Course Syllabus

First Semester

1. Faculty of Economics

2. Course code 01111215 Agricultural and Resource Economics

Class schedule Wednesday, 9.00 am – 12.00 pm

Google Classroom Class code: bknuylq

Meet link: https://meet.google.com/lookup/aysbmvpk4m

3. Course manager: Asst. Prof. Areeya Obidiegwu

Instructors: Dr Nithicha Thamathanakoon (e-mail: nithichat@gmail.com)

Asst. Prof. Areeya Obidiegwu (e-mail: areeya.m@ku.th)

Dr Borworn Tanrattanaphong (e-mail: borworn.t@ku.th)

Office hours: by appointment via email

Department of Agricultural and Resource Economics, 3rd floor, building 2, Faculty of Economics.

4. Course description

This course is about the economic concepts related to agriculture, food industry, natural resources and environment in national and global contexts. It emphasizes on the theory and current issues in agricultural production, consumption and markets as well as the interdependency of agriculture and natural resources. It also underlines the importance of the trade and financial policies related to agriculture and the basic farm management.

5. Course outline

1. Introduction
    - Economic classification by major activities
    - Key concepts in agricultural economics
    - Macroeconomic linkage to agriculture and food industry
2. Agriculture and Thai economy
    - Roles of agriculture and its contributions to the economy
    - Major problems in agriculture
    - Factors affecting agricultural development
    -International competitiveness of Thai agricultural sector
    -SWOT analysis of Thai agricultural sector

3. Food and fiber industry
    -World population and food supply
    - Food and fiber system
    -Food marketing chain
    - SWOT analysis of Thai food industry
4. Consumer behavior
    - Utility theory
    - Indifference curves
    - Consumer equilibrium
    - The law of demand
    - Tastes and preferences
    -Consumer surplus
5. Economics of production
    - Farm input supplies-purchased inputs, insurance, credit, labor
    - Commodity costs and returns
6. Market equilibrium and product price
    - Market supply curve
    - Market equilibrium under perfect competition
    - Imperfect competition in buying and selling
7. Natural resources, the environment and agriculture
    -Natural resources classification
    -Issues in natural resources and environment—property rights, externalities
    -Agriculture and the environment—Air and water pollution, climate change
8. Roles of government in agriculture: agricultural policies
    -Rationale for government intervention
    -Agricultural polices: Theory and implication
9. Agriculture and resources in global context
    - Agricultural and modern trade
    - Interdependence and gains from trade
    - Comparative advantage and trade
    - Exchange rates and transportation costs

6. Grading system

5.1 Examination	
-Midterm	30 %
-Final	30 %
5.3 Quizzes and assignment	10 %
5.3 Class participation (discussion)	10 %
5.4 Final report	20%
Total	**100 %**

7. Class schedule

Week	Date	Content	Instructor
1	19 Aug	Introduction	Nithicha
2	26 Aug	Agriculture and Thai economy	Nithicha
3	2 Sep	Food and fiber industry	Nithicha
4	9 Sep	Consumer behavior	Nithicha
5	16 Sep	Consumer behavior (continued)	Nithicha
6	23 Sep	Economics of production: Farm input supplies-purchased inputs, insurance, credit, labor	Areeya
	26 Sep – 4 Oct	Midterm exam	
7	7 Oct	Commodity costs and returns	Areeya
8	14 Oct	Market equilibrium and product price	Areeya
9	21 Oct	Natural resources, the environment and agriculture	Areeya
10	28 Oct	Natural resources, the environment and agriculture (continued)	Areeya
11	4 Nov	Roles of government in agriculture, trade and financial policies	Borworn
12	11 Nov	Roles of government in agriculture, trade and financial policies	Borworn
13	18 Nov	Agriculture and resources in global context	Borworn
14	25 Nov	Presentation of the final report (1)	Borworn
15	2 Dec	Presentation of the final report (2)	Borworn
	7-18 Dec	Final exam	

8. Textbooks

1. Penson, J.B.Jr., Capps, O.Jr. Rosson, C.P.III, Woodward, R.T. 2010. *Introduction to Agricultural Economics*, 5th ed., Pearson Education Inc., New Jersey.

2. Barkley A. and Barkley P.W. 2016. *Principles of Agricultural Economics*, 2nd ed. Routledge, New York.

COURSE SYLLABUS
First Semester

1. **Faculty of Economics** **Department of Economics**

2. **Course code** 01111319 **Course name** Fundamental Agri-enterprise
   Total credits 3 credits
   Prerequisite 01111111 Principles of Microeconomics
   Section 1 **Day and Time** Wednesday 13.00-16.00 **Room:** 5606

3. **Lecturer:** Assoc.Prof. Winai Puttakul, Ph.D (fecownp@ku.ac.th)
   Decharut Sukkumnoed, Ph.D. (tonklagroup@yahoo.com)
   M.L.Davivongs Kuntonrat, Ph.D. (kuntonrat.d@ku.th)
   Sophon Yamklin, Ph.D. (sophon.y@ku.th)

4. **Office hours for consultation with students:**
   By appointment with each instructor (via e-mail above)

5. **Course Objective(s)**
   1. To understand fundamental and role of agri-enterprise and agricultural subsystems
   2. To be able to applied the knowledge to set up a business in food or agricultural enterprises
   3. To be agri-enterprise entrepreneur having responsibility to social and environment

6. **Course Description**
   Business environment of agricultural industry. Supply chain management for agricultural and food enterprises. Finance, marketing, and management issues in agricultural and food production.

7. **Course Outline**

   1. Introduction to Agribusiness (Business of Agribusiness)
   2. Managing agribusiness
   3. Economics for agribusiness managers
   4. The organization of agribusiness
   5. International agribusiness
   6. Strategic market planning
   7. The marketing mix
   8. Tools for making decisions in agribusiness
   9. Understanding and analyzing financial statements
   10. Financing the agribusiness
   11. Tools for evaluating capital investment decisions
   12. Production planning and management
   13. Supply chain management for agribusiness
   14. Managing organizational structures
   15. Managing human resources in agribusiness

8. Teaching Method(s): Lecture, games, case discussions, assignments, quizzes, group projects

9. Teaching Aids/Materials

Powerpoint slides, documents, Video-audio materials and real and simulated samples. All class materials can be download via Google Classroom. Joining code for this semester is: see in first class

10. Measure(s) of Achievement

1. Assignment and Class attendance	40%
2. Exam	
Mid-term examination	30%
Final examination	30%
Total	100%

11. Grading

A criterion combines with statistical method. The lecturer retains his right to grade basing on his criteria and discrete judgment.

12. Textbook & Readings:

Main textbook: Freddie Barnard, Jay Akridge, Frank Dooley and John Foltz, 2012, Agribusiness Management, Fourth Edition, Routledge, Taylor & Francis Group, London and New York.

13. Class Schedule

Week	Sec 410	Chapters	Content	Instructor
1	8-Aug	1	Business of Agribusiness	Dr.Sophon
2	15-Aug	2	Managing agribusiness	Dr.Sophon
3	22-Aug	3	Economics for agribusiness managers	Dr.Sophon
4	29-Aug	4	The organization of agribusiness	Dr.Sophon
5	5-Sep	5	International agribusiness	Dr.Sophon
6	12-Sep	6	Strategic market planning	Dr. Decharut
7	19-Sep	7	The marketing mix	Dr. Decharut
Midterm: check with EEBA office for exact schedule				
8	3-Oct	8	Tools for making decisions in agribusiness	Dr. Decharut
9	10-Oct	14	Production planning and management	Dr. Winai
15-26 August: graduation rehearsal & graduation ceremony week (tentative)				
10	31-Oct	15	Supply chain management for agribusiness	Dr. Winai
11	7-Nov	16	Managing organizational structures	Dr. Decharut
12	14-Nov	17	Managing human resources in agribusiness	Dr. Decharut
13	21-Nov	9-10	Understanding and analyzing financial statements	Dr. Kuntonrat
14	28-Nov	11	Financing the agribusiness	Dr. Kuntonrat
15	5-Dec	12-13	Tools for evaluating capital investment decisions	Dr. Kuntonrat
Final Exam: check with EEBA office for exact schedule				

* This syllabus is subject to change at the discretion of the instructor.

Faculty of Economics
Kasetsart University

Course Syllabus 01111361 Marketing for Agri-enterprises

Instructor	**Email**
Assist. Prof.Dr. Apichart Daloonpate	fecoacd@ku.ac.th
Assist. Prof.Dr. Boonjit Titapiwatanakun	fecobot@ku.ac.th
Assist. Prof.Dr. Kulapa Kuldilok	kulapa.k@ku.ac.th

Class Time: 13:00 – 16:00 pm Tuesdays

Prerequisite:
01111111 Principles of Microeconomics 3(3-0)

Workload Allocation

Credits: 3 Lectures: 3Hrs/Wk Total time 15 Weeks

COURSE DESCRIPTION: **3(3-0)**

Domestic and international marketing for agri-enterprises. The expansion of agricultural markets. Agricultural futures market. Marketing margin. Marketing channels. Agricultural processing. Role of government on agri-enterprises.

TEACHING METHODS

This course requires student participation via active learning and class participation. Lectures will guide the students and supplement and amplify the text.

ASSESSMENT:

Class participation and Assignments	10%
Term Paper and Presentation	30%
Midterm examination	30%
Final examination	30%
Total	100%

TEXTBOOKS AND READING

1. Philip Kotler. 2012. "Marketing Management." 14th edition. PDF Ebook (Free Full Download)
2. F. Bailey Norwood and Jayson L. Lusk (2008), Agricultural Marketing and Price Analysis, Pearson – Prentice Hall.
3. Robert Dahlstrom (2011), Green Marketing Management, South – Western.
4. Richard L. Kohls and J. N. U. (2000), Marketing of Agricultural Products, Prentice Hall.

ATTENDANCE POLOCY:

Students are expected to attend all classes, arrive on time, and remain for the full class session unless prior arrangements are made with the instructor. The attendance and Final Grade will affect students who arrive late, leave early, or have excessive absences.

Course Outline (Tentative*)

Topics	Date	Instructor
1. Marketing management for agri-enterprises	7 August	Apichart
2. Market situation analysis	14 August	Apichart
3. Developing Marketing Strategies and plan for agri-enterprises	21 August	Apichart
4. Market research	28 August	Apichart
5. Analyzing consumers markets	4September	Apichart
6. Identifying Market Segments, Targets, and Positioning	11 September	Apichart
7. Marketing Margin	18 September	Apichart
Midterm Examination	22 -30 September	Exam
8. Government's role for agri-enterprises	2 October	Boonjit
9. Agricultural futures market	9 October	Boonjit
Graduation Rehearsal and Graduation ceremony	15-24 October	No class (Depending on Lecturer)
10. Agricultural processing and marketing	30 October	Kulapa
11. Dealing with competition in agricultural market	6 November	Kulapa
12. Setting product strategy for agri-enterprises	13 November	Kulapa
13. Pricing strategies for agri-enterprises	20 November	Kulapa
14. Designing and managing marketing channels and communications	27 November	Kulapa
15. Term-paper Presentation and Discussion	4 December	Apichart

***Note: Topics and class times may be subject to change.**

วิชาธุรกิจการเกษตรกับการจัดการสารสนเทศ

Agri-enterprises and Information Management

Faculty of Economics, Department of Economics

Kasetsart University

Course Description

ธุรกิจการเกษตรมีความสำคัญต่อประเทศไทยทั้งในเชิงเศรษฐกิจและสังคม การพัฒนาธุรกิจการเกษตรในปัจจุบันจำเป็นต้องอาศัยระบบการจัดการสารสนเทศที่มีประสิทธิภาพและตรงกับลักษณะเฉพาะของธุรกิจการเกษตร วิชานี้จะอธิบายถึงการจัดการสารสนเทศในธุรกิจโดยรวม และการนำระบบจัดการสารสนเทศเข้ามาใช้ในธุรกิจการเกษตรเพื่อให้เกิดประโยชน์สูงสุด

Agriculture business or agricultural enterprises are crucial to the economic and social development of Thailand. These enterprises need to use information systems effectively and adapt the technologies to match their unique characteristics. This course will describe information management in general and the application of information systems in agricultural enterprises.

