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
S

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 Campus
Yonsei International Summer School

Host Institution Faculty

Host Institution Degree

Host Institution Department
Science & Technology

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