TQF 3 Course Specifications

Section 1 General Information

1. Course code and course title

Thai ICGN 113 พืช มนุษย์ และพิษ

English ICGN 113 Plants, People and Poisons

2. Number of credits 4 (4-0-8)

3. Program and type of subject

3.1 Program Undergraduate Degree (International Program)

3.2 Type of Subject General Education

4. Course Coordinator and Course Lecturer

4.1 Course Coordinator:

Assoc. Prof. Chulathida Chomchai, Science Division, chulathida.cho@mahidol.ac.th

4.2 Course Lecturer(s):

Mr. Laird Allan, Science Division, laird.all@mahidol.ac.th

5. Trimester/ Year of Study

5.1 Trimester All trimesters (including summer session) / for all students in all International College Undergraduate Programs

5.2 Course Capacity: Up to 45 students

6. Pre-requisite N/A

7. Co-requisites N/A

8. Venue of Study Mahidol University International College

Section 2 Goals and Objectives

1. Course Goals

1.1 Develop students' understanding of plants, people and poisons through the study of the origins and history of plant species

1.2 Develop students' understanding and appreciation of plant diversity within the realm of life on Earth

1.3 Create knowledge and understanding of the scientific advancements that are stretching

the limits of human ability and changing modern society.

2. Objectives of Course Development/Revision

2.1 Course Objectives

2.1.1. Understand the relationship between evolutionary theory and the key characteristics of plants, and identify their use by human society for both constructive and destructive means.

2.1.2. Use scientific understanding to debunk common myths and misperceptions about plants, and analyze the impact of scientific advancement on humans and society

2.1.3. Apply key concepts to explain and analyze connections between past development and current situations, and predict future trends

2.2 Course-level Learning Outcomes: CLOs

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

1. CLO1: Explain the plant kingdom and identify real-world examples of plant uses, identify and explain characteristics of plants, and identify key stages in the evolution of plants
2. CLO2: Use scientific understanding to debunk common myths and misperceptions about plants, and analyze the impact of scientific advancement on plants and society
3. CLO3: Apply key concepts to explain and analyze connections between past development and current situations, and predict future trends
4. CLO4: Work effectively in groups with members from diverse backgrounds
5. CLO5: Use technology to enhance their learning experience

Section 3 Course Management

1. Course Description

ทำการสำรวจโลกของพืช; เพื่อให้ได้ข้อมูลเชิงลึกเกี่ยวกับวิธีการปลูกพืชและการทำซ้ำ; โดยการตรวจสอบด้วยเทคโนโลยีสมัยใหม่และวิธีการที่สามารถนำมาใช้เพื่อปรับปรุงวิธีการทางการเกษตร; มีความเข้าใจพื้นฐานเกี่ยวกับชีววิทยาของพืช; รู้ถึงความแตกต่างระหว่างกลุ่มพืชหลัก; อภิปรายและทำความเข้าใจเกี่ยวกับผลกระทบทางสังคมของการใช้พืชและการใช้ประโยชน์จากพืชในทางที่ผิด

Explore the plant world; gain insight into the way plants grow and reproduce; examine modern technologies and how they can be used to improve agricultural methods; have a

basic understanding of plant biology; know the distinctions among major groups of plants; discuss and understand the social implications of plant use and abuse.

2. Credit hours per trimester

Lecture (Hour(s))	Laboratory/field trip/internship (Hour(s))	Self-study (Hour(s))
48	0	96

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

4 hours per week at 1 or two hours per day available at a fixed schedule, and if required, students may schedule an appointment with the lecturer or walk in during office hours.