Lecturers

Dr. Chalee Vorakulpipat

Lecture Day and Time

Monday 9.00- 12.00 am.

Venue

Room EC5605 Faculty of Economics

Course Outline

Week	Topics	Hours	Activities	Instructor
1	Information Systems and Digital Technology	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
2	Information Systems and Digital Technology	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
3	Data Governance, IT Architecture and Cloud Strategies	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
4	Data Management	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
5	Network Management and Mobility	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
6	Cybersecurity, Risk Management, and Financial Crime	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
7	Internet Technologies	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
8	Social Media Strategies	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
9	E-Commerce	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
10	E-Commerce	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
11	Transaction processing, functional application and integration	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
12	Enterprise systems	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
13	Project Management	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
14	Case study and Discussion	3	Lecture and Case Study	Dr. Chalee Vorakulpipat
15	Case study and Discussion	3	Case Study and Group Discussion	Dr. Chalee Vorakulpipat

* This syllabus is subject to change at the discretion of the instructor.

Measure(s) of Achievement

	Percent
• Case Studies/ Homework	10
• Term Paper + Presentation	10
• Participation	10
• Midterm Exam and Final Exam	70
Total	**100**

Textbook

"Information Technology for Management: On-Demand Strategies for Performance", Growth and Sustainability, 11th Edition by Efraim Turban, Carol Pollard, Gregory Wood, Wiley, 2018.

Course Syllabus

---

1. Faculty of Agriculture **Tropical Agriculture Major**

2. Course Code 01002302 **Course Title (Thai)** ทรัพยากรสัตว์และการจัดการ

Number of Credit 3(3-0) **(English)** Animal Resources and Management

Prerequisite Course 01002111

Group 400

Teaching Date and Location

Friday 09.00-12.00 am.

Room no. 302 Vajiranusorn Building

3. Instructor(s)

3.1 Assoc. Prof. Dr. Somkiert Prasanpanich

3.2 Assist. Dr. Viriya Lungyai

3.3 Prof. Dr. Chanvit Vajrabukka

3.4 Assist. Prof. Jumroen Thiengtham

3.5 Assoc. Prof. Chaiyapoom Bunchasakdi

4. Home class guidance

Please contact 02-5791120, 086-8193363 or

E-mail: agrskp@ku.ac.th

5. Objectives

5.1. To provide students the understandings of importance of animal resource management from farm to industry

5.2. To teach students how to manage waste management and techniques in farm animals and agro-industry related to animal

6. Course Description

The importance of animal resource management and concern in earth warming. The management techniques utilizing waste from farm animals and agro-industry related to animal industry. An economic analysis of animal resource management.

7. Course Outline

1. Introductory to animal resource and management
2. Resource management in beef and dairy cattle
3. Sheep, goat and deer resources and management
4. Management of swine resources
5. Poultry resource management
6. Farm animal resource management
7. Agro-industry animal related resource management

8. Teaching module

Having students as center for learning process. Experiences and application from farm and industry will be explained through LCD

9. Teaching Equipments and Tools

1. Computer Power Point and LCD
2. Literature cited from Web boards

10. Key Performance Evaluation

1. Assignment Report 8%
2. Mid Term Exam 38%
3. Final Exam 49%

4. Class Participation 5%

11. Course Evaluation

Grade	Marks
A	≥75
B^+	70-74
B	66-69
C^+	60-65
C	55-59
D^+	50-54
D	45-49
F	1-44

12. Reading Text book

12.1 Burton C.H. and C Turner. 2003. Manure Management : Treatment Strategies for Sustainable Agriculture (2 nd ed.). Silsoe Research Institute, Bedford, UK.

12.2 Edwards C.A. 1998. Earthworm Ecology. St. Lucie Press, New York, USA.

12.3 Polprasert C. 1996. Organic Waste Recycling : Technology and Management (2 nd. ed.). John Wiley & Sons, West Sussex, England.

13. Schedule and Outline

Day/Month	Course Outline	Instructor
Aug. 11	Course Introduction	Assoc. Prof. Dr. S. Prasanpanich
Aug. 18	Forage for ruminant production	Assoc. Prof. Dr. S. Prasanpanich (3%)
Aug. 25 Sep. 1	Management of Dairy Resources	Assoc. Prof. Dr. S. Prasanpanich(14%)

Sep. 8 Sep. 15	Management of Beef Resources	Assoc. Prof. Dr. S. Prasanpanich(14%)
Sep. 22	Animal related Agro-industrial resources management	Prof. Dr. Sornthep Tumwasorn (7%)
Mid-term exam on September 29, 2017		
Oct. 6, Oct. 13	Poultry Resources and Management	Assoc. Prof. Dr. C. Bunchasakdi (14%)
Royal Degree Conferment from Oct. 16-27, 2017		
Nov.3 Nov. 10	Swine Resources and Management	Assist. Prof. Dr. J. Thiengtham(14%)
Nov. 17, Nov. 24,	Management of Waste from Farm Animal	Assist. Prof. Dr. W. Rungyai(14%)
Dec. 1	Management of Goat, Sheep, and Deer Resources	Prof. Dr. C. Vajrabukka(7%)
Field trip if needed		
Final exam on December 15		

14. Others

In case of conflict on examination date and time, please inform at least 2-3 weeks ahead of time to course director.

Assoc. Prof. Dr. Somkiert Prasanpanich

(Course Director)

Course Syllabus

Tropical Agriculture Program

Faculty of Agriculture

1. Faculty Agriculture Department Animal Science
2. Course Code 01002111 course Title Animal Science & Technology
   Credit Hours 3(3-0)
3. Instructors

4.1 Assoc. Prof.Dr. Somkiert Prasanpanich, Department of Animal Science, Faculty of Agriculture, Kasetsart University, Bangkok 10900

4.2 Assoc. Prof. Dr. Sornthep Tumwasorn, Department of Animal Science, Faculty of Agriculture, Kasetsart University, Bangkok

4.3 Assist. Prof. Dr. Panwadee Soparnnarath. Department of Animal Science, Faculty of Agriculture, Kasetsart University, Bangkok 10900

4.4 Dr. Thirawit Poeikumpa, Department of Animal Science. Faculty of Agriculture, Kasetsart University ,Bangkok 10900

4.5 Assoc. Prof.De. Chaiyapoom Bunchasak, Department of Animal Science, Faculty of Agriculture, Kasetsart University, Bangkok 10900

4.6 Assist. Prof. Dr. JMROEN Thiengtham, Department of Animal Science , Faculty of Agriculture, kaseatart University, Bangkok 10900

4. Objectives

4.1 To understand the importance of livestock production on economic and social impacts to Thailand in terms of the production under small farmers and the essence of the improvements of commercial livestock production system

4.1.1 To understand the importance of animal breeds and principle of breeding system

4.2 To understand basic animal nutrition and physiology on livestock production including disease and disease control with hygienic process.

4.3 To understand the principle of livestock production management

5. Course description

Importance of animal production to the country ' s economic development, principle of animal sciences, principle of poultry, pigs, small ruminant, beef cattle and dairy farm management, diseases and prevention, waste treatment, livestock marketing, problems solving in animal production, relationship of animal production and the consumers

6. Course outline

6.1 Introduction and recommendations to 01002111 (Animal Silence and technology (3hrs.)

6.2 Livestock production and breeding in Thailand (3hrs.)

6.3 Principles of Poultry Production (Farm management. Diseases and prevention. Wast management and problem solving (6hrs.)

6.4 Livestock feed and nutrition in Thailand (6hrs)

6.5 Poultry production it Thailand (6hrs)

6.6 Pasture production and utilization in Thailand (3hrs)

6.7 Swine production in Thailand (6hrs)

6.8 Beef production in Thailand (6hrs)

6.9 Dairy production in Thailand (6hrs)

6.10 Small ruminant production in Thailand (3hrs)

7. Teaching procedures

Power point presentation.

8. Teaching materials

Computer-multimedia with LCD and handouts

9. Achievement of studying

9.1 Mid term exam. 44%

9.2 final exam.. 51%

9.3 class attention 5

10. Course evaluation

Grade	Mark
A	>70
B+	>60
B	>55
C+	>50
C	>45
D+	>40
D	>35
F	1-34

11. Avilable times for students to consult with their lectures

During weekday ant official days and times by visit or telephone call on the department mummer

12. References

Academic Time Table for

01002111 (Animal Science and Technology)

Contents	Hours	Lecturer
Introduction and Recommendation on 01002111	3	Assoc. Prof. Dr. Somkiert Prasanpanich
General livestock production and breeding in Thailand	3	Assoc. Prof. Dr. Sornthep Tunwasorn
Feed and nutrition for livestock in Thailand	6	Dr. Thurawit Poikumpa
Pasture production and utilization in Thailand	3	Assoc. Prof. Dr. Somkiert Prasanpanich
Poultry production in Thailand	6	Assoc. Prof.Dr. Chaiyapoom Bunchasak
Swine production in Thailand	6	Assist.Prof. Dr. Jamroen

		Thiengtham
Beef and buffalo production in Thailand	6	Assoc. Prof.Dr. Panwadee Soparnnarath
Dairy production in Thailand	6	Assoc. Prof. Dr. Somkiert Prasanpanich
Small Ruminant production in Thailand	3	Assoc. Prof. Dr. Somkiert Prasanpanich

- ห้ามสาย
- ห้ามใช้โทรศัพท์
- หนังสือ, ปากกา, โน้ต

แผนการสอน Course Syllabus

1. **คณะ** มนุษยศาสตร์ **ภาควิชา** ภาษาต่างประเทศ
2. **รหัสวิชา** 355202 **ชื่อวิชา** การเขียนภาษาอังกฤษเบื้องต้น

   จำนวน 3(3-0) หน่วยกิต Fundamental English Writing

3. **เนื้อหารายวิชา** (Course Description)

   Writing from models using appropriate structure and vocabulary.

4. **วัตถุประสงค์ของวิชา** (Course Objectives)

   To develop elementary writing skills by placing a strong emphasis on written production. By the end of the course it is hoped that students will be able to write two or three related paragraphs incorporating the various functions they have practiced. The course is divided into six units. Each unit is designed to give practice in writing about simple everyday topics using simple functions in order to develop written fluency and grammatical accuracy.

5. **หัวข้อวิชา** (Course outline)

   1. Unit I - Personal Information and Routines
   2. Unit II - Describing People
   3. Unit III - Describing Places
   4. Unit IV - Describing Past Experiences
   5. Unit V - Describing Scenes
   6. Unit VI - Composition - Narrative

6. **การวัดผลสัมฤทธิ์ในการเรียน** (Learning Assessment)

8.1	Examinations		
	- 6 Writing Assignments	60 points	(in class)
	- Mid – Semester Examination	65 points	
	- Final Examination	65 points	
8.2	Classwork / Quizzes / Attendance Participation	10 points	**Total 200 points**

7. **เอกสารอ่านประกอบ** (References)

   Supplementary writing materials covering all aspects of the Fundamental English Writing course are available in KU SALL, 9th Floor LH-4, on a self-access basis.

