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The authors describe a two-year collaborative project between the Mathematics and the Engineering Departments. The collaboration effort involved enhancing the first year calculus courses with applied engineering and science projects. Two enhanced sections of the differential (first semester) and integral (second semester) calculus courses were offered during the duration of the project.

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with applied engineering and science projects. Two enhanced sections of the differential (first semester) and integral (second semester) calculus courses were offered during the duration of the project. The application projects involved both teamwork and individual work, and we required use of both programmable calculators and Matlab for these projects.

Engineering Applications in Differential and Integral ...

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In Mechanical engineering field Laplace Transform is widely used to solve differential equations occurring in mathematical modeling of mechanical system to find transfer function of that particular system. Following example describes how to use Laplace Transform to find transfer function.

APPLICATIONS OF LAPLACE TRANSFORM IN ENGINEERING FIELDS

A differential equation is an equation for a function with one or more of its derivatives. We introduce differential equations and classify them. We then learn about the Euler method for numerically solving a first-order ordinary differential equation (ode). Then we learn analytical methods for solving separable and linear first-order odes.

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Engineering Calculus and Differential Equations | edX

In many engineering or science problems, such as heat transfer, elasticity, quantum mechanics, water flow and others, the problems are governed by partial differential equations. By nature, this type of problem is much more complicated than the previous ordinary differential equations.

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