. Semester / Academic Year:
Trimester 2

7. Course Description:
Introduction to population growth and dynamics of age-structured populations, population control, theory of competition, herbivory, predation, community, trophic structure and control, community diversity, theories of evolution and maintenance of diversity; field trips, sampling and modeling exercises and experiments included.

8. Course Objectives:
By the end of the course students should be able to describe and explain:
- The structure and functioning of populations and communities
- How to estimate population size and density using mark and release methods
- How populations are spaced in the environment
- The factors influencing population growth
- The different interactions within and between populations

9. Course Outline

Class	Topic				Lecturer
	Lecture / Seminar	Hour	Lab	Hour	
1	Introductory concepts - What is population and community ecology?	2	-		TBA
2	Estimating population density and size	4	-		
3	Spatial distribution of organisms	4	-		
4	Population Growth - Density dependent and independent growth	4	-		

5	Life Tables (+ Mid-term exam)	4 (+2)	-		
6	Population dynamics – Stability and disturbance	4			
7	Interactions between species – Competition	4	-		
8	Interactions between species – Predator – prey	4	-		
9	Interactions between species – Host – parasites	4	-		
10	Interactions between species – Disease and pathogens	4	-		
11	Evolution and biodiversity	4	-		

10. Teaching Methods:
Lectures, discussion, self-study, field trips, modeling and practical exercises.

11. Teaching Media:
Text and teaching materials, Powerpoint presentations, handouts, case studies.

12. Course Achievement:
Assessment made from stated criteria: students with 80%+ obtain grade A

13. Course Evaluation:

1. Field trip report	10%	3. Midterm exam	30%
2. Practical exercises (x3)	30%	4. Final exam	30%

14. References:
Vandermeer and Goldberg, 2003. Population ecology: First principles. Princeton Uni. Press
Morin, 1999. Community ecology. Blackwell Science
Turchin, 2003. Complex population dynamics. Princeton Uni. Press
Additional readings set by instructor

15. Instructor:
TBA

16. Course Coordinator:
Dr Wayne Phillips