Section 4 Development of Students' Learning Outcome

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

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

1. CLO1: Explain evolutionary theory and identify real-world examples of evolution, identify and explain characteristics of plants, and identify key stages in the evolution of human society
2. CLO2: Use scientific understanding to debunk common myths and misperceptions about plants, and analyze the impact of scientific advancement on plants and society
3. CLO3: Apply key concepts to explain and analyze connections between past development and current situations, and predict future trends
4. CLO4: Work effectively in groups with members from diverse backgrounds
5. CLO5: Use technology to enhance their learning experience

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

Course Code	Teaching methods	Evaluation Methods
CLO1	Lecture, discussion, e-learning, group work, peer teaching	Assignments, examinations

CLO2	Lecture, discussion, e-learning, group work, peer teaching	Assignments,examinations
CLO3	Lecture, discussion, e-learning, group work, peer teaching	Assignments, examinations
CLO4	Lecture, discussion, e-learning, group work, peer teaching	Assignments, short presentations
CLO5	Lecture, discussion, e-learning, group work, peer teaching	Assignments, online examinations

Section 5 Teaching and Evaluation Plans

1. Teaching plan

Week	Topic	Number of Hours		Teaching Activities/ Media	Lecturer
		Lecture Hours	Lab / Field Trip / Internship Hours		
1A		4	-	Lecture, discussion, e-learning	
2		4	-	Lecture, discussion, e-learning	
3		4	-	Lecture, discussion, e-learning	
4		4	-	Lecture, discussion, e-learning	
5		4	-	Lecture, discussion, e-learning	
6		4	-	Lecture, discussion, e-learning	

7		4	-	Lecture, discussion, e-learning	
8		4	-	Lecture, discussion, e-learning	
9		4	-	Lecture, discussion, e-learning	
10		4	-	Lecture, discussion, e-learning	
11		4	-	Lecture, discussion, e-learning	
12		4	-	Lecture, discussion, e-learning	
	Total	48	-		

2. Plan for Assessing Course Learning Outcomes

2.1 Assessing and Evaluating Learning Achievement

a. Formative Assessment

N/A

b. Summative Assessment

(1) Tools and Percentage Weight in Assessment and Evaluation

Learning Outcomes	Assessment Methods	Assessment Ratio (Percentage)	
CLO1 Explain evolutionary theory and identify real-world examples of evolution, identify and explain	Field trip report (group work)	5	25
	Written Examination – MCQ, short responses, & essays	20	

characteristics of plants, and identify key stages in the evolution of plants			
CLO2 Use scientific understanding to debunk common myths and misperceptions about plants, and analyze the impact of scientific advancement on plants and society	Written Examination – MCQ, short responses, & essays	15	25
	Class assignments (presentations and discussions)	10	
CLO3 Apply key concepts to explain and analyze connections between past development and current situations, and predict future trends	Written Examination – MCQ, short responses, & essays	15	25
	Class assignments (presentations and discussions)	10	
CLO4 Work effectively in groups with members from diverse backgrounds	Field trip (participation & ethics)	5	15
	Field trip report (group work)	5	
	Class assignments (presentations and discussions)	5	
CLO5 Use technology to enhance their learning experience	Field trip report, class assignments, presentations and online collaborative work	10	10
Total		100	100

(2) Grading System

Grade	Achievement	Final Score (% range)	GPA
A	Excellent	90-100	4.0
B+	Very good	85-89	3.5
B	Good	80-84	3.0
C+	Fairly good	75-79	2.5
C	Fair	70-74	2.0
D+	Poor	65-69	1.5
D	Very poor	60-64	1.0
F	Fail	Less than 60	0.0

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

N/A - (Not applicable with MUIC)

3. Student Appeals

N/A

Section 6 Teaching Materials and Resources

1. Textbooks and/or other documents/materials

Class materials will be provided via instructor, MUIC e-Learning, and other online channels

2. Recommended textbooks and/or other documents/materials

1) Plants and Society. Levetin

3. Other Resources (If any)

Selected reading from popular press and literature

Section 7 Evaluation and Improvement of Course Management

1. Strategies for evaluating course effectiveness by students

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

2. Strategies for evaluating teaching methods

2.1 Evaluation of effectiveness based on student evaluation scores and comments

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

3. Improvement of teaching methods

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

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

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

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

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

5.2 Strategy for improvement set according to MUIC/Division guidelines

Appendix

Alignment between Courses and General Education courses

Table 1 The relationship between CLOs and MU-GE Module LOs (Number in table = Sub LOs)

