

Course Syllabus

First Semester 2013

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| 1. Faculty: Agriculture | Department: Entomology |
| 2. Course number: 01004341 | Subject: Tropical Entomology |
| Credit: 3 credits (2-3-5) | |

3. Course description:

Tropical ecosystem and tropical insect diversity, role of environment and global warming on insect community, important insect pests of tropical agriculture and their management. Insect problems in international trade of agricultural commodities.

4. Objectives:

- To gain knowledge of insects and ecosystem in the tropic
- To learn how to manage tropical insects
- To understand the importance of insects in international trade

5. Course outline:

- Introduction
- Tropical ecosystem
- Tropical insect diversity
- Role of environment on insect distribution and outbreak
- Effect of global warming on tropical insects
- Roles of insects in agricultural production
- Biology and life table investigation
- Sampling and surveying of tropical insects
- Management of important pests in Thailand
- Management of livestock insects in the tropic
- Insect problems in international trade of agricultural commodities

6. Teaching methods:

Lectures, discussion, independent studies, laboratory practices

7. Equipments:

Slide projector, LCD, lecture handouts, insect specimen (pinned insects, fresh specimen, specimen preserved in alcohol), various website dealing with insects and relevant subjects.

8. Course assessment:**8.1 Lecture 50%**

Mid term Exam.	25%
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Final Exam.	25%
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8.2 Laboratory practice 35%

• Mid term exam.	10%
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• Lab assignment	25%
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8.3 Presentation 10%**8.3 Class attendant 5%****9. Final evaluation:**

Statistical grading using in-group evaluation

10. Hours for consultant during the semester:

Students are welcome to ask questions after class or meet with the lecturers at their offices. The appointment can be made directly to each lecturer.

11. Recommended reading lists:

Daly, H.V., Doyen J.T. and Purcell, III, A.H. 1998. Introduction to Insect Biology and Diversity. Oxford University Press, New York. 674 pp.

Gullan, P.J. and P.S. Cranston. 2004. Insects : An Outline of Entomology. 4th. ed. Wiley-Blackwell Publishing, Massachusetts. 528 pp.

Richards, O. W. and R. G. Davies. 1977. Imm's General Textbook of Entomology. Vol.1: Structure, Physiology and development. 10th ed. Chapman and Hall, London. 481 pp.

Romoser, W. S., and J.G. Stoffoloano. 1994. The Science of Entomology. 3rd edition Wm. C. Brown, Dubuque, Iowa 523 pp.

Ross. H.H., C.A. Ross, and J.P.R. Ross. 1982. A Text Book of Entomology (4th ed). John Wiley and Sons, N.Y. 704 pp.

12. Schedules:

Lecture Tuesday: 10.00-12.00 am (Room #317 Vachiranusorn)			
Week	Date	Topics	Lecturer
1	20 Aug 2013	Introduction, review	Angsumarn
2	27 Aug 2013	What is tropical ecosystem?	Wiboon
3	3 Sept 2013	Insect diversity in the tropic	Akekawat
4	10 Sept 2013	Species richness, indices for insect diversity	Akekawat
5	17 Sept 2013	Role of environment on insect distribution and outbreak	Wiboon
6	24 Sept 2013	Global warming and insect community	Surachet
		MID TERM EXAMINATION	
7	1 Oct 2013	Roles of insects in agricultural production	Angsumarn
8	8 Oct 2013	How to investigate the insect outbreak?	Angsumarn
9	22 Oct 2013	Life table of insects	Anchana
10	29 Oct 2013	Tropical agricultural insects and their management	Wiboon
11	5 Nov 2013	Vegetable and stored product insects and their management	Werawan
12	12 Nov 2013	Tropical fruit insects and their management	Angsumarn
13	19 Nov 2013	Livestock insects in the tropic and their management	Theeraparp
14	26 Nov 2013	Insect problems in international trade of agricultural commodities	Surachet
15	4 Dec 2013	Oral presentation	Angsumarn
		FINAL EXAM	

Lab. Tuesday: 13.00-16.00 am (Room #209 Entomology building)			
Week	Date	Topics	Lecturer
1	20 Aug 2013	Review Insect Morphology	Angsumarn
2	27 Aug 2013	Insect classification: Major insect orders	Suksawat
3	3 Sept 2013	Insect Classification: Major insect families	Akekawat
4	10 Sept 2013	Immature insects	Benjakhun
5	17 Sept 2013	Insect pests of agricultural plants	Athirat
6	24 Sept 2013	Insect pests of cassava and beneficial insects	Anchana
7	1 Oct 2013	Insect pests of coconut, palm and beneficial insects, nematodes	Athirat
8	8 Oct 2013	Insect pests of vegetable crops and ornamental plants and beneficial insects etc.	Jaruwat
		MID TERM EXAMINATION	
9	22 Oct 2013	Plant extracts for insect control: Tropical application, fumigation	Angsumarn
10	29 Oct 2013	Plant extracts for insect control: Antifeedant	Angsumarn
11	5 Nov 2013	Field survey for insect pests	Angsumarn/ Athirat
12	12 Nov 2013	Classification of insect pests and report	Angsumarn
13	19 Nov 2013	Rearing some important natural enemies	Benjakhun
14	26 Nov 2013	Livestock insects investigation	Theeraphap
15	4 Dec 2013	Oral presentation	Angsumarn
		FINAL EXAM	

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13. Teaching Team:

Professor Angsumarn Chandrapatya

Professor Theeraphap Charoenviriyaphap

Associate Professor Wiboon Chongrattanamatekul

Assistant Professor Weerawan Amornsak

Dr. Akekawat Vitheepadit

Dr. Anchana Thancharoen

Dr. Benjakhun Sangtongpraow

Dr. Suksawat Ponpinij

Dr. Jaruwat Thowthampitak

Dr. Athirat Noosidum

Professor Angsumarn Chandrapatya

Course manager