8. **ตารางกิจกรรมที่เกี่ยวข้องกับการเรียน** (Tentative Schedule on Teaching and Learning Activities)

Week	Unit	Contents	Activities
1	I	Question forms / Punctuation / Verb	Classwork (Individual / Group work)
2.		Forms (Present simple tense -3rd person singular versus 1st person singular)	Homework
		Subject – verb agreement / Question forms / Definite / Indefinite articles	Classwork (Individual / Group work) Homework / Revision worksheet 1
3.		Present simple tense / Preposition Question forms / Connectives / Adverb of frequency	Classwork (Individual / Group work) Classwork (Individual / Group work) Revision worksheet 2 Writing Assignment I

4.	II	Ordering adjectives in a series / Paragraph / Organisation of ideas / Count / Uncount nouns	Classwork (Individual / Group wor Revision worksheet 3 Writing Assignment II
5.	III	Preposition of location / There is / There are / Determiners	Classwork (Individual / Group wor Homework
6.		Description + Location (Adjective modifiers) There is / There are / Subject + Be / Have	Classwork (Individual / Group wor Homework Classwork (Individual / Group wor Writing Assignment III
7.		**Mid-Semester Examination**	**Examination Week: No Classe**
8.	IV	Compound sentences / Use of the comma and consequences in compound sentences	Classwork (individual / Group wor Revision worksheet 4 Writing Assignment IV
9.	V	Present simple tense (Facts, Routines versus present simple continuous tense (Temporary situations, Actions happening at the moment of speaking)	Classwork (individual / Group wor Outdoor activities Homework
10.		Paragraph organisation	Classwork (Individual / Group wor Revision worksheet 5
11.	VI	Complex sentences – Adjectival clauses / Punctuation: Use of the comma (restrictive, non – restrictive clauses)	Classwork (Individual / Group wor Homework
12.		– Past simple / Past continuous – Adverbial clauses – Punctuation: Use of the comma	Classwork (Individual / Group wor Homework
13.		If clauses – First conditional Past simple / Past continuous Definite plans Uncertain plans	Classwork (Individual / Group wor Revision worksheet 6 Writing Assignment VI
14.		Composition – Narrative Past simple / Past continuous	Classwork (Individual / Group wor Writing Assignment VII
15.		**Final Examination**	**Examination Week: No Classes**

Course Co-ordinators: Asst.Prof. Puntip Nuch Ngorn

Ajarn Sitang Khanti

Course Syllabus

1. **Faculty:** Science **Department:** Botany

2. **Course code:** 01401114 Course Title: General Botany
Unit: 3 credits (2 Lecture – 3 Lab – 6 Self study)

3. Course description

General principles of plant morphology, anatomy, physiology, and ecology. Classification and evolution of plants. Uses of plants.

4. Objectives

1. To develop understanding of cellular, anatomical, and morphological structures of plants
2. To provide an overview of concepts of plant metabolism, growth, and development.
3. To develop an appreciation of plant diversity, utilization, and their ecosystems.

5. Course outline

	Lecture (Hours)	Lab (Hours)
Plant Structure	10	15
Plant Physiology	6	9
Plant Diversity	10	15
Review & Self-study	4	6
Total	**30**	**45**

6. Teaching Methods

Lecture, In-class activities, laboratorial work, report and self-study

7. Teaching Materials

Slides, lab handouts, fresh and dry specimens, free hand section specimens and permanent slides, Light microscope, LCD projector with computer, Online Learning Management System

8. Learning evaluation

	Structure	Physiology	Diversity	Total
Lecture Exams	21	11	18	50
Practical Exams	13	6	11	30
Quiz, Attendance	4	2	4	10
Lab reports	4	2	4	10
Total	42	21	37	100

A = 81 – 100, B+ = 76 – 80, B = 71 – 75, C+ = 66 - 70, C = 56 – 65, D+ = 50 – 55, D = 40 – 49, F < 40

9. Schedule

Laboratory Mon 9 AM - 12 PM SCL 903	Instructor	Lecture Mon 1 - 3 PM VJ 317	Instructor
Lecture 1 + Lab 1: Cell	Minta	Lecture 2+3: Root + Stem	Minta
No class – Queen's Birthday (observed)			
Lab 2+3: Root and Stem	Minta	Lecture 4: Leaf	Minta
Lab 4: Leaf	Minta	Lecture 5: Flower	Minta
Lab 5: Flower	Minta	Lecture 6: Reproduction	Minta
Lab 6: Reproduction	Minta	Lecture 7: Metabolism, Enzyme	Sutsawat
No class - Midterm Examination			
Lab 7: Metabolism	Sutsawat	Lecture 8: Photosynthesis, Respiration	Sutsawat
Lab 8: Growth & Development	Sutsawat	Lecture 9: Growth & Development	Sutsawat
Lab 9: Transpiration & Leaf Area	Sutsawat	Lecture 10: Algae	Ekaphan
No Class - Graduation Rehearsal			
No Class - Graduation Ceremony			
Lab 10: Algae	Ekaphan	Lecture 11: Bryophyte	Ekaphan
Lab 11: Bryophyte	Ekaphan	Lecture 12: Tracheophyte	Ekaphan
Lab 12: Tracheophyte	Ekaphan	Lecture 13: Ferns	Ekaphan
Lab 13: Ferns	Ekaphan	Lecture 14: Seed Plants	Ekaphan
Lab 14: Seed Plants	Ekaphan	Review	Ekaphan

10. Office Hours

Dr. Ekaphan Kraichak (coordinator)	Friday 1 – 3 PM	E-Mail : fsciepk@ku.ac.th
Dr. Sutsawat Duangsrisai	Friday 9 – 11 AM	E-Mail : fscissw@ku.ac.th
Dr. Minta Chaiprasongsuk	Friday 9 – 11 AM	E-Mail : fscimtc@ku.ac.th

11. Communications

Teaching materials are available on Google Classroom. Enroll the class by the followings:

2. Go to classroom.google.com

3. Click the plus sign (+) on the right corner to join the class, using the code **3sb4h**

12. Optional References

Reece, J.B. et al. Eds. *Campbell Biology*. 9th Ed. Benjamin Cumming: New York

Moore, R., W.D. Clark, K.R. Stern and D. Vodopich. 1995. Botany. Wrn,C.Brown Publishers, Iowa.

Taiz, L. and E. Zeiger. 2002. Plant Physiology. Third edition, Sinauer Associates, Inc., Publishers. Sunderland.

Ekaphan Kraichak
Course coordinator

Course Syllabus
General Chemistry 01403111
(Tropical Agricultural International Program)
Department of Chemistry, Faculty of Science, Kasetsart University

Credits : 4

Course description

Atoms and electrons in atoms, periodic system, chemical bonding, naming inorganic compounds, chemical reactions, gases, solids, solutions, electrolytes and their ionization, fundamental thermodynamics, chemical kinetics, chemical equilibria, acids- bases - ionic equilibria, and electrochemistry.

Objective : After passing this course the students will understand general concepts of chemistry.

Course out line

Chapter		**Hours**
1)	**Atoms and Electronic Structure of Atoms**	6
	1.1 Atomic numbers and mass numbers	
	1.2 Bohr's theory of hydrogen atom	
	1.3 Quantum numbers	
	1.4 Atomic orbital	
	1.5 Electron configuration	
	1.6 The building up principle	
2)	**The Periodic Table**	2
	2.1 Periodic classification of elements	
	2.2 Periodic variation in physical properties	
	2.3 Ionization energy, electronegativity and electron affinity	
	2.4 General trends in chemical properties of the representative elements	
3)	**Chemical Bonding.**	9
	3.1 lonic bond and covalent bonds	
	3.2 Writing Lewis structures	
	3.3 Exceptions to the Octed rule	
	3.4 Oxidation number and formal charge	
	3.5 Bond length and bond energy.	
	3.6 Resonance	
	3.7 Molecular geometry	
	3.8 The VSEPR theory	
	3.9 Dipole moment	
	3.10 Valence bond theory	
	3.11 Hybridization of atomic orbital	
	3.12 Hybridization in molecules containing double bond and triple bond	
	3.13 Molecular orbital theory	
	3.14 Metallic bond	
	3.15 Band theory of metal	
	3.16 Intermolecular Forces	
4)	**Naming Inorganic Compounds**	1.5
	4.1 Naming binary compounds	
	4.2 Naming ternary acids and their salts	
5)	**Chemical reactions and stoichiometry**	3.5
	5.1 Molecular equations and ionic equations	
	5.2 Balancing chemical equations	
	5.3 Formula weights, molecular weights and moles	
	5.4 Amounts of reactants and products	
	5.5 Limiting agents	
	5.6 Reaction yields	
6)	**Gases**	4
	6.1 The gas laws	
	6.2 The combined gas law equation	
	6.3 Avogadro's law and the standard molar volume	

6.4 The ideal gas equation
6.5 Dalton's law of partial pressures
6.6 Diffusion and effusion of gases
6.7 The kinetic molecular theory of gases
6.8 Molecular speed of gases
6.9 Real gases and their derivations from ideality

4

7) **Solids**

7.1 Amorphous solid and crystalline solid
7.2 Crystal lattice and unit cell
7.3 Crystal structure
7.4 Packing sphere and coordination numbers
7.5 Bonding in solids
7.6 Phase changes and phase diagram
7.7 Defects in crystal

Midterm Exams.

6

8) **Solutions**

8.1 Types of solutions
8.2 A molecular view of the solution process
8.3 Concentration Units
8.4 Effect of temperature on solubility
8.5 Colligative properties
8.6 Lowering of vapour pressure and Raoult's law
8.7 Boiling point elevation
8.8 Freezing point depression
8.9 Dissociation of electrolytes and colligative properties
8.10 Osmotic pressure

4.5

9) **Thermodynamics**

9.1 The first law of thermodynamics
9.2 Some thermodynamic terms
9.3 Changes in internal Energy
9.4 Enthalpy change
9.5 The second law of thermodynamics
9.6 Entropy
9.7 Free energy change and spontaneity
9.8 The temperature dependence of spontaneity

4.5

10) **Chemical Kinetics**

10.1 Rate of reaction
10.2 Rate law and reaction order
10.3 Differential rate law
10.4 Integrated rate law
10.5 Collision theory and transition state theory
10.6 Mechanism of reaction
10.7 The Arrhenius equation
10.8 Catalysts

2

11) **Chemical Equilibrium**

11.1 The concept of equilibrium.
11.2 Ways of expressing equilibrium constant.
11.3 Factors that affect chemical equilibrium.
11.4 Relationship between K_p and K_c .
11.5 Relationship between ΔG° and the equilibrium constant.
11.6 Evaluation of equilibrium constants at different temperature.

9

12) **Acids, Bases and Ionic Equilibria**

12.1 Arrhenius acids and bases
12.2 Bornsted acids and bases
12.3 Lewis acid and bases
12.4 Strength of acids and bases
12.5 The auto-ionization of water, the pH and pOH scale
12.6 Weak acids and acid ionization constants

Hydrolysis
12.7 The common ion effect and buffer solution.
12.8 Buffering action
12.9 Acid – base titration
12.10 Acid – base indicator
12.11 Solubility product constants
The common ion effect and solubility.