(Course Code)	Learning Outcomes in General Education (MU-GE LOs)								
	MLO 1	MLO 2	MLO 3	MLO 4	MLO 5	MLO 6	MLO 7	MLO 8	MLO 9
CLO1 Identify chemistry concepts and their relevance to societal issues	1.1 1.2	2.2	3.1	4.1	5.2	6.1	7.1	8.1 8.2 8.3 8.4	9.1 9.2
CLO2 Interpret experimental results to arrive at conclusions	1.3 1.4	2.2	3.1 3.2	4.1 4.2	5.1 5.2	6.1 6.2	7.1	8.1 8.2 8.3 8.4	9.2
CLO3 Prepare a purposeful presentation	1.1 1.2 1.3 1.4	2.2	3.1 3.2	4.1 4.2	5.1 5.2	6.1 6.2	7.1	8.1 8.2 8.3 8.4	9.1
CLO4 Deliver a logical oral presentation		2.2	3.1 3.2	4.2	5.1 5.2	6.1 6.2 6.3 6.4	7.1 7.2 7.3	8.1 8.2 8.3 8.4	9.1 9.2
CLO5 Work effectively in a team with members from various majors.	1.2 1.3				5.2	6.1 6.4	7.3	8.1 8.2 8.3	9.1 9.2

Table 2 The description of MU-GE LOs and Sub LOs of the course

MU-GE LOs	Sub LOs
MLO1 Create & construct an argument effectively as well as identify,	1.1 identify concepts related to the context of learned issues/topics

critique and evaluate the logic & validity of arguments	1.2 demonstrate ICT literacy: use appropriate technology to find, evaluate, and ethically use information
	1.3 collect, analyse, synthesize data, & evaluate information and ideas from multiple sources relevant to issues/problems
	1.4 synthesize information to arrive at logical reasoning
MLO2 Select & use techniques and methods to solve open-ended, ill-defined and multistep problems	2.2 make judgment & decision through correct analysis, inferences, and evaluations on quantitative basis and multiple perspectives
MLO3 Acquire specific strategies & skills within a particular discipline and adapt them to a new problem or situation.	3.1 connect, synthesize and/or transform ideas or solutions within a particular framework 3.2 integrate alternative, divergent, or contradictory perspectives or ideas in the solution of a problem or question
MLO4 Create a novel or unique ideas, question, format, or product within a particular framework	4.1 create an original explanation or solution to the issues/problems 4.2 articulate the rationale for & consequences of his/her solution- identify opportunities & risk
MLO5 Explore and situate oneself in a new physical environment and intellectual perspectives	5.1 demonstrate cultural competencies and adaptabilities in different working environments 5.2 resort to multi-dimensional settings and tools to acquire knowledge and skills relevant to the problem or situation at hand
MLO6 Act autonomously within context of relationships to others, law, rules, codes, and values	6.1 demonstrate an understanding of the principles upon which sustainable ecosystems and societies are built 6.2 identify the national & global challenges associated with current economic, political, and social systems 6.3 exhibit characteristics of responsible citizenship 6.4 work effectively in diverse team (and multi-cultural settings)
MLO7 Apply ethical frameworks or principles and consider their implications in his/her decision-making and interacting with others.	7.1 identify ethical issues and recognize different viewpoint and ideologies 7.2 guide & lead others 7.3 apply principle of ethical leadership, collaborative engagement, and respect diversity

MLO8 Use a variety of means/ technologies to communicate effectively and purposefully- e.g., share information/ knowledge, express ideas, demonstrate or create individual & group product, etc.	8.1 communicate/present ideas effectively both oral & written forms, proper to a range of audience groups, such as verbal discussion with peers, project report. 8.2. prepare a purposeful oral presentation designed to increase knowledge, to foster understanding, or to promote change in the listeners' attitudes, values, beliefs, or behaviors. 8.3. prepare written documents to express ideas/solutions using different writing technologies, and mixing texts, data, and images. 8.4. demonstrate competence in a second or additional language
MLO9 Collaborate and work effectively as part of a student group/team member to arrive at the team shared-goals in time	9.1 collaborate effectively with others as a responsible team member to achieve team goals in time 9.2 interact with others respectfully, whether as a team member or leader, to create a productive teamwork