



Undergraduate

Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

TQF 3 Course Specifications
Section 1 General Information

1. Course code and course title

Thai

English

Practical Field Ecology and Conservation

2. Number of credits

4 (3-2-7) (Lecture/Lab/Self-study)

3. Program and type of subject

3.1 Program

Undergraduate Degree (International Program)

3.2 Type of Subject

General Requirement

4. Course Coordinator and Course Lecturer

4.1 Course Coordinator Dr Wayne Phillips

4.2 Course Lecturer Dr Wayne Phillips

5. Trimester/ Year of Study

5.1 Trimester 1,2,3

5.2 Course Capacity

Approximately...25 .students

6. Pre-requisite

ICBI 101 or equivalent

7. Co-requisites

N/A

8. Venue of Study

Mahidol University International College

Section 2 Goals and Objectives

1. Course Goals

Upon successful completion of this course, students should be able to describe and explain how to plan and then successfully implement an investigation of local ecosystems for conservation purposes. Students should be able to objectively analyse & interpret ecological information and effectively communicate simple steps for the protection and conservation of our natural environment and resources.



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

2. Objectives of Course Development/Revision

2.1 Course Objectives

- 2.1.1 Formulate aims, objectives and hypotheses to design and safely perform ecological research
- 2.1.2 Evaluate the practical considerations of ecological research including how to collect samples safely and lawfully
- 2.1.3 Evaluate different sampling methods and techniques for static and mobile organisms
- 2.1.4 Explore the objective collection, analysis and interpretation of ecological information for conservation purposes
- 2.1.5 Exercise intellectual curiosity, critical thinking and independent learning

2.2 Course-level Learning Outcomes: CLOs

By the end of the course, students will be able to (CLOs)

1. CLO 1 Possess knowledge in Practical Field Ecology and Conservation
2. CLO 2 Apply knowledge in Practical Field Ecology and Conservation
3. CLO 3 Possess technical skills in Practical Field Ecology and Conservation
4. CLO 4 Apply technical skills in Practical Field Ecology and Conservation
5. CLO 5 Draw meaningful conclusions from scientific data/materials (quantitative and qualitative)
6. CLO 6 Demonstrate proficiency in oral communication of Practical Field Ecology and Conservation
7. CLO 7 Demonstrate proficiency in written communication of Practical Field Ecology and Conservation
8. CLO 8 Demonstrate accountability and responsibility
9. CLO 9 Apply concept of lab safety and field study safety
10. CLO 10 Able to set, plan and accomplish assigned project in a timely manner
11. CLO 11 Apply accepted ethical standards to resolve ethical dilemmas
12. CLO 12 Formulate a process for data acquisition



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

Section 3 Course Management

1. Course Description

(Thai)

(English) ecological investigations; reviewing the literature; formulating research questions; characterizing sites; sampling approaches, methods, protocols and requirements; sampling in different environments; statistical techniques and objective interpretation of data; unambiguous communication of results. Field project work is included.

2. Credit hours per trimester

Lecture (Hour(s))	Laboratory/field trip/internship (Hour(s))	Self-study (Hour(s))
36	24	84

3. Number of hours that the lecturer provides individual counseling and guidance.

4 hours per week

Section 4 Development of Students' Learning Outcome

1. Short summary on the knowledge or skills that the course intends to develop in students (CLOs)

By the end of the course, students will be able to

CLO 1 Possess knowledge in Practical Field Ecology and Conservation

CLO 2 Apply knowledge in Practical Field Ecology and Conservation

CLO 3 Possess technical skills in Practical Field Ecology and Conservation

CLO 4 Apply technical skills in Practical Field Ecology and Conservation

CLO 5 Draw meaningful conclusions from scientific data/materials (quantitative and qualitative)

CLO 6 Demonstrate proficiency in oral communication of Practical Field Ecology and Conservation

CLO 7 Demonstrate proficiency in written communication of Practical Field Ecology and Conservation