13) Electrochemistry 4

13.1 Galvanic cells
13.2 Standard reduction potentials
13.3 Spontaneity of redox reactions
13.4 The effect of concentration on cell emf
13.5 Electrolysis
13.6 Quantitative aspects of electrolysis

Final Exams.

Total 60

Teaching methods:
Lectures, discussions and home works.

Teaching tools: projector, power point presentation and hand outs,Overhead

	Marks (%)
Attending class	3
Pre mid – term exams	22
Mid – term exams	25
Attending class	3
Pre final exams	22
Final exams	25
Total	100

Grading : A B^+ B C^+ C D^+ D F

Texts : Recommended

1. Chang R., "Chemistry" 7th ed Mc. Graw – Hill, 2002. (or lated edition).
2. Brady J.E. "General chemistry, Principles and Structure" 5th ed. John Wiley &Sons Inc. (1990). (or lated edition).
3.Gillespie, R.J., Eaton, D.R., Humphrys, D.A. and Robinson, E.A., "Atoms, molecules and reactions: an introduction to Chemistry", Englewood Cliffs, NJ. Prentice Hall (1994). (or lated edition).
4.Kotz, J.C. and Purcell, K.E., "Chemistry & Chemical Reactivity" 2nd ed., Saunder College Publishing (1991). (or lated edition).
5. Olmsted, J. and Williams, G.M., "Chemistry, the Molecular Science", Mosky Year Book, Inc. (1994). (or lated edition).

Instructors:

1. Associate Professor Dr.Ladda Meesuk
Office : Chemistry Bld. Rm.407
Tel. 02-5625555 ext. 2185
E-mail: fscildm@ ku.ac.th

2. Dr. Surachai Thachepan
Office : Chemistry Bld. Rm.509
Tel. 02-5625555 ext. 2213
E-mail: fscisct@ku.ac.th

Course Syllabus

Introduction to Tropical Agriculture (01013111)

1. **Faculty of Agriculture**

2. **Subject Code 01013111 (3-0-6) Subject: Introduction to Tropical Agriculture**

3. **Course Description**

The meaning and the significance of the tropics and tropical agriculture, including how they differ from the temperate and other zones, are explained and discussed. Enrolling students will be provided with a broad foundation in all areas of knowledge of natural resources, agricultural systems and practices, and social and economic patterns in the tropics, with a special emphasis given on those in the Southeast Asia Peninsula and Thailand. The course also comprehensively details the concepts of sustainable agriculture which integrates the following three main goals: environmental health, economic profitability, and social and economic equity. The lecture will extensively cover the new theory on proper management of land and water bestowed by His Majesty the King of Thailand and the newest policy namely the agricultural crop zoning system in Thailand as well.

4. **Objectives**

To equip and prepare students with basic knowledge on the uniqueness and proliferation of natural resources in the tropics and also the concepts of agricultural systems and practices, and social and economic models indicative of tropical agriculture.

5. **Course Outline**

1. Introduction to Tropical Agriculture. 1.1 Tropics and Tropical Agriculture: Meaning and Its Significance. 1.2 Agricultural Development: From the Past to the Present. 1.3 Population and Agriculture. 1.4 Towards Sustainable Agricultural Production. 1.5 Conceptual Framework of Agriculture.
2. Agriculture in Southeast Asia Peninsula with Emphasis on Crop Production.

3. Overview of Agriculture in Thailand.
4. Environment and Socio-economic Conditions of Tropical Agriculture. 4.1 Forest as an Important Natural Resource in Agriculture. 4.2 Soil: The Fundamental Resource for Agricultural Production. 4.3 Economic Aspect of Tropical Agriculture. 4.4 Social Aspect of Tropical Agriculture.
5. Production Technology of Tropical Agriculture. 5.1 Overview of Crop Production. 5.2 Overview of Horticultural Production. 5.3 Beneficial and Destructive Insect and Non-Insect Pest in Agriculture. 5.4 The Role of Microorganism in Tropical Agriculture. 5.5 Animal Production in the Tropics. 5.6 Tropical Inland and Marine Fisheries. 5.7 Overview of Farm Machinery in the Tropics. 5.8 Agricultural Extension in the Tropics.
6. Sustainable Agriculture for Small Scale Farmers.
7. Cropping System and Farming System Research and Development.
8. His Majesty The King's New Theory: Land and Water Management in Agriculture.
9. Current Hot Issues in Agriculture
10. Future of Thai Agriculture and the World

6. **Teaching Method** Lecture and group discussion

7. **Teaching Tools** LCD and computer and sheet or handout

8. **Evaluation**

- One Report from the field trip	5 %
- Class attention, participation, and responsibility	10 %
- Mid-term examination	40 %
- Final examination	45 %
Total:	100 %

9. **Grading**

>80.0%	A
75.0 – 79.9%	B+
70.0 – 74.9%	B
65.0 – 69.9%	C+
60.0 – 64.9%	C
55.0 – 59.9%	D+
50.0 – 54.9%	D
<50.0%	F

10. **Consultancy**

Students can meet and consult with the course manager

(Only by appointment):

Assist. Prof. Dr. Buncha Chinnasri

Charas Soonthonrasingha Building, Room 516

Mobile phone: 081-619-9563

e-mail: agrbcc@ku.ac.th

11. **Text books for further reading**

Pookpakdi, A. (ed.) 2006. Sustainable Agriculture Production in the Tropics. Publication submitted to the United Nation Development Program by Kasetsart University, Extension and Training Office, Kampaengsaen, Nakorn Pathom, Thailand.

12. **Teaching schedule** 3 Credits: Lecture 3 hours/week

Tuesdays 09:00-12:00 **Venue**: Room 318, 3rd Floor, Vajiranusorn Building

Date	Topic	Hours	Lecturer
8 Aug. 2017 (9:00-12:00)	Course Orientation.	0.5	Assist. Prof. Dr. Buncha Chinnasri
	1. Introduction to Tropical Agriculture. 1.1.Tropics and Tropical Agriculture: Meaning and Its Significance	2.5	Assist. Prof. Dr. Buncha Chinnasri

Topic	Hours	Lecturer
1.2. Agricultural Development: From the Past to the Present.		
1.3. Population and Agriculture. 1.4. Towards Sustainable Agricultural Production. 1.5. Conceptual Framework of Agriculture.	3.0	Assist. Prof. Dr. Buncha Chinnasri
2. Agriculture in Southeast Asia Peninsula with an Emphasis on Crop Production.	3.0	Assist. Prof. Dr. Buncha Chinnasri
3. Overview of Agriculture in Thailand.	3.0	Assist. Prof. Dr. Buncha Chinnasri
4. Environment and Socio-economic Conditions of Tropical Agriculture. 4.1 Forest as an Important Natural Resource in Agriculture.	1.5	Assist. Prof. Dr. Damrong Pipatwattanakul
4.2 Soil: The Fundamental Resource for Agricultural Production.	1.5	Assoc. Prof. Dr. Kannika Sajjaphan
4.3 Economic Aspect of Tropical Agriculture.	1.5	Assoc. Prof. Dr. Suwanna Praneetvatakul
4.4 Social Aspect of Tropical Agriculture.	1.5	Assist. Prof. Dr. Oranutda Chinnasri

Topic	Hours	Lecturer
5. Production Technology of Tropical Agriculture. 5.1 Overview of Crop Production.	1.5	Assoc. Prof. Dr. Ed Sarobol
Overview of Rice Production.	1.5	Assoc. Prof. Dr. Aphichart Wannawichit
Mid Term Examination		
5.2 Overview of Horticultural Production.	1.5	Dr. Benya Manochai
Overview of Para Rubber Production	1.5	Dr. Régis LACOTE
5.3 Beneficial and Destructive Insect and Non-Insect Pest in Agriculture.	1.5	Assoc. Prof. Dr. Surachate Jamornmarn
5.4 The Role of Microorganisms in Tropical Agriculture	1.5	Assist. Prof. Dr. Buncha Chinnasri
5.5 Animal Production in the Tropics.		Dr. Pakapun Skunmun
5.6 Tropical Inland and Marine Fisheries.	1.5	Assist. Prof. Dr. Oraporn Meunpol
No Class		
5.7 Overview of Farm Machinery in the Tropics.	1.5	Asst. Prof. Dr. Kriengkri Kaewtrakulpong
5.8 Agricultural Extension in the Tropics.	1.5	Assoc. Prof. Dr. Suraphol Chandrapatya

Topic	Hours	Lecturer
6. Sustainable Agriculture for Small Scale Farmers 7. Cropping System and Farming System Research and Development	3.0	Assist. Prof. Dr. Buncha Chinnasri
Field Trip to Kasetsart University, Kampaengsaen Campus and Nakhon Pathom Province		
8. His Majesty The King's New Theory: Land and Water Management in Agriculture.	3.0	Assist. Prof. Dr. Buncha Chinnasri
9. Current Hot Issues in Agriculture	3.0	Assist. Prof. Dr. Buncha Chinnasri
10. Future of Thai Agriculture and the World 11. Conclusion	3.0	Assist. Prof. Dr. Buncha Chinnasri
Final Exam		

13. **Lecturers**

Assoc. Prof. Dr. Surachet Jamornmarn
Assoc. Prof. Dr. Ed Sarobol
Assoc. Prof. Dr. Aphichart Wannawichit
Assoc. Prof. Dr. Suwanna Praneetvatakul
Assist. Prof. Dr. Suraphol Chandrapatya
Assoc. Prof. Dr. Kannika Sajjaphan
Assist. Prof. Dr. Damrong Pipatwattanakul
Assist. Prof. Dr. Oraporn Meunpol
Assist. Prof. Dr. Kriengkri Kaewtrakulpong
Assist. Prof. Dr. Buncha Chinnasri
Assist. Prof. Dr. Oranutda Chinnasri
Dr. Pakapun Skunmun
Dr. Régis LACOTE

14. **Examination**

Venue: Room 318, 3rd Floor, Vajiranusorn Building

Lecturer	Exam Scores	Exam Times
1. Assist. Prof. Dr. Buncha Chinnasri	20	26 Minutes
2. Assist. Prof. Dr. Damrong Pipatwattanakul	10	13 Minutes
3. Assist. Prof. Dr. Kannika Sajjaphan	10	13 Minutes
4. Assoc. Prof. Dr. Suwanna Praneetvatakul	10	13 Minutes
5. Assist. Prof. Dr. Oranutda Chinnasri	10	13 Minutes
6. Assoc. Prof. Dr. Ed Sarobol	10	13 Minutes
7. Assoc. Prof. Dr. Aphichart Wannawichit	10	13 Minutes
Total	80 (real score = 40)	104 Minutes

Venue: Room 318, 3rd Floor, Vajiranusorn Building

Lecturer	Exam Scores	Exam Times
1. Dr. Benya Manochai	10	13 Minutes
2. Dr. Régis LACOTE	10	13 Minutes
3. Assoc. Prof. Surachate Janornmarn	10	13 Minutes
4. Assist. Prof. Dr. Buncha Chinnasri	10	13 Minutes
5. Dr. Pakapun Skunmun	10	13 Minutes
6. Assist. Dr. Oraporn Meunpol	10	13 Minutes
7. Asst. Prof. Dr. Kriengkri Kaewtrakulpong	10	13 Minutes
8. Assist. Prof. Dr. Suraphol Chandrapatya	10	13 Minutes
9. Assist. Prof. Dr. Buncha Chinnasri	10	42 Minutes
Total	90 (real score = 45)	172 Minutes

Signature.....

