

Teaching

Kit Ian Kou, Associate Professor

Department of Mathematics, University of Macau

TEACHING OVERVIEW

Professor Kou has extensive teaching experience spanning over two decades at the University of Macau, having instructed courses across all levels—from foundational undergraduate mathematics to advanced graduate-level specialized topics. Her teaching integrates rigorous mathematical theory with practical applications in signal processing and data analysis.

GRADUATE COURSES (M.SC. & PH.D.)

Core Graduate Courses

- Topics in Analysis
- Advanced Engineering Mathematics
- Advances in Mathematics

Graduate courses emphasize advanced mathematical theories and their applications in hypercomplex analysis, signal processing, and related fields.

Specialized Graduate Courses

- Clifford Analysis
- Reading Course (Individualized Study)

UNDERGRADUATE COURSES (B.SC.)

Analysis and Calculus

- Mathematical Analysis I
- Mathematical Analysis II
- Mathematical Analysis III
- Mathematical Analysis IV
- Multivariate Calculus
- Multivariable Calculus
- Intermediate Calculus

Differential Equations and Methods

- Ordinary Differential Equations
- Partial Differential Equations
- Mathematical Physics Methods

Algebra and Linear Algebra

- Linear Algebra I
- Complex Analysis

Probability and Statistics

- Probability and Statistics
- Probability
- Time Series Analysis

Numerical and Computational Mathematics

- Numerical Methods and Computation
- Finite Mathematics

Signal Processing and Applied Mathematics

- Fourier and Signal Analysis
- Quantitative Reasoning for Science and Technology

Seminars and Research

- Seminar
- Research in Mathematics

COMPLETE COURSE INVENTORY

Course Category	Courses
Graduate Level (M.Sc./Ph.D.)	Topics in Analysis; Reading Course; Clifford Analysis; Advances in Mathematics; Advanced Engineering Mathematics
Analysis	Mathematical Analysis I-IV; Complex Analysis; Fourier and Signal Analysis
Calculus	Multivariate Calculus; Multivariable Calculus; Intermediate Calculus
Differential Equations	Ordinary Differential Equations; Partial Differential Equations
Linear Algebra	Linear Algebra I
Probability & Statistics	Probability and Statistics; Probability; Time Series Analysis
Numerical Methods	Numerical Methods and Computation; Finite Mathematics
Applied Mathematics	Mathematical Physics Methods; Quantitative Reasoning for Science and Technology
Seminars & Research	Seminar; Research in Mathematics

TEACHING STATISTICS

Category	Number of Courses
Graduate Courses (M.Sc./Ph.D.)	5
Undergraduate Courses (B.Sc.)	25+
Total Distinct Courses	30+

Note: Some courses may be offered across multiple semesters or under slightly different titles.

COURSES BY ACADEMIC LEVEL

Doctoral Level (Ph.D.)

- Clifford Analysis
- Topics in Analysis
- Advances in Mathematics
- Reading Course

Master's Level (M.Sc.)

- Advanced Engineering Mathematics
- Fourier and Signal Analysis
- Time Series Analysis

Upper-Level Undergraduate (Years 3-4)

- Complex Analysis
- Partial Differential Equations
- Mathematical Physics Methods
- Fourier and Signal Analysis
- Seminar
- Research in Mathematics

Lower-Level Undergraduate (Years 1-2)

- Mathematical Analysis I-IV
- Linear Algebra I
- Multivariate Calculus
- Ordinary Differential Equations
- Probability and Statistics
- Numerical Methods and Computation
- Finite Mathematics
- Quantitative Reasoning for Science and Technology

Teaching experience at the Department of Mathematics, Faculty of Science and Technology, University of Macau (1999–Present)

Last updated: March 18, 2026