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 171
	Course Title	The Scientific Approach and Society
3.	**Number of Credits**	4 (3-2-7) (Lecture/Lab/Self-Study)
4.	**Prerequisite *(s)***	none
5.	**Type of Course**	General Education Course
6.	**Session**	1st trimester
7.	**Conditions**	**-**

8. Course Description

An examination of scientific methods through the work and ideas of outstanding scientific thinkers, the process of scientific reasoning and theory building, the impact of science on society.

9. Course Objective *(s)*

After successful completion of this course, students should be able to

9.1 describe how science works

9.2 describe the differences between science and pseudoscience

9.3 have a basic describing of some of the leading ideas in science today and their impact on society in the future.

9.4 have a basic describing of some of the great thinkers in science and their contributions to humanity.

10. Course Outline

Week	Topic	Hour			Instructor
		Lecture	Lab	Self-Study	
1	Why study science?	3	2	7	**TBA**
2	The scientific method	3	2	7	**TBA**
3	Nature of science, mathematics, technology	3	2	7	**TBA**
4	Themes in science	3	2	7	**TBA**
5	Mid-term	3	2	7	**TBA**
6	Scientific reasoning in action	3	2	7	**TBA**
7-8	Examples of scientific reasoning in action: The "Theory of Evolution"	3	2	7	**TBA**
9	Biotechnology: Mendel to the Human genome	3	2	7	**TBA**
10	Rebuilding the food pyramid	3	2	7	**TBA**
11	- Baloney detection kit: Psuedoscience - UFSs, Crop circles - Normal sensory perception, extrasensory perception, psychokinesis - How to lie with statistics	3	2	7	**TBA**
	Total	33	22	77	
Final examination					

11. Teaching Method *(s)*

11.1 Lecture.
11.2 Videos.
11.3 Field trip, and assigned readings.

12. Teaching Media

12.1 Powerpoint presentation
12.2 Videos.
12.3 Handouts

13. Measurement and evaluation of student achievement

Student achievement is measured and evaluated by

13.1 the ability to describe how science works
13.2 the ability to describe the differences between science and pseudoscience
13.3 the ability to have a basic understanding of some of the leading ideas in science today and their impact on society in the future.
13.4 the ability to have a basic understanding of some of the great thinkers in science and their contributions to humanity.

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

Component	%
Attendance/Class participation	10
Quizzes/ Assignments	15
Mid-term	35
Final examination	40
TOTAL	**100**

Assessment will be made from the stated criteria: students who receive more than 90% will receive a grade A.

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)*

Wynn, CM and Wiggins, AW. Quantum Leaps in the Wrong Direction; Where Real Science Ends and Psuedoscience Begins. National Academies of Science Press, Washington, DC. : 2001.

Sagan, Carl. The Demon-Haunted World. Ballantine Books. ISBN: 0345409469:1997.

16. Instructor *(s)*

Laird Allan

17. Course Coordinator

Laird Allan