(Assist. Prof. Dr. Buncha Chinnasri)

6	Bacterial plant disease : Black Rot of Crucifer, Citrus Canker, and Soybean Bacterial Pustules	3
7	Plant diseases caused by Phytoplasma	3
8	Plant diseases caused by fungi in the Phylum Plasmodiophoromycota, Phylum Oomycota and Phylum Zygomycota	3
9	Plant diseases caused by fungi in the Phylum Ascomycota, Class Filamentous Ascomycetes, Order Erysiphales (Powdery Mildew)	3
10	Plant diseases caused by fungi in Phylum Ascomycota, Class Hymenoascomycetes and Class Sordariomycetes	3
11	Plant diseases caused by fungi in the Phylum Ascomycota, and Class Sordariomycetes	3
12	Plant diseases caused by Fungi in the Phylum Basidiomycota	3
13	Plant diseases caused by Nematodes	3
14	Plant diseases caused by Viruses and Viroids	3
15	Chemicals for Plant disease control	3
	Total	45

Schedule of Course 01008211 (Introductory Plant Pathology)

Lecture: Thursday on 13.00–15.00, Room 318, Vachiranusorn Building

Topics	Hours	Lecturer
Introduction, History and significant plant diseases, Definition and classification of plant diseases	2	Assist. Prof. Dr.Netnapis ✓
Plant disease epidemiology, Losses caused by plant diseases	2	Dr. Patcharawipa ✓
Principle of plant diseases phenomena of infection, Environmental effects on disease development, Plant disease development and host physiology, Survival of plant pathogens	2	Assoc. Prof. Dr. Ampaiwan ✓
Plant disease caused by environmental factors, Causes, Symptoms and Control	2	Dr. Supot
Plant diseases caused by bacteria, Characteristics, Classification, Symptoms, Life cycle and Control	2	Dr. Udomsak ✓
Plant diseases caused by mollicutes, Characteristics, Classification, Symptoms, Life cycle and Control	2	Assoc. Prof. Dr. Ampaiwan
Plant disease caused by fungi and slime mold Characteristics, Classification, Symptoms, Life cycle: Plasmodiophoromycota, Oomycota and Zygomycota	2	Assist. Prof. Dr. Onuma
6-24 September 2017 Midterm examination (Lab 1- Lab 7)		

8-9	28 September 2017 5 October 2017	Plant disease caused by fungi and slime mold Characteristics, Classification, Symptoms, Life cycle : Ascomycota and its anamorph		Assist. Prof. Dr. Onuma
10	12 October 2017	Plant disease caused by fungi and slime mold, Characteristics, Classification, Symptoms, Life cycle: Basidiomycota and its anamorph	2	Dr. Patcharavipa
11	2 November 2017	Plant diseases caused by nematode Characteristics, Classification, Symptoms, Life cycle, and Control	2	Assist. Prof. Dr. Anongnuch
12	9 November 2017	Plant diseases caused by viruses and viriods Characteristics, Classification, Symptoms, Life cycle, and Control	2	Assoc. Prof. Dr. Ampaiwan
13	16 November 2017	Effects of pathogens on plant physiological functions and its attack	2	Assist. Prof. Dr.Netnapis
14	23 November 2017	Principles of plant disease control	2	Assist. Prof. Dr.Bancha
15	30 November 2017	Integrated pest management	2	Dr. Tiyakorn
		4-15 December 2017 Final examination		

Laboratory/Practice: Thursday 9.00–12.00, Room. PP 502

Laboratory instructor: Group 15: Assist. Prof. Dr. Netnapis Khewkhom and team teaching

Laboratory Topics	Lecturer
1. Microscope and micrometer	Dr. Patavipa
2. Basic techniques in plant pathology Culture Media and Sterilization	Assist. Prof. Dr.Netnapis
3. Koch's postulates	Dr. Patcharawipa
4. Plant Diseases Caused by Nutritional Disorders	Dr. Supot
5. Bacterial Plant Diseases: Soft Rot and Wilt	Dr. Udomsak
6. Bacterial Diseases of Plant : Black rot of crucifer, Citrus canker, and Soybean bacterial pustules	Dr.Tiyakorn
7. Plant Diseases Caused by Phytoplasma	Dr.Wanwisa
Midterm examination (Lab 1- Lab 7)	
8. Plant Diseases Caused by Fungi in the Phylum Plasmodiophoromycota, Phylum Oomycota and Phylum Zygomycota	Assist. Prof. Dr. Onuma
9. Plant Diseases Caused by Fungi in the Phylum Ascomycota, Class Filamentous Ascomycetes, Order Erysiphales (Powdery Mildew)	Assist. Prof. Dr. Onuma
10. Plant Diseases Caused by Fungi in Phylum Ascomycota, Class Hymenoascomycetes, and Class Sordariomycetes	Assist. Prof. Dr. Dr.Netnapis
11. Plant Diseases Caused by Fungi in the Phylum Ascomycota, Class Sordariomycetes	Dr.Veranee

12.	Plant Diseases Caused by Fungi in the Phylum Basidiomycota	Dr. Patcharavipa
13.	Plant Diseases Caused by Nematodes	Assist. Prof. Dr. Dr. Anongnuch
14.	Plant Diseases Caused by Viruses and Viroids	Dr. Wanwisa
15.	Chemicals for Plant Disease Control	Assist. Prof. Dr. Dr.Tida
4-15 December	Final examination (Lab 8- Lab 15)	

- Regulation of Specimens Collecting

All students must to collect the disease samples from the plants in the field and identify the causing agent and preparing the slides at least 3 specimens. The specimens should not be the same as the diseases samples that introduced in the class. All specimens might be corrected and certified by signature of any lecturers of the course. The dated line of sending specimen is December 4, 2017.

Note: Role of Collecting: All students should be allowed by the owner of experiment or plants that before collecting leaf or parts of plants.

- Materials and Instruments for studying Laboratory of Course 01008211

All students must to have your own basic instrument and materials as following:

- Guide line laboratory book of Introductory Plant Pathology;
- Pencil and Rubber
- A4 white paper without lines
- Any excluded instruments will be supported by the Department,

- Regulation of Reports/Guide line to do Report

1) Form or format: Reports is allowed to use A4 white paper without line and can use only one page for drawing the disease picture or symptom and causing organisms.
2) Pencil and color pencil is permitted to use for drawing the disease symptom, for causing organisms, black color pencil is only permitted to use.
3) Partitioning of the picture : the picture must to be in left side and the label should be right side and indicated the specific site by using the line
4) Under the picture of disease symptom should be the name of disease and scientific name of causal organism as same as under the picture of organisms, should be the scientific name of causal organism and name of diseases. Note; for the case of organism picture, it should have the number of power magnitude.

14. Team of Teaching

1. Assist. Prof. Dr. Netnapis Khewkhom — Course Manager and Lecturer
2. Assoc. Prof. Dr. Ampaiwan Paradornuwat — Lecturer
3. Assist. Prof. Dr. Anongnuch Sasnarukkit — Lecturer

4.	Assist. Prof. Dr. Onuma Piasai	Lecturer
5.	Assist. Prof. Dr. Bancha Chinasri	Lecturer
6.	Assist. Prof. Dr. Tida Dethoup	Lecturer
7.	Dr. Supot Kasem	Lecturer
8.	Dr. Udomsak Lertsuchardwanitch	Lecturer
9.	Dr. Patcharavipa Chaijuckam	Lecturer
10.	Dr. Patvipa Songkuman	Lecturer
11.	Dr. Veeranee Thongsri	Lecturer
12.	Dr. Thiyakorn Chatnaparat	Lecturer
13.	Dr. Wanwisa Siriwan	Lecturer

Signature Reporter.....

(Assist. Prof. Dr. Netnapis Khewkhom)

Course Syllabus

Subject Code: 999141 Man and Society, group 380

Course Description:

Study of human nature, human behavior, human settlement, human relationship, man and society, social organization, political and legal aspect, historical background of Thai society, social change and social problems.

Course Objective:

To study the nature of man, society and culture relating to government, law and historical background of the present Thai society.

Course Outline:

class	Content	Hours	Lecture
1	**Introduction + Man and Culture**	3	Ast. Prof. Amporn Sugandhavanij
2	**Social Organization**	3	Ast. Prof. Amporn Sugandhavanij
3	**Socialization**	3	Ast. Prof. Amporn Sugandhavanij
4	**Social Change**	3	Ast. Prof. Amporn Sugandhavanij
5	**Social Problems**	3	Ast. Prof. Amporn Sugandhavanij
6	**Man and Politics**	3	Ast. Prof. Srirath Gohwong
7	**Political Economy 1**	3	Ast. Prof. Srirath Gohwong
8	**Political Economy 2**	3	Ast. Prof. Srirath Gohwong
University's Midterm Period			
9	**Man and Law**	3	Ms. Sareeya Galasintu
10	**Human Settlement**	3	Dr. Orasa Suksawang
11	**Human Settlement**	3	Dr. Orasa Suksawang
12	**Thai History**	3	Ass. Prof. Supatra N. Wanapin
13	**Thai History**	3	Ass. Prof. Supatra N. Wanapin
14	**Understanding yourself**	3	Ast. Prof. Dr. Orapin Stiramon
15	**Understanding yourself**	3	Ast. Prof. Dr. Orapin Stiramon

Methods of Study:

- Class lecture
- Reading assignment and report
- Class activities
- Group discussion / case study

Grade Evaluation:

Evaluation will be done after each class.

Class Coordinator:

Ast. Prof. Amporn Sugandhavanij
02-561-3484 ext. 6
081-735-2992

COURSE SYLLABUS

1. **Faculty of** Agriculture **Department of** Department of Agricultural Extension and Communication

2. **Course code** 01001211 **Course name** Paradigm in Agricultural Extension
   Total credits 3(3 -0)
   Section Thursday 9:00-12:00 **Room:** , Vachiranusorn Building

3. **Lecturer(s):** Dr.Chalathon Choocharoen **e-mail address:** fagrchch@ku.ac.th

4. **Office hours for consultation with students**

   Day Wednesday **Time:** 10:00 a.m. – 12:00 a.m. **Telephone** 02-5791025 ext.104
   E-mail address: fagrchch@ku.ac.th

5. **Course Objective(s)**

   5.1 To understand agricultural extension and its evolution.
   5.2 To explain about agriculture extension system, perception indicator, strategy, resources and application
   5.3 To enumerate and explain systematic thinking and utilization
   5.4 To explain sustainable development, sufficiency economy, psychology in agricultural extension
   5.5 To understand agricultural business, value added, knowledge management and learning organization in agricultural extension.

6. **Course Description**

The significance, nature, elements, evolution of the agricultural extension and theories, concepts and perspectives in the study of agricultural extension.

7. Course Outline

7.1 Introduction to Agricultural Extension

7.2 The importance of Agriculture Extension

7.3 Media Change and Evolution of Agricultural Extension Work

7.4 Agricultural Extension System and Comparative Development

7.5 Strategy and Participation Technique

7.6 Sufficiency Economy Philosophy and Its Application

7.7 Agricultural resources and Searching

7.8 Systematic Thinking and Utilization

7.9 Value Added in Agriculture Products and Services

7.10 Sustainable Development Perception and Indicator of success

7.11 From Farm to Agribusiness

7.12 Change Management, Psychology for work

7.13 Leader/ Group/ Organization/ Women/Youth in Agriculture

7.14 Knowledge Management, Learning Organization

8. Student-centered Teaching Method(s)

The course will include lecture, discussion, case study, individual and group reports, related researches, classroom activities, and reading assignments.