CLO 8 Demonstrate accountability and responsibility

CLO 9 Apply concept of lab safety and field study safety

CLO 10 Able to set, plan and accomplish assigned project in a timely manner

CLO 11 Apply accepted ethical standards to resolve ethical dilemmas

CLO 12 Formulate a process for data acquisition



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

2. Teaching methods for developing the knowledge or skills specified in item 1 and evaluation methods of the course learning outcomes

CLO	Teaching methods	Evaluation Methods
CLO 1	Lecture; discussion; assignment	Assignment report; presentation; written examination
CLO 2	Lectures; discussion; assignment	Assignment report, participation in discussions
CLO 3	Demonstration; discussion	Participation in activities
CLO 4	Demonstration; discussion	Participation in activities
CLO 5	Lecture; discussion	Assignment report; presentation; written examination
CLO 6	Lecture; discussion, case study	Participation in discussions; presentation
CLO 7	Lecture; discussion, case study	Assignment report; written examination
CLO 8	Discussion	Attendance
CLO 9	Lectures; discussion	Assignment report; written examination
CLO 10	Lectures; discussion; case study	Assignment report
CLO 11	Lectures; case study; discussion	Assignment report; written examination
CLO 12	Lectures; discussion	Assignment report



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

Section 5 Teaching and Evaluation Plans

1. Teaching plan

Week	Topic	Number of Hours		Teaching Activities/ Media	Lecturer
		Lecture Hours	Lab/Field Trip/Internship Hours		
1 2	Designing ecological research for conservation purposes	6	2	Lecture; discussion; assignment	WNP
3 4	Profiling abiotic conditions at study sites Rights and safety of access considerations	6	6	Lecture; discussion; demonstration; assignment; case study	WNP
5 6	Sampling static organisms for conservation purposes. Ethical and safety considerations	6	8	Lecture; discussion; demonstration; assignment; case study	WNP
7 8	Sampling mobile organisms for conservation purposes. Ethical and safety considerations	6	8	Lecture; discussion; demonstration; assignment; case study	WNP
9 10	Objective Analysis and interpretation of ecological information for conservation purposes Measuring success	6	-	Lecture; discussion	WNP
11	Communicating ecological information for conservation purposes	3	-	Lecture; case study; discussion	WNP
12	Group presentations of ecological investigation	3	-	Discussion	WNP
13	Submission of Assignment Report				

2. Plan for Assessing Course Learning Outcomes

2.1 Assessing and Evaluating Learning Achievement

a. Formative Assessment

Participation rubrics

Attendance rubrics

Discussion rubrics



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

b. Summative Assessment

(1) Tools and Percentage Weight in Assessment and Evaluation

Learning Outcomes	Assessment Methods	Assessment Ratio (Percentage)	
CLO 1	Assignment report	5	20
	Presentation	10	
	Written examination	5	
CLO 2	Assignment report	4	6.5
	Participation in discussions	2.5	
CLO 3	Participation in activities	3	3
CLO 4	Participation in activities	15	15
CLO 5	Assignment report	5	20
	Presentation	10	
	Written examination	5	
CLO 6	Participation in discussions	2.5	7.5
	Presentation	5	
CLO 7	Assignment report	5	10
	Written examination	5	
CLO 8	Attendance	2	2
CLO 9	Assignment report	2	5
	Written examination	3	
CLO 10	Assignment report	2	2
CLO 11	Assignment report	2	4
	Written examination	2	
CLO 12	Assignment report	5	5
Total		100	100

(2) Grading System

100%-90%	A
89%-85%	B+
84%-80%	B
79%-75%	C+
74%-70%	C
69%-65%	D+
64%-60%	D
< 60%	F



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

(3) Re-examination (If course lecturer allows to have re-examination)

N/A - (Not applicable with MUIC)

3. Student Appeals

Students are able to submit appeals either in person or via email to course coordinator within 7 days of receiving the final grade.

