

COURSE SYLLABUS

- 1. Name of Curriculum:** Bachelor of Science (Biological Science)
Bachelor of Science (Environment)
Mahidol University International College
- 2. Course Code:** ICBI 318 / ICEN 318 **Course Title:** Aquatic Ecology Field Course
- 3. Number of Credits:** 4 (Lecture/lab) (0 - 8)
- 4. Prerequisites:** ICNS 112, ICBI 317
- 5. Type of Course:** Elective for 3rd year students
- 6. Semester / Academic Year:** Trimester 3
- 7. Course Description:**
A field course providing experience in ecological assessments and surveys of aquatic habitats. Parameters measured/ascertained include water quality, riparian land use, in-stream and in-lake habitat types, algal communities, benthic invertebrates, fish communities. The course concludes with student presentations of their results.
- 8. Course Objectives:**
By the end of the course students should have extensive practical experience in:
- Assessing the biophysicochemical properties of streams and lakes
 - The use of contemporary techniques to assess water quality
 - The methods and techniques to determine primary and secondary production in aquatic systems
 - Data collection and documentation
 - Integration, organization and dissemination of information
 - Teamwork

9. Course Outline

Class	Topic			Lecturer	
	Lecture Seminar	Hour	Lab		
1			Stream Exercises - Physical 1. Solar radiation 2. air/water temperature 3. channel morphology 4. current + discharge	8	Dr W. Phillips
2			Stream Exercises – Chemical 1. Dissolved oxygen 2. pH 3. Phosphates 4. Nitrates + nitrites 5. Alkalinity 6. Diurnal changes	8	
3			Stream Exercises – Biological 1. benthic fauna in riffles 2. benthic fauna in pools 3. diurnal variations in benthic fauna 4. fish	8	
4			Lake Exercises – Physical 1. Solar radiation 2. air/water temperature 3. turbidity	8	
5			Lake Exercises – Chemical 1. Dissolved oxygen 2. pH 3. Phosphates 4. Nitrates + nitrites 5. Diurnal changes	8	
6			Lake Exercises – Biological 1. littoral zone 2. benthic fauna 3. Phytoplankton + Chlorophyll <i>a</i> 4. Zooplankton 5. Primary and secondary production	8	

10. Teaching Methods:

Practical field experience with evening data documentation/lectures/presentations

11. Teaching Media:

Handbook, field exercises and experiments.

12. Course Achievement:

Assessment made from stated criteria: students with 80%+ obtain grade A

13. Course Evaluation:

1. Participation	20%
1. Field trip presentation	30%
2. Field trip report	50%

14. References:

Aquatic Ecology Field Trip Handbook
Additional readings set by instructor

15. Instructor:

Dr Wayne Phillips

16. Course Coordinator:

Dr Wayne Phillips