9. Teaching Aids/Materials

PowerPoint Presentation, video, electronics media, documents

Course Text

9.1 Dominick, J. R. (2009). **The Dynamic of Mass Communication: Media in the Digital Age.** (10th Edition). New York: McGraw-Hill

9.2 Severin, W. J., & Tankard, J. W. (2001). **Communication Theories: Origins, Methods, and Uses in the Mass Media (5th Edition).** New York: Longman.

9.3 The World Bank Group. **Sustainable Development**. [Online] available http://www.worldbank.org/depweb/english/sd.html.

9.4 Ison R., Russell D., 2000. **Agricultural Extension and Rural Development: Breaking Out of Knowledge Transfer Traditions.** Cambridge University Press.

9.5 Pannell D. J., Glenn N. A., 1999. **A framework for the economic evaluation and selection of sustainability indicators in agriculture.** Ecological Economics 33 (2000) 135–149.

Behrens, J.H. and J.F. Evans, 1984. Using Mass Media for Extension Teaching. In B.E.Swanson (Ed). **Agricultural Extension**. A Reference Manual. Rome: Food Agricultural Organization-UN.

Haverkort, and Roling. 1984. **Six Approaches to Rural Extension**. Wageningen, the Netherlands: International Agricultural Center.

Ingle, T. 1974. **Communication Media and Technology: A Look at Their Role in Non-formal Education Campaign**. Information Bulletin No.5 the Clearing House on Development Communication. Academy for Educational Development, Inc. Washington, D.C., U.S.A.

Krishiworld. 2012. **Agricultural Extension Education** (Online). www.krishiworld.com/html/agri_extension_edu1.html, April 5, 2012.

Leagans, J.P. 1961. **Extension Teaching Methods**. In Extension Education in Community Development. Directorate of Extension. MAF, New Delhi, India.

Oakley P. and C. Garforth. 1985. **Guide to Extension Training**. Rome: Food and Agricultural Organization, UN.

Seevers, B., D. Graham, J. Gamon, and N. Conklin. 1997. **Education through Cooperative Extension**. Albany: Delmar Publishers.

Swanson, B. E., R. P. Bentz, and A. J. Sofranko. 1998. **Improving Agricultural Extension. A Reference Manual** (Online). www.fao.org/docrep/w5830E/w5830e00.htm,April 4, 2012.

Ban,A.W.van den, and H.S. Hawkins. 1998. **Agricultural Extension**. Blackwell Science Ltd.

Hoffmann et.al. 2015. **Rural extension** v1, v2 Examples and Back ground Material. Margraf publishers.

10. Measure(s) of Achievement

	Percent
10.1 Participation	5%
10.2 Class Punctually	10%
10.3 Midterm Examination	30%
10.4 Assignment	25%
10.2 Final Examination	30%
Total	**100%**

Criteria for Evaluation this course

Scores 85-100 = A

Scores 80-84 = B+

Scores 75-79 = B

Scores 70-74 = C+

Scores 65-69 = C

Scores 60-64 = D+

Scores 55-59 = D

Scores Less than 55 = F

11. Grading

Student Responsibilities

To get the most out of this course, your commitment is needed. It is your responsibility

11.1 To attend each class punctually, and turn off mobile phones or pagers.

11.2 To finish the reading assignment before class started.

11.3 To actively participate in presentations, class activities and discussion.

11.4 To complete research papers and examinations credibly and on time.

12. Class Schedule

Thursday 9-12 a.m. Room 317

Topic	Class	Lecturers
- Course Introduction - The importance of Agriculture and Change from Technology	Lecture, Discussion	Dr.Chalathon Choocharoen
- Introduction to Agricultural Extension	Lecture, Discussion	Dr.Chalathon Choocharoen
- Agricultural Extension System and Comparative Development	Lecture, Discussion	Assoc.Prof.Dr.Savitree Rangsipaht
- Strategy and Participation In Agricultural Extension	Lecture, Discussion	Dr.Chalathon Choocharoen
- Sufficiency Economy Philosophy and Its Application - Related Researches	Lecture, Discussion Case Study	Dr.Chalathon Choocharoen
- Systematic Thinking Utilization	Lecture, Discussion	Assoc.Prof.Dr.Patana Sukprasert ✓
Agricultural Resources and Searching	Lecture, Discussion, Assignment	Dr.Chalathon Choocharoen
Midterm Examination		**Dr.Chalathon Choocharoen**
Value Added in Agricultural Products and Services	Lecture, Discussion	Dr.Patcharavadee Sriboonruang ✓
- Sustainable Development - Perception and Indicator of Success	Lecture, Discussion, Assignment	Assoc.Prof.Dr.Patana Sukprasert ✓
Ethics in Agricultural Extension	Lecture, Discussion, Assignment	Dr.Chalathon Choocharoen
Individual Presentation	Presentation, Discussion	Dr.Chalathon Choocharoen
- Value Chain to Agribusiness	Lecture, Discussion	Dr.Patcharavadee ✓

Course Syllabus

Principles of Tropical Agronomy (01013231)

1. Faculty of Agriculture Department of Agronomy

2. Subject code 01013231 (3-0-6) Subject: Principles of Tropical Agronomy

3. Course Description

Agrometeorology and climate change in the tropics, genetic resources and crop improvement, biotechnology and tropical crop production, crop physiology, cropping system and pattern, tropical crop production and management, seed production and major development of tropical agronomy research and new technology (case study).

4. Objectives

To provide knowledge in principles of tropical agronomy and factors influencing the production of tropical field crops.

5. Course Outline

5.1 Introduction

5.1.1 The boundaries, scale and scope of tropical agronomy

5.2 Agrometeorology and climate change in the tropics

5.2.1 Solar radiation

5.2.2 Water & hydrological cycle

5.2.3 Climate change

5.3 Genetic resources and crop improvement

5.3.1 Evolution and genetic manipulation

5.3.2 Characteristics of the main crop types

5.3.3 Crop improvement

5.4 Biotechnology and tropical crop production

5.5 Crop physiology

5.5.1 Plant population and yield

5.5.2 Timing and environmental control of timing

5.6 Cropping system and pattern

5.7 Tropical crop production and management

5.7.1 Tillage and tillage operations

5.7.2 Soil and nutrient management

5.7.3 Irrigation and water management

5.7.4 Weed management

5.7.5 Harvest and post-harvest management

5.8 Seed production

5.9 Major development of tropical agronomy research & new technology (case study)

6. **Teaching method** Lecture and group discussion

7. **Teaching tools** Computer, LCD and sheet or hand outs

8. **Evaluation:**

Assignment	20 %
Class attention, participation and responsibility	10 %
Mid-term examination	35 %
Final examination	35%

9. **Grading**

>80.0%	A
75.0 – 79.9%	B+
70.0 – 74.9%	B
65.0 – 69.9%	C+
60.0 – 64.9%	C
55.0 – 59.9%	D+
50.0 – 54.9%	D
<50.0%	F

10. **Consultancy** Students can meet and consult to the course managers:

Dr Pasajee Kongsil - Agronomy Department, Room 105

Monday – Friday, 8:00-16:30

Tel. 02-5793130

e-mail : pasajee.k@ku.th

Please email to make an appointment before meeting

11. **Text books for further reading**

Acquaah, G. 2005. Principles of Crop Production: Theory, Techniques, and Technology. 2nd Edition. Pearson Prentice Hall, Upper Saddle River, New Jersey, 740p.

Azam-Ali, S. N. and G. R. Squire. 2002. Principles of Tropical Agronomy. Wallingford: CAB International. 238p.

Nosberger, J., H.H. Geiger and P.C. Struik. 2001. Crop Science: Progress and Prospects. CABI Publishing, Wallingford, Oxon, UK. 398p.

Pratley, J. 2003. Principles of Field Crop Production. Oxford University Press, Melbourne.

Simpson, M. G. 2010. Plant Systematics. 2nd ed., Academic Press in an imprint of Elsevier, Oxford. 740 p.

Sinclair, T.R. and F.P. Gardner. 1998. Principles of ecology in plant production. CAB International, Wallingford, Oxon, UK. 189p.

12. **Teaching schedule** 3 Credits : Lecture 3 hours/week

Friday 9:00-12:00 **Venue:** Room VJ 317 Floor 3 Vajiranusorn Bldg

Topic	Hours	Lecturer
- Course Details and Orientation - Introduction and pre-test	3	Pasajee
- The boundaries, scale and scope of tropical agronomy	3	Wanchai
- Agrometeorology and climate change in the tropics (Solar radiation, Water cycle, Climate change)	3	Ed
- Crop physiology (Plant population and yield, C3/C4 plants, Crop responses to environment)	3	Ed
- Tropical crop production and management (Tillage and tillage operations, Irrigation and water management)	3	~~Ed~~ Pitipong
- Soil and nutrient management	3	Pitipong
- Genetic resources and crop improvement (Evolution and genetic manipulation, Characteristics of the main crop types, Crop improvement)	3	Piya

Mid-term exam 9:00-11:00	2	Pasajee
- Biotechnology and tropical crop production	3	Pasajee
- Cropping system and pattern	3	Pitipong
- Weed management	3	Sarawut
- Harvest and post-harvest management	3	Wanchai
- Seed Production	3	Damrongvudhi
- Tropical forage crops	3	Nop
- Group discussion and presentation by student on special topics in tropical agronomy	3	Pasajee
- Group discussion and presentation by student on special topics in tropical agronomy - Wrap-up and Concluding Remarks	3	Pasajee
-Graduation ceremony rehearsal		
-Graduation ceremony		

13. Lecturers

Associate Professor Dr. Wanchai Chanprasert

Associate Professor Dr. Ed Sarobol

Assistant Professor Dr. Piya Kittipadakul

Dr. Pasajee Kongsil

Dr. Pitipong Thobunluepop

Dr. Sarawut Rungmekarat

Dr. Damrongvudhi Onwimol

Ajahn Nop Tonmukayakul

Signature Pajee Kongsil

(Dr. Pasajee Kongsil)

Course Syllabus
First Semester

1. **Faculty** Agriculture **Field** Tropical Agriculture
2. **Course code** 01013496 **Subject** Selected Topics in Tropical Agriculture
   Credit 3 credits (3-0)
3. **Lecturer**
   Professor Dr. Horvath Zoltan (Guest lecturer from Hungary)
4. **Officehours forconsultationwith students**
   By appointment
5. **Course Objectives**
   1. To provide background knowledge on major agricultural commercial situation
   2. To provide related technology, business or management knowledge
6. **Course description**
   Major agricultural commodities commercial situation. Related topics such as logistics, smart farming, agricultural cooperative and fair trade etc.
7. **Course outline**
   Introduction
   Remote sensing
   Database
   Operation system
   Data mining
   Presentation Technique
   Operation system
8. **Teaching methods**
   Lectures, discussion, computer practices
9. **Teaching materials**
   Powerpoint presentation, computer

10. Measures of Achievement

Class attendance, participation, presentation 100%

11. Grading

≥80 = A ≥75 = B+ ≥70 = B ≥65 = C+

≥60 = C ≥55 = D+ ≥50 = D <50 = F

11. Textbooks and Readings

-

12. Class Schedule

Lecture Tuesday 9.00-12.00 am. Room no. 318 Vajiranusorn building, Faculty of Agriculture

