

COURSE DETAIL

ENGINEERING MATH: DIFFERENTIAL EQUATIONS

Country

Korea, South

Host Institution

Yonsei University

Program(s)

Yonsei University Summer

UCEAP Course Level

Lower Division

UCEAP Subject Area(s)

Mathematics

UCEAP Course Number

18

UCEAP Course Suffix

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UCEAP Official Title

ENGINEERING MATH: DIFFERENTIAL EQUATIONS

UCEAP Transcript Title

DIFFERENTL EQUATN

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course covers first- and second-order ordinary differential equations and their applications and modeling. Topics include direction fields, separable and non-homogeneous ODEs, integrating factors, Bernoulli equations, and Euler-Cauchy equations. Additional topics include power series method, Legendre Polynomials, Frobenius method, and Bessel functions. The course also provides a brief overview of linear algebra topics to assist with matrix eigenvalue problems and basics of linear systems. Other topics include Laplace transforms with related topics, such as inverse, s-shifting, derivatives, integrals, Heaviside function, t-shifting, convolution, integral equations, and solving system of ODEs.

Language(s) of Instruction

English

Host Institution Course Number

IEE2091

Host Institution Course Title

ENGINEERING MATH: DIFFERENTIAL EQUATIONS

Host Institution Course Details

Host Institution Campus

Yonsei International Summer School

Host Institution Faculty

Host Institution Degree

Host Institution Department

Science & Technology

Course Last Reviewed

2022-2023

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