Course Syllabus

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

2. Course Code ICBI 421
Course Title Entomology

3. Number of Credits 4 (3-2-7) (Lecture/Lab/self-study)

4. Prerequisite *(s)* none

5. Type of Course Elective

6. Trimester/ Academic Year
2nd trimester/ every academic year

7. Course Condition
Number of students is 20-30.

8. Course Description
Insect morphology, physiology, systematics, natural history, and relationships with humans; field survey with laboratory exercises included.

9. Course Objective *(s)*
After completing this course, the student should be able to
1. Classify each invertebrate phylum to the family level.
2. Explain the external and internal morphology, the structure and function of various organ systems, the ecology and behavior of each invertebrate phylum.
3. Give examples of each class, order and family of the same phylum.
4. Explain phylogenetic relationships of each invertebrate phylum.
5. Collect, preserve, identify and record the collected data of unknown specimens.

10. Course Outline

week	Topics/Seminar	Hours			Instructor
		Lecture	Lab	Self-study	
1	The important of insects to human	3	2	7	Dr. Vacharobon Theerakupt
2	External Anatomy I	3	2	7	Dr. Vacharobon Theerakupt
3	External Anatomy II	3	2	7	Dr. Vacharobon Theerakupt
4	Internal Anatomy & Physiology	3	2	7	Dr. Vacharobon Theerakupt
5	Insect behavior: Reproduction and development	3	2	7	Dr. Vacharobon Theerakupt
6	MIDTERM EXAM	3	2	7	Dr. Vacharobon Theerakupt
7	Insect Systematic I	3	2	7	Dr. Vacharobon Theerakupt

8	Insect Systematic II	3	2	7	Dr. Vacharobon Theerakupt
9	Insect Systematic III	3	2	7	Dr. Vacharobon Theerakupt
10	Insects and their environment Sampling and collecting insects Insect Preservation	3	2	7	Dr. Vacharobon Theerakupt
11	Insect pest management	3	2	7	Dr. Vacharobon Theerakupt
FINAL EXAMINATION					
	Total	33	22	77	

11. Teaching Method *(s)*

Lecture, practical laboratories, group oral presentation.

12. Teaching Media

1. Powerpoint Presentations
2. Texts and teaching materials
3. DVDs, Videos, Flip charts, Glass block and model demonstration, preserved and fresh specimens demonstration.

13. Measurement and Evaluation of Student Achievement

Student achievement is measured and evaluated by

13.1 The ability to classify each invertebrate phylum to the family level.

13.2 The ability to explain the external and internal morphology, the structure and function of various organ systems, the ecology and behavior of each invertebrate phylum.

13.3 The ability to give examples of each class, order and family of the same phylum.

13.4 The ability to explain phylogenetic relationships of each invertebrate phylum.

13.5 The ability to collect, preserve, identify and record the collected data of unknown specimens.

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. Minimal passing level is 60%. Student who earns 85% up will have Grade A, 80-84% Grade B+ , 75-79% Grade B, 70-74% Grade C+, 65-69% Grade C, 60-64% Grade D+, 55-59% D, less than 55 Grade F. Students must attend at least 80% of the total class hours of this course.

Ration of mark

1. Mid-term examination	40%
2. Final examination	40%
3. Report and Laboratory report & presentation	10%
4. Attendance & participation	10%
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)*

1. Anderson, D.T. (editor). Invertebrate zoology. UK. Oxford University Press. 1998.
2. Pechenik, J.A. Biology of the invertebrates. 3rd Edition. USA. Wm. C. Brown Publishers. 1996.
3. Kozloff, E. N. Invertebrates. USA. Sauners College Publishing, 1990.
4. Miller, S.A. and Harley, J.B. Zoology. 4th Edtion. USA. Mc Graw- Hill, 1999.

16. Instructor *(s)*

Asst. Prof. Vacharobon Theerakupt

17. Course Coordinator

Asst. Prof. Vacharobon Theerakupt