Week	Date	Topics	Lecturer
1	8 Aug	Remote sensing	Dr. Horvath Zoltan
2	15 Aug	Database, Operation system	Dr. Horvath Zoltan
3	22 Aug	Beacon and physical web	Dr. Horvath Zoltan
4	29 Aug	Data mining I	Dr. Horvath Zoltan
5	5 Sep	Presentation Technique I	Dr. Horvath Zoltan
6	12 Sep	Presentation Technique II	Dr. Horvath Zoltan
7		**Midterm Examination (16-24 Sep)**	
8	26 Sep	Presentation Technique III	Dr. Horvath Zoltan
9	3 Oct	Database in agriculture	Dr. Horvath Zoltan
9	10 Oct	Operation system I	Dr. Horvath Zoltan
10	17 Oct	Operation system II	Dr. Horvath Zoltan
11	24 Oct	Data mining II	Dr. Horvath Zoltan
12	31 Oct	Database I (Triggers, Store procedures, Store functions)	Dr. Horvath Zoltan
13	7 Nov	Database II (Special datatypes I, Special datatypes II)	Dr. Horvath Zoltan
14		**Final Examination (4-15 Dec)**	

Asst. Prof. Wanida Auamcharoen

Course manager

COURSE SYLLABUS

1. **Faculty of** Agriculture **Field** Tropical Agriculture **Department of** -
2. **Course Code** 01013497 **Course Name** Seminar

Total Credits 1 (1-0-3)

Prerequisite -

Date time and place Friday 1.00 - 2.00 p.m. Room 317 Vajiranusorn Building

3. Lecturers

3.1 Assoc. Prof. Alisara Menakanit, Ph.D. email address: alisaram@yahoo.com

3.2 Assist. Prof. Buncha Chinnasri, Ph.D. email address: agrbcc@ku.ac.th

3.3 Mr. Nop Tonmukayakul email address: fagrnot@ku.ac.th

4. Office Hours for Consultation with Students

Tuesday 10.00 a.m. -12.00 p.m. or by appointment, Telephone 0-2579-0308 ext. 155

5. Course Objectives

5.1 To train students the ability to prepare their own research content for scientific presentation

5.2 To train students the ability to prepare visual aids for scientific presentation

5.3 To train students the ability to give an academic presentation in a seminar/symposium

6. Course Description

Presentation and discussion on current interesting topics in tropical agriculture at the bachelor's degree level.

7. Course Outline

7.1 Introduction

7.2 Importance of research, scientific seminar, atmosphere of academic meeting

7.3 Preparation for presentation

7.4 Abstract and manuscript preparation for a seminar

7.5 Preparation: use of visual aids and presentation methods for scientific presentation

7.6 Practice for oral presentation

7.7 Oral presentation

8. Student-centered Teaching Methods

Lecture, students' participation, practice, learning through critiques, publication and internet-based self learning, presentation.

9. Teaching Aids/Materials

Power point slides, electronics media, documents.

10. Measure(s) of Achievement

10.1	Oral presentation practice performance	35%
10.2	Final oral presentation of a research article (12-minute talk)	55%
10.3	Class attendance and participation	10%
	Total	100%

11. Grading

Base on an average score from all lecturers.

Criteria for grading 80% up = A

(5% interval) 49.9% or lower = F

12. Textbook(s) and Readings

http://www.fw.mau.edu/orgs/gso/documents/GSOWorkshopDocsSp2006/TipsforGivingaScientifi cPresentation.pdf

http://www.cs.ubc.ca/~harrison/PowerPoint/Scientific-Presentation-Planning.pdf

http://tos.org/resources/publications/sci_speaking.html

http://www.swarthmore.edu/NatSci/cpurrin1/posteradvice.htm

http://marcus.whitman.edu/~weilercs/Talking/Foote%20article.pdf

13. Class Schedule

Week	Date	Topic	Class Activity	Lecturer
1	11 Aug	Components of scientific research	Lecture	Buncha
2	18 Aug	Introduction/Public speaking	Lecture	Alisara
3	25 Aug	Visual aids	Lecture	Alisara
4	1 Sep	Abstract writing and data preparation	Lecture	Buncha
5	8 Sep	Preparation for presentation	Self learning	-
6	15 Sep	Preparation for presentation Submit selected articles' files	Self learning	
7	22 Sep	Mid-term exam		
8	29 Sep	Practice oral presentation (non-research/research paper)	Presentation/Comment	Alisara/Buncha/Nop

Week	Date	Topic	Class Activity	Lecturer
9	6 Oct	Practice oral presentation	Presentation/Comment	Alisara/Buncha/Nop
10	13 Oct	National Holiday		
11	20 Oct	Graduation rehearsal		
12	27 Oct	Practice oral presentation	Presentation/Comment	Alisara/Buncha/Nop
13	3 Nov	Practice oral presentation	Presentation/Comment	Alisara/Buncha/Nop
14	10 Nov	Presentation (research paper)		Alisara/Buncha/Nop
15	17 Nov	Presentation (research paper)		Alisara/Buncha/Nop
16	24 Nov	Presentation (research paper)		Alisara/Buncha/Nop
17	1 Dec	Presentation (research paper)		Alisara/Buncha/Nop

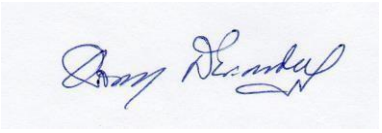
Note: schedule may be changed according to final graduation ceremony dates

11 – 15 September Students do the 1st online class evaluation at https://eassess.ku.ac.th/27

November – 3 December - Students do the 2nd online class evaluation

14. Others

14.1 Students must wear KU uniform or he/she may not be allowed to attend class
14.2 Jeans and sandals are not allowed
14.3 Students coming to class later than 1.15 p.m. will be counted as absence
14.4 Students cannot miss more than 20% of classes



(Assoc. Prof. Alisara Menakanit)

Course Syllabus

1. Faculty of Agriculture — Department of Soil Science
2. Course Code01009472 — Course Name Soil and Water Conservation
   Number of Cradit 3(3-0)
   Prerequisite Soil Science
   Group 400 and 680
   Date, time and Place of Lecture:
   Monday 13.00-16.00 hrs. Room 317
   Faculty of Agriculture Building

Lecturer

Assistant Professor Dr. Somchai Anusontpornperm

4. Availability Off-Classroom for Consultation and Advice

Monday-Friday — Telephone 0-2942-8104-5, 081-904-5925

Duration: 09.00-12.00 Hrs. — Email: somchai.a@ku.ac.th

5. Course Objectives

5.1 To realize fundamental nature and importance of soil and water conservation

5.2 To understand cause in relation to factor influencing soil erosion and how to control

5.3 To learn how to assess soil loss using Universal Soil Loss Equation (USLE)

5.4 To understand the approach of soil and water conservation

5.5 To know how to conduct research involving soil and water conservation

6. Course Description

Fundamental approach of soil and water conservation relating to cause and process involved, factors influencing wind and water erosions and their control, conservation tillage and plant management including sustainable land management, Field trip required

7. Course Structure

7.1 Introduction, background and definitions relating to soil and water conservation

7.2 Geological soil erosion process and factors involved

7.3 Mechanics of wind and water erosions and their control

7.4 Soil erosion assessment

7.5 Soil erodibility and the impact by land uses

7.6 Soil and water conservation approaches

7.7 Appropriate management for soil and water conservation

7.8 Research on soil and water conservation

8. Student Centered Teaching Approach

8.1 Lectures six hours/week with term report from topic book research assignment in soil and water conservation

8.2 Field trip and report

8.3 Research proposal preparation and oral presentation

9. Teaching Media

9.1 LCD Power Point

9.2 Field and location samples

10. Method of evaluation

10.1 Term report and room presentation	20%
10.2 Two two-hour examinations each of 30 percent	60%
10.3 Attendance	10%
10.4 Field trip report	10%
Total	100%

11. Course Grading System

Grade issue:A, B, C, D and Fusing ranges as follow;

Lower than55.0%	= F	55.0-59.9%	= D
60.0-64.9%	= D+	65.0-69.9%	= C
70.0-74.9%	= C+	75.0-79.9%	= B
80.0-84.9%	= B+	Greater than85.0%	= A

12. Course Reference Text

Agassi, M. 1996. Soil Erosion, Conservation, and Rehabilitation. Marcel Dekker, Inc., NY.

Bridge, E.M., I.D. Hannam, L.R. Oldeman, F.W.T Penning De Vries, S.J. Scherr, and Samran Sombatpanit. 2001. Response to Land Degradation. Science Publisher, Inc. U.S.A.

Frederick, R.T., J.A. Hobbs and R.L. Donahue. 1991. Soil and Water Conservation. Prentice-Hall, Inc., NJ.

Hudson, N. 1981. Soil Conservation. Cornell University Press., NY.

Lal, R. 1990. Soil Erosion in the Tropics: Principles and Management. McGraw-Hill, Inc., NY.

Lal, R. 1994. Soil Erosion Research Methods, 2nd ed. Soil and Water Conservation Society and St. Lucia Press, FL.

Morgan, R.P.C. 1995. Soil Erosion and Conservation. Longman Ltd., UK.

Penning de Vries, F.W.T., F. Agus and J. Kerr. 1998. Soil Erosion at Multiple Scales: Principles and Methods for Assessing Causes and Impacts. CABI Publishing and IBSRAM, Bangkok, Thailand.

Pierce, F.J. and W.W. Frye. 1998. Advances in Soil and Water Conservation. Sleeping Bear Press, Inc., MI.

Soil Conservation Handbook. 1995. Food and Fertilizer Technology Center for the Asian and Pacific Region.

13. Course Activity Schedule

Week	Contents of Lectures	Hours	Lecturer
1	Introduction, definitions and background of the subject	3	Somchai
2	Geological erosion versus accelerated erosion	3	Somchai
3	Water erosion and factors involved	6	Somchai
4	Wind erosion, processes and hazard	3	Somchai
5	Soil erosion assessment using USLE	6	Somchai
6	Erodibility, erosivity and factors influencing man-made erosion	3	Somchai
7	Soil and water conservation approach	3	Somchai
8	Conservation tillage and cropping system	6	Somchai
9	Biological and mechanical conservation measures	6	Somchai
10	Soil erosion control on construction sites	3	Somchai
11	Research cases in soil and water conservation	3	Somchai

Remark: Contents of weeks. 1-5 for 1st examination and 6-11 for 2nd examination

14. Other Course Activities

14.1 Report

1)Term paper must be submitted one week prior to course ending.

2) Short papers need be submitted in the following week after assigned.

3) Field report needs be submitted one week after the field trip.

14.2 Field trip

To be arranged

Name.....Course Manager

(Assist. Prof. Dr. Somchai Anusontpornperm)

Date: 7 August 2017

COURSE SYLLABUS

1. **Faculty of** Agriculture **Department of** Soil Science

2. **Course Code:** 01009112 **Course Name:** Soil Science

   Total credits: 3(2-3-6)

   Pre-requisite: 01403111, 01403112 or 01403113

3. **Lectures:**

   3.1 Dr. Surachet Aramrak Course Manager

   3.2 Assist. Prof. Dr. Somchai Anusontpornperm

   3.3 Assist. Prof. Dr. Suphicha Tanachit

   3.4 Assist. Prof. Dr. Natthapol Chittamart

4. **Office hours for consultation with students**

   Day: Monday to Friday Time: 9-16 hrs. Room: Soil 224

   Telephone 02-942-8104 ext. 224 e-mail address: agrscar@ku.ac.th

5. **Course Objectives**

   5.1 To learn basic knowledge of soils

   5.2 To apply basic knowledge of soils to manage and conserve soil and water for agriculture

6. **Course Description**

Importance of soils, soil genesis and soil compositions, physical, chemical and biological properties of soils, soil organic matter and soil microorganisms, plant nutrients, fertilizers and usages, soil survey and classification, soil and water conservation, applications of soil information, and soils and environments.