Section 6 Teaching Materials and Resources

1. Textbooks and/or other documents/materials

Wheater, Bell and Cook. Practical Field Ecology. A Project Guide. Wiley-Blackwell, 2011

Gardener M. Statistics for ecologists using R and Excel: Data collection, exploration, analysis and presentation. Pelagic Publishing, 2012

2. Recommended textbooks and/or other documents/materials

1) Scientific articles chosen from relevant databases

3. Other Resources (If any)

Lecture handouts

Section 7 Evaluation and Improvement of Course Management

1. Strategies for evaluating course effectiveness by students

1.1 Student feedback of instructors, teaching methods and materials, and course content through MUIC student evaluation forms

1.2 Written feedback submitted via Program Director

2. Strategies for evaluating teaching methods

2.1 Evaluation of effectiveness based on student evaluation scores and comments

2.2 Evaluation through peer observations by co-instructor or other Division faculty

3. Improvement of teaching methods

3.1 Adjustments based on student feedback, personal observations, comments from peer observations and discussions with supervisor and/or other Division faculty in one-on-one and/or group meetings as specified by MUIC guidelines.

3.2 Adjustments based on recommendations from peer-observation, co-instructor or other faculty members

4. Verification process for evaluating students' standard achievement outcomes in the course

4.1 Verification through student performance on assessments based on MUIC/Division standards



Undergraduate

Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

5. Review and plan for improving the effectiveness of the course

5.1 Course instructors (and coordinator/supervisor) will meet to discuss results of student evaluations and student performance based on learning outcomes in order to identify points for improvement

5.2 Program instructors meet to discuss curriculum evaluation and improvement in the monthly Program meetings chaired by the Program Director



Undergraduate

Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

Appendix

Alignment between Courses and Program

Table 1 The relationship between course and Program Learning Outcomes (PLOs)

Course Name	Program Learning Outcomes (PLOs)					
	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6
Practical Field Ecology and Conservation						
ICBI 262	P	P	R	R	I	P

Note: Indicate the level of CLOs by letter I, R, P or M. Using the information as shown in the Curriculum Mapping of TQF2



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

Table 2 The relationship between CLOs and PLOs

(Course code) ICBI 262	Program Learning Outcomes (PLOs)					
	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CLO 1	1.1					
CLO 2	1.2					
CLO 3	1.3					
CLO 4	1.4					
CLO 5		2.2				
CLO 6			3.1			
CLO 7			3.2			
CLO 8				4.2		
CLO 9				4.4		
CLO 10				4.5		
CLO 11					5.3	
CLO 12						6.2



Program

Course Title Practical Field Ecology and Conservation

Mahidol University International College

Course Code ICBI 262

Division Science

Table 3 The description of PLOs and Sub Los of the course

PLOs	SubPLOs
PLO 1 Apply discipline-specific knowledge and technical skills in biological sciences	1.1 Possess knowledge in Practical Field Ecology and Conservation
	1.2 Apply knowledge in Practical Field Ecology and Conservation
	1.3 Possess technical skills in Practical Field Ecology and Conservation
	1.4 Apply technical skills in Practical Field Ecology and Conservation
PLO 2 Appraise scientific information critically	2.2 Draw meaningful conclusions from scientific data/materials (quantitative and qualitative)
PLO 3 Demonstrate proficiency in oral and written communication of scientific concepts	3.1 Demonstrate proficiency in oral communication of Practical Field Ecology and Conservation
	3.2 Demonstrate proficiency in written communication of Practical Field Ecology and Conservation
PLO 4 Apply scientific integrity and professionalism	4.2 Demonstrate accountability and responsibility
	4.4 Apply concept of lab safety and field study safety
	4.5 Able to set, plan and accomplish assigned project in a timely manner
PLO 5 Possess moral and ethical values	5.3 Apply accepted ethical standards to resolve ethical dilemmas
PLO 6 Able to integrate different disciplines to formulate solutions for novel situations	6.2 Formulate a process for data acquisition