COURSE DETAIL

DIFFERENTIAL EQUATIONS AND APPLIED METHODS

Country
United Kingdom - England

Host Institution
University of East Anglia

Program(s)
English Universities,University of East Anglia,Environment and Sustainability, East Anglia

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Mathematics

UCEAP Course Number
139

UCEAP Course Suffix

UCEAP Official Title
DIFFERENTIAL EQUATIONS AND APPLIED METHODS

UCEAP Transcript Title
DIFF EQUATN&METHODS

UCEAP Quarter Units
8.00

UCEAP Semester Units

5.30

Course Description
This course explores ordinary differential equations with topics ranging from solution by reduction of order, variation of parameters for inhomogeneous problems, and series solution to the method of Frobenius. Additionally, students look at Legendre's and Bessel's equations including Legendre polynomials, Bessel functions and their recurrence relations, the Fourier series, Partial differential equations (PDEs), heat equation, wave equation, Laplace's equation, and solution by separation of variables. Other topics include the method of characteristics for hyperbolic equations, the characteristic equations, Fourier transform and its use in solving linear PDEs, dynamical systems, equilibrium points and their stability, the phase plane, theory, and applications.

Language(s) of Instruction
English

Host Institution Course Number
MTHA5004Y

Host Institution Course Title
DIFFERENTIAL EQUATIONS AND APPLIED METHODS

Host Institution Course Details

Host Institution Campus
University of East Anglia

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

Course Last Reviewed

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