

Applied Mathematics 307

Differential Equations for Engineers

Definition, existence and uniqueness of solutions, first and second order equations with applications, series solutions about regular points and singular points, special functions. Laplace transform, systems of equations.

Course Hours: H(3-1.5T)

Prerequisite(s): One of [Mathematics 211](#) or [213](#) or 221; and [Applied Mathematics 219](#) or [Mathematics 253](#).

Antirequisite(s): Credit for both [Applied Mathematics 307](#) and [311](#) will not be allowed.

Syllabus

<u>Topics</u>	<u>Number of hours</u>
Introduction: definitions, existence, uniqueness	1
First order equations, applications	8
Systems, applications to second and fourth order equations	10
Laplace transforms	4
Series, Taylor series	9
Series solutions to second order ordinary differential equations	4
TOTAL HOURS	<hr/> 36

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