

COURSE DETAIL

ANALYSIS

Country

Australia

Host Institution

University of Sydney

Program(s)

University of Sydney

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

106

UCEAP Course Suffix**UCEAP Official Title**

ANALYSIS

UCEAP Transcript Title

ANALYSIS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course examines the field of mathematical analysis both with a careful theoretical framework as well as selected applications. It shows the utility of abstract concepts and teaches an understanding and construction of proofs in mathematics. The course starts with the foundations of calculus and the real numbers system. It goes on to study the limiting behavior of sequences and series of real and complex numbers. This leads naturally to the study of functions defined as limits and to the notion of uniform convergence.

Returning to the beginnings of calculus and power series expansions leads to complex variable theory: elementary functions of complex variable, the Cauchy integral theorem, Cauchy integral formula, residues and related topics with applications to real integrals.

Language(s) of Instruction

English

Host Institution Course Number

MATH2023

Host Institution Course Title

ANALYSIS

Host Institution Course Details

<https://sydney.edu.au/courses/units-of-study/2018/math/math2023.html>

Host Institution Campus

sydney

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

Course Last Reviewed

2024-2025

[Print](#)