COURSE DETAIL

INSTRUMENTAL TECHNIQUES IN ANALYTICAL CHEMISTRY
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Chemistry
UCEAP Course Number 151
UCEAP Course Suffix
UCEAP Official Title INSTRUMENTAL TECHNIQUES IN ANALYTICAL CHEMISTRY
UCEAP Transcript Title ANALYTICAL CHEM
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course introduces important instrumental techniques used in analytical chemistry, including thermal analysis (TGA, DSC), chemical and elemental analysis (AAS, ICP-AES, AFS, UV-visible absorption, FTIR, ATR-IR), Raman techniques, x-ray techniques (XFS, XPS, XRD), imaging and electron microscopy (SEM, TEM), mass spectrometry and its hyphenated techniques (GC-MS, MALDI). Case studies and real application examples in quality control, environmental analysis, materials characterization, forensic studies, etc. are illustrated. Beginning from the fundamentals and connecting these to real applications, students learn to appreciate the plethora of scientific tools developed to provide analysis solutions for real problems they encounter.

Language(s) of Instruction
English

Host Institution Course Number
CM3141

Host Institution Course Title
INSTRUMENTAL TECHNIQUES IN ANALYTICAL CHEMISTRY

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Chemistry

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