Course Syllabus

1.	**Program of Study**	Bachelor of Science Program Bachelor of Arts Program Bachelor of Business Administration Program Bachelor of Nursing Science Program
	Faculty/Institute/College	Mahidol University International College
2.	**Course Code**	ICNS 154
	Course Title	Science Technology and the Environment
3.	**Number of Credits**	4 (4-0-8)(Lecture/Lab/Self-Study)
4.	**Prerequisite *(s)***	None
5.	**Type of Course**	General Education Course
6.	**Session**	3rd trimester
7.	**Conditions**	**-**

8. Course Description

Progress of science and technology and its impact on humans and the environment; technology's ability to improve the quality of life; modification of natural systems to achieve human benefits; propagation of plants; ramification of food production; new energy sources; their effects on the environment, such as CFC in aerosol and ozone depletion, nuclear power plants, disposal and treatment of waste materials from industry, and environmental conservation.

9. Course Objective *(s)*

After successful completion of this course, students should be able to describe and explain the progress of science and technology and its impact on humans and the environment; technology's ability to improve the quality of life; modification of natural systems to achieve human benefits; propagation of plants; ramification of food production; new energy sources; their effects on the environment, such as CFC in aerosol and ozone depletion, nuclear power plants, disposal and treatment of waste materials from industry, and environmental conservation.

10. Course Outline:

Week	Topic	Hour			Instructor
		Lecture	Lab	Self-Study	
1	Atomic structure, matter and energy, units, conversions, powers of 10	4	0	8	Laird Allan
2	Potential and kinetic energy, internal combustion, Project: Lab Safety, Equipment, and solubility determination	4	0	8	Laird Allan
3	Electricity, energy sources, Project: Fruit battery	4	0	8	Laird Allan
4	Energy sources and their environmental impacts	4	0	8	Laird Allan
5	Transportion Modes, Project: Biodiesel production	4	0	8	Laird Allan
6	Review, ***Midterm Exam***	***4***	0	8	Laird Allan
7	Agriculture	4	0	8	Laird Allan
8	Genetics and Genetic Technology, Project: Meiosis and Mitosis	4	0	8	Laird Allan
9	Water Resources and Hygiene: resource exploitation and soap production, Project: Soap Making	4	0	8	Laird Allan
10	Pollution: forms and control measures	4	0	8	Laird Allan
11	Waste Disposal, Environmental Impact Assessment	4	0	8	Laird Allan
	Total	44	0	8	Laird Allan
Final Exam**ination**					

11. Teaching Method *(s)*

11.1 Lectures
11.2 Video
11.3 Laboratory studies and demonstrations
11.4 Self-study (reading texts and websites)

12. Teaching Media

12.1 Texts and teaching materials
12.2 Video
12.3 Field equipment

13. Measurement and evaluation of student achievement

Student achievement is measured and evaluated by

13.1 the ability to describe progress of science and technology and its impact on humans and the environment; technology's ability to improve the quality of life; modification of natural systems to achieve human benefits; propagation of plants; ramification of food production; new energy sources; their effects on the environment, such as CFC in aerosol and ozone depletion, nuclear power plants, disposal and treatment of waste materials from industry, and environmental conservation.

Student's achievement will be graded according to the faculty and university standard using the symbols: A, B+, B, C+,C,D+, D, and F.

Students must have attended at least 80% of the total class hours of this course.

MUIC standard grading criteria: 90% and above is grade A.

Ratio of mark

1. Midterm examination	35 %
2. Final examination	35 %
3. Active Class Participation	10 %
4. Activities	10 %
5 .Quizzes	5 %

Assessment by standard criteria:

Letter Grade	Percent
A	90 or greater
B+	85 to 89
B	80 to 84
C+	75 to 79
C	70 to 74
D+	65 to 69
D	60 to 64
F	0 to 59

14. Course evaluation

14.1 Students' achievement as indicated in number 13 above.

14.2 Students' satisfaction toward teaching and learning of the course using questionnaires.

15. Reference *(s)*

Peter Raven, Linda Berg, George Johnson *Environment*: Saunders College Publishing

16. Instructor *(s)*

16.1 Laird Allan
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Office: 1408/1

17. Course Coordinator:

Laird Allan