7. **Course Outline**

   7.1 Soil forming materials and soil development processes

   7.2 Physical properties of soils

   7.3 Chemical properties of soils

7.4 Soil organic matter

7.5 Soil microorganisms

7.6 Plant nutrients

7.7 Fertilizers and usages

7.8 Soil management and conservation

7.9 Soil survey and classification

7.10 Soil data and application

8. Student-centered Teaching Methods

8.1 Lectures

8.2 Laboratory practical and reports

8.3 homework

9. Teaching Aids

9.1 Computer, LCD projector and screen

9.2 Soil monoliths, soil samples

9.3 Laboratory equipment, instruments and chemicals

10. Measure(s) of Achievement

10.1	Lectures	70%
	1) Mid-term examination	35%
	2) Final examination	35%
10.2	Laboratory practical	30%
	1) Quiz 12%	
	2) Report 12%	
10.3	Class attendance	6%

11. Grading

< 50 %	= F	65–69 %	= C+
50–54 %	= D	70–74 %	= B
55–59%	= D+	75–79 %	= B+
60–64%	= C	≥80%	= A

12. Textbook

Brady, N. C. and R. R. Weil, 2008. The Nature and Properties of Soils, 14th Edition. Prentice Hall. New Jersey, USA.

Singer, M. J. and D. N. Munns, 2006. Soils: An introduction. Prentice Hall. New Jersey, USA.

13. Class Schedule

13.1 Lectures (Tuesday, 13.30-15.30 hrs), Vachiranusorn building, Room#317

Contents	Lecturer
Introduction Soil forming materials	Surachet
Soil genesis and soil development processes	Surachet
Soil texture, soil structure Soil density and porosity	Surachet
Soil aeration, soil color Soil water	Surachet
Soil colloids Charges on soil colloids	Surachet
Soil acidity and soil alkalinity Salt-affected soils	Surachet
Soil organisms Soil organic matter	Natthapol
Mid-term exam	Surachet
Plant nutrients and primary essential elements Secondary essential elements	Natthapol
Trace elements Chemical fertilizers	Natthapol
Organic fertilizers Fertilizer application	Natthapol
Rehearsal of Graduation (October 16-20) **Royal cremation ceremonies for King Rama IX to be held October 25-29, 2017**	
Soil management	Somchai
Soil conservation	Somchai
Soil survey Soil classification	Somchai
Soil data and application	Somchai
Soils and environments	Somchai
Final exam	Surachet

13.2 Laboratory practical (Tuesday, 9.30-12.30 hrs.)

Department of Soil Science Building, Third Floor. Room - Soil 305

Activities	Instructor
Introduction and Grouping	Surachet
Chapter 1 : The importance of soils	Suphicha
Chapter 2 : Composition of soils and soil forming materials	Suphicha
Chapter 3 : Soil texture and particle size distribution	Suphicha
Chapter 4 : Soil density and porosity	Suphicha
Chapter 5 : Soil moisture	Suphicha
Mid-term exam	
Chapter 6 : Basic chemical properties of soils	Suphicha
Chapter 7 : Problem soils in agriculture	Suphicha
Chapter 8 : Soil microorganisms and soil organic matter	Suphicha
Rehearsal of Graduation (October 16-20) Royal cremation ceremonies for King Rama IX to be held October 25-29, 2017	
Chapter 9 : Available nutrients evaluation by soil testing	Suphicha
Chapter 10 : Fertilizers	Suphicha
Chapter 11 : Application of soil survey data	Suphicha
Chapter 12 : Soil conservation and management	Suphicha
Visiting soil museum at Land Development Dept.	Suphicha
Conclusion and Class evaluation	Surachet
Final exam	

Signature SURACHET ARAMRAK

(Surachet Aramrak)

Course Syllabus

1. **Faculty:** Agriculture Department: Entomology
2. **Course number:** 01013221 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 important 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. **Equipment:**

   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%

- Midterm Exam 25%
- Final Exam. 25%

8.2 Laboratory practice 40%

- Midterm Exam 20%
- Final exam. 20%

8.3 Class attendant 10%

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.

Samway, M.J. 2005. Insect Diversity Conservation. Cambridge University Press. 342 pp.

12. Schedules:

Topics	Lecturer
Introduction, review What is tropical ecosystem?	Wiboon
Insect diversity in the tropic/Species richness, indices for insect diversity	Akekawat
Role of environment on insect distribution and outbreak	Ratchadawan
How to investigate the insect outbreak?	Wanida
Global warming and insect community	Surachate
Roles of insects in agricultural production	Wanida
MIDTERM EXAMINATION (Topic 1-6)	**Akekawat**
Life table of insects/ Insect rearing	Anchana
Insect pests of tropical fruits and their managements	Athirat
Insect pests of tropical vegetables and their managements	Athirat
Insect pests of stored product and their managements	Benjakhun
Insect pests of rice, maize, legumes, fiber crops and their managements	Prakai
Livestock insects in the tropic and their managements	Theeraparp
Insect problems in international trade of agricultural commodities	Wiboon
FINAL EXAM (Topic 8-14)	Akekawat

Laboratory, Tuesday: 13.00-16.00 pm (IPM Building)

Topics	Lecturer
Insect classification: Major insect orders	Akekawat
Insect Classification: Major insect families I	Akekawat
Insect Classification: Major insect families II	Akekawat
Immature insects	Benjakhun
Plant extracts for insect control: Tropical application, fumigation Plant extracts for insect control: Antifeedant	Wanida
Sampling and surveying of tropical insects and insect damage diagnosis	Jaruwat
MIDTERM EXAMINATION (Topic 1-6)	**Akekawat**
Visiting Department of Agriculture Extension/Department of Agriculture	Anchana
Insect pests of tropical fruits	Athirat
Insect pests of tropical vegetables	Athirat
Insect pests of stored products	Benjakhun
Insect pests of rice, maize, legumes, fiber crops	Prakai
Livestock insects investigation	Ratchadawan
Important quarantine insects	Wiboon
FINAL EXAM (Topic 8-14)	**Akekawat**

13. Teaching Team:

Associate Professor Dr. Surachate Jamornmarn
Associate Professor Wiboon Chongrattanameteekul
Professor Dr. Theeraparp Charoenviriyaphap
Dr. Akekawat Vitheepradit
Assistant Professor Dr. Anchana Thancharoen
Dr. Prakai Rajchanu-wong
Dr. Jaruwat Thowthampitak
Dr. Ratchadawan Ngoenklan
Assistant Professor Dr. Athirat Noosidum
Dr. Benjakhun Sangtongproaw
Assistant Professor Dr. Wanida Uaumcharoen

Dr. Akekawat Vitheepradit
Course manager

01424111 PRINCIPLES OF BIOLOGY (3 credits)

Tropical Agriculture (International program) SEC400 (and SEC430 combined)

Regular Class 10.30-12.00 AM and 13.30-15.00 PM (3 hrs/week);

45th Year Science building, 3rd floor, Room 308, Faculty of Science, Kasetsart University, Bangkok

Date			Lecture topics	Specialist Lecturers
Month	Tuesday	Thursday		
Jan	9	11	(1) Ecology	Dr. Vasakorn Banlangpoti (Asaaoc. Prof.)
Jan	16	18	(2) Origin of Life and Bioevolution	Dr. Pattanee Juntrarothai (Assoc. Prof.)
			(Drop without W on transcript 20th Jan 6th Feb)	
Jan	23	25	(3) Chemical Building Block of Life	Dr. MeSayamas KhongSema
Feb	6	8	(4) Cell Structure and Cell Membrane	Dr. Piyama Tasanasuwan
Feb	13	15	(5) Photosynthesis	Dr. Wanvipa Vongsagnak (Assoc. Prof.)
3rd/March 10.00-12.00 am			**Exam#1 topic (1)-(5), 75 Multiple choice questions (15 question for each topics)**	
Feb	20	22	(6) Nucleic acids and Protein Synthesis	Dr. Piyama Tasanasuwan
March	6	8	(7) Enzyme and Bioenergetics	Dr. Wachiryah Thong-asa
March	13	15	(8) Cellular Respiration	Dr. Wachiryah Thong-asa
			(Drop without W on transcript 5th March30th March)	
March	20	22	(9) Cell Cycle and Cell division	Dr. Promote Chumnanphum
March	27	29	(10) Reproduction and Development	Dr. Koraon Wongkamhaeng
April	3	5	***(11)*** Nervous System	Dr. Wirasak Fungfuang
21th April 10.00-12.00 am			**Exam 2 topic (6)-(10), 75 Multiple choice questions (15 question for each topics) (Thai new year Holiday 13th –20th April)**	
April	10	12	***(12)*** Respiratory system and Circulatory system	Dr. Wirasak Fungfuang
April	24	26	***(13)*** Endocrine system	Dr. Noparat Sra-Khew
May	1	3	***(14)*** Bioinformatics	Dr. Wanvipa Vongsagnak (Assoc. Prof.)
May	Sat 5		*(15)*Species Diversity (or as private appointment)	Dr. Narisara Piyasangthong
19th May 14.00-16.00 น.			**Exam# topic (11)-(15), 75 Multiple choice questions (15 questions for each topics)**	

01017212 Food Sanitation (3-0) Outline

Course Manager: Assist. Prof. Dr. Marisa Phupinyokul

Date	Topics	Instructors
9 Aug	Course Introduction	Assist. Prof. Dr. Marisa Phupinyokul
16 Aug	Basic Elements in Food Sanitation	Assist. Prof. Dr. Marisa Phupinyokul
23 Aug	Food Storage	Assist. Prof. Dr. Marisa Phupinyokul
30 Aug	Personal Hygiene	Assoc. Prof .Dr. TasaneeLimsuwan
6 Sept	Pathogenic Effects on Food	Dr.WichaTreesuwan
13 Sept	Sanitisers	Dr.WichaTreesuwan
20 Sept	Pest Control	Assist. Prof. Dr. Marisa Phupinyokul
27 Sept	Midterm Exam	-
4 Oct	GMP	Assoc. Prof .Dr. TasaneeLimsuwan
11 Oct	HACCP	Assoc. Prof .Dr. TasaneeLimsuwan
18 Oct	Food Waste Management	Assoc.Prof. Dr.ChudchawalnChantaravichitr
25 Oct	No Class	
1 Nov	Noise and Food Premises	Assoc.Prof. Dr.ChudchawalnChantaravichitr
8 Nov	Design and Food Services Facilities	Faculty of Architecture team
15 Nov	Design and Food Services Facilities	Assist. Prof. Dr. Marisa Phupinyokul
22 Nov	No Class	
29 Nov	Field Trip	NapapanNanthapong MOPH
6 Dec	Presentation	Assist. Prof. Dr. Marisa Phupinyokul
13 Dec	Final Exam	Assist. Prof. Dr. Marisa Phupinyokul