COURSE DETAIL

MATHEMATIC MODELS AND DYNAMIC SYSTEMS
Country Spain
Host Institution University of Barcelona
Program(s) University of Barcelona
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 160
UCEAP Course Suffix
UCEAP Official Title MATHEMATIC MODELS AND DYNAMIC SYSTEMS
UCEAP Transcript Title MATH MODELS/DYN SYS
UCEAP Quarter Units 5.00
UCEAP Semester Units 3.30

Course Description

The course examines fundamental concepts of mathematical modeling and discrete and continuous dynamical systems, with applications across science and technology, including biology, physics, and economics. Students develop both conceptual understanding and practical skills in constructing and analyzing mathematical models of real-world phenomena. Topics include difference equations, ordinary differential equations, stability analysis, phase portraits, bifurcations, and an introduction to fractals and complex dynamics (Julia and Mandelbrot sets).

Language(s) of Instruction
English

Host Institution Course Number
360153

Host Institution Course Title
MODELS MATEMATICS I SISTEMES DINÁMICS

Host Institution Course Details
https://www.ub.edu/pladocent/?cod_giga=360153&curs=2025&idioma=CAT

Host Institution Campus
Campus Plaça Universitat

Host Institution Faculty
Facultat de Matemàtiques i Informàtica

Host Institution Degree
Matematiques/Mathematics

Host Institution Department
Departament de Matemàtiques i Informàtica

Course Last Reviewed
2025-2026

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