APPLIED MATHEMATICS 411

"DIFFERENTIAL EQUATIONS II"

Calendar Description: H(3-1T)
Existence and uniqueness theorems, comparison and oscillation theorems, Green's functions, Sturm-Liouville problems, systems of equations, phase portraits, stability.
Prerequisite: One of Applied Mathematics 311 or 307, and one of Mathematics 331, 353, Applied Mathematics 309, or consent of the Division.
Note: It is recommended that students complete Pure Mathematics 401 or 435 before taking this course.

Syllabus

Existence, uniqueness and continuity theorems. Singular solutions.

Comparison and Oscillation theorems.

Green's functions.

Sturm-Liouville Problems.

Systems of Differential Equations.

Linear systems. Matrix exponentiation.

Stability and Phase portraits.

Optional additional topics: Integral equations; Difference equations; Solutions of Partial Differential Equations.

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Prerequisite change made 03:07:02
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