Course Specifications

General Information

Course name	Complex Analysis
Course number	MATH4321
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - The aim of the course is that the students get the theoretical aspects of complex numbers and functions and their differential and integral properties. .

Intended Learning Outcomes

Knowledge and Understanding
* Define and illustrate the concept of Complex numbers
* Define and illustrate the concept of Complex analysis
* Define and illustrate the concepts of elementary functions in Complex

Intellectual Skills
* recognize the power of the theory that made some difficult problems solvable, and apply logical reasoning to investigative mathematical work

Professional Skills
* Evaluate real integrals as an application of complex integration
* Prove a selection of theorems concerning analytic functions, differentiable functions.
* Find residue of a function

General Skill
* Problem solving skills
* Modeling and Design

Course Contents

1 - complex numbers, analytic functions, elementary functions, contours and integrals, residues and poles.

Teaching and Learning Methods

1 - Lectures, Discussion, Solving problems

Students Assessment

Assessment Method	TIME	MARKS
First mid-term	Week 6	25
Second mid-term	Week 13	25
Final Exam	Week 16	50

Books and References

Essential books	Brown J.W. and Churchil R.V. Complex Variables with Applications, sixth ed, McGraw Hill 1996