COURSE SYLLABUS

1. **Program of Study**: Bachelor of Science (Physics)
   Faculty/Institute/College: International College, Mahidol University

2. **Course Code**: ICPY 332
   Course Title: Mathematics Methods in Physics II

3. **Number of Credits**: 4 (4-0-8) (Lecture/lab/Self-study)

4. **Prerequisites**: None

5. **Type of Course**: Required Major Course

6. **Session / Academic Year**: 1st Trimester/every academic year

7. **Course Conditions**: None

8. **Course Description**:
   Complex variables, mappings, analytic functions, Cauchy's theorem, residue theory, conformal mapping.

9. **Course Objectives**:
   After successful completion of this course, students will be able to
   9.1 develop key concepts in the complex variables, mappings, analytic functions, Cauchy's theorem, residue theory, conformal mapping.

10. **Course Outline**

Week	Topics	Hours			Instructor
		Lecture	Lab	Self study	
1-2	Complex variables, mappings	8	-	8	Assist Prof Dr. Srisuda Varamit
3-4	analytic functions	8	-	8	Assist Prof Dr. Srisuda Varamit
5-6	Cauchy's theorem	8	-	8	Assist Prof Dr. Srisuda Varamit
7	Midterm Examination	4	-	-	Assist Prof Dr. Srisuda Varamit
8-9	Residue theory	8	-	8	Assist Prof Dr. Srisuda Varamit
10-11	Conformal mapping	8	-	8	Assist Prof Dr. Srisuda Varamit
Final Examination					
Total		48		80	

11. **Teaching Method *(s)***
    11.1 Lecture

11.2 Suggested readings
11.3 Discussion in class

12. Teaching Media

12.1 PowerPoint Presentations
12.2 Texts and teaching materials

13. Measurement and Evaluation of Student Achievement

Student achievement is measured and evaluated by

13.1 the ability to describe the key concepts in the complex variables, mappings, analytic functions, Cauchy's theorem, residue theory, conformal mapping.

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	
Mid-term examination	40%
Final examination	40%
Attendance and assignment	20%
Total	100%

14. Course Evaluation

14.1 Evaluate as indicated in number 13 above.
14.2 Evaluate student's satisfaction towards teaching and learning of the course using a questionnaire.

15. References:

Arfken GB, Weber HJ. Mathematical methods for physicist. U.S.A.: Academic Press. ;2005.

16. Instructors:

Assistant Professor Dr. Srisuda Varamit

17. Course Coordinator:

Assistant Professor Dr. Santi Watanayon