Course Syllabus

1. **Program of Study**   B.Sc. (Applied Mathematics)
   College   Mahidol University International College

2. **Course Code**   ICMA 341
   Course Title   Fluid Dynamics

3. **Number of Credits**   4(4-0-8) (Lecture-Lab-Self study)

4. **Prerequisite**   ICMA214

5. **Type of Course**   Elective Course

6. **Session / Academic year** 2nd or 3rd Trimester/Every Year

7. **Course Conditions**   Maximum number of students is 30 per class.

8. **Course Description**
   Review of fluid mechanics, including one dimensional flow, two dimensional motion, Eulerian methods and momentum, the pressure equation, general equations of motions, irrotational motion, viscous fluid, stream functions, complex potential, method of images, and basic singularities.

9. **Course Objective**
   After successful completion of this course, students will be able to
   9.1   understand the concepts of fluid mechanics and their applications

10. **Course Outline**

Week	Topics	Hours			Instructor
		Lecture	**Lab**	**Self study**	
1-2	Review of Fluid Mechanics	8	-	16	
3	Eulerian Methods and Momentum	4	-	8	
4	The Pressure Equation Exam I	4	-	8	
5	General Equations of Motions	4	-	8	
6	Irrotational Motion	4	-	8	
7	Viscous Fluid	4	-	8	
8	Stream Functions Exam II	4	-	8	
9	Complex Potential	4	-	8	
10	Method of Images	4	-	8	
11	Basic Singularities	4	-	8	
Final Examination					
Total		**44**	**-**	**88**	

11. **Teaching Methods**
   Lecture

12. **Teaching Media**
   Texts and handouts.

13. Measurement and Evaluation of Student Achievement

Student achievement is measured and evaluated by

13.1 The ability to explain the concepts of fluid mechanics

13.2 The ability to apply it to solve problems.

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

Ratio of mark	
Homework and Quizzes	10%
Exam I	25%
Exam II	25%
Final examination	40%

14. Course evaluation

14.1 Students' achievement as indicated in number 13 above.

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

15. Reference

15.1 Mises Rv, Friedrichs KO. Fluid dynamics. New York: Springer-Verlag; 1971.

16. Instructors

Assoc. Prof. Dr. Chinda Achariyakul

17. Course Coordinator

Assoc. Prof. Dr. Chinda Achariyakul