



BE4930
BE5930
Section 1

New BME Elective Offered Fall, 2020

Numerical Techniques in BME

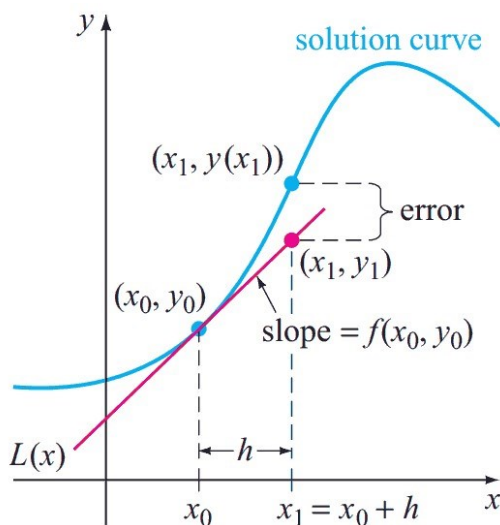


FIGURE 2.6.2 Approximating $y(x_1)$ using a tangent line

This course will cover the mathematical and computational techniques that are commonly used during the design of medical devices, including the numerical solutions of linear and differential equations, optimization techniques, finite analysis and finite difference methods, approximation and curve fitting methodologies and search algorithms. Applications of these techniques to real life problems will be demonstrated.

At the conclusion of the class, students will be able to first translate a problem that is stated in English into a mathematical format, and then use the knowledge that they gained during the class to solve the problem using their computational skills.



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