Course Syllabus

1. Program of Study Bachelor of Science (Biological Sciences)
Faculty/Institute/College Mahidol University International College

2. Course Code ICBI 102
Course Title Integrated Laboratory in Biological Sciences I

3. Number of Credits 2(0-4-2) (Lecture/Lab/Self-study)

4. Prerequisite *(s)* None

5. Type of Course Required course

6. Trimester/Academic Year
Third trimester

7. Course Condition
None

8. Course Description
Cell structure and function, tissue, cell division, ecology, movement of molecules, respiration, and photosynthesis.

9. Course Objective *(s)*
This course is designed to give students comprehensive concepts and practice of cell structure and function, tissue, cell division, ecology, movement of molecules, respiration, and photosynthesis.

10. Course Outline

week	Topics/Seminar	Hours Hours			Instructor
		Lecture	Lab	Self-study	
1	Introduction	0	4	2	Laird Allan
2	Prologue: Dissecting Microscope	0	4	2	Laird Allan
3	Laboratory 1: Microscopy	0	4	2	Laird Allan
4	Laboratory 2: Cells	0	4	2	Laird Allan
5	Laboratory 3: Diffusion and Osmosis	0	4	2	Laird Allan
6	Midterm Practical Exam	0	4	2	Laird Allan
7	Laboratory 4: Comparative Tissue Structure	0	4	2	Laird Allan
8	Laboratory 5: Mitosis and Meiosis	0	4	2	Laird Allan

9	Laboratory 6: Respiration and Photosynthesis	0	4	2	Laird Allan
10	Laboratory 7: Human Inheritance	0	4	2	Laird Allan
11	Laboratory 8: Ecology	0	4	2	Laird Allan
Practical Final Exam					
	Total	0	44	22	

11. Teaching Methods

11.1 Performing experiments in laboratory
11.2 Self-study
11.3 Group discussion and presentation

12. Teaching Media

- Laboratory manual
- Laboratory equipment

13. Measurement and evaluation of student achievement

Student achievement is measured and evaluated by

13.1 the ability to understand the concepts and practice of cell structure and function, tissue, cell division, ecology, movement of molecules, respiration, and photosynthesis.
13.2 the ability to interpret the data obtained from the experiments
13.3 the ability to apply the technique and the interpretation skill to research.

Student's achievement will be graded according to the college and university standard using the symbols: A, B+, B, C+, C, D+, D and F. Students must attend at least 80% of the total class hours of this course.

Grade will be determined on the basis of

Class participation	10
Notebook grade 1	15
Notebook grade 2	25
Practical Midterm Exam	20
Practical Final Exam	30
TOTAL	100

14. Course evaluation

14.1 Students' achievement as indicated in number 13 above.
14.2 Students' satisfaction towards teaching and learning of the course using questionnaires**.**

15. Reference *(s)*

Kruatachue, M. and Allan, L. Mannual for integrated laboratory in biological sciences I, MUIC. Thailand. 2007.

16. Instructor *(s)*

Laird Allan (E-mail: iclaird@mahidol.ac.th)

17. Course Coordinator
Laird Allan