

# COURSE DETAIL

## ANALYSIS AND ALGEBRA

**Country**

Netherlands

**Host Institution**

Utrecht University - University College Utrecht

**Program(s)**

University College Utrecht

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Mathematics

**UCEAP Course Number**

109

**UCEAP Course Suffix****UCEAP Official Title**

ANALYSIS AND ALGEBRA

**UCEAP Transcript Title**

ANALYSIS AND ALGEBR

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

The course covers two or three of the following main topics: Dynamical systems, Group Theory, or Complex Analysis. Dynamical systems include ordinary differential equations, phase plane analysis, stability analysis, linearization, limit cycles, Poincaré-Bendixson Theorem. Group theory is a natural setting in which to learn styles of proof-writing and abstract thought characteristic of much of modern mathematics. Complex analysis includes the calculus of complex-valued functions and power series, geometric properties of analytic functions, the Cauchy-Riemann equations, topological properties of integration in the complex plane, Cauchy's Theorem, Cauchy's Formula. Which of the above topics are covered may vary from year to year. This course replaces the former Math labs UCSCIMATL5, UCSCIMATL3, and UCSCIMATL6.

## Language(s) of Instruction

English

## Host Institution Course Number

UCSCIMAT23

## Host Institution Course Title

ANALYSIS AND ALGEBRA

## Host Institution Campus

University College Utrecht

## Host Institution Faculty

Science

## Host Institution Degree

## Host Institution Department

Math

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