MATH2259 - Differential Equations

Credits:	4 (4/0/0)
Description:	This course includes first and second order differential equations with applications in physics, electrical engineering and chemistry. It also includes Laplace transforms, matrices, series solutions and systems of differential equations.
Prerequisites:	• MATH2231
Corequisites:	
Pre/Corequisites*:	
Competencies:	1. Solve first-order differential equations. 2. Express a real-life system or a phenomenon as a mathematical model. 3. Solve linear differential equations of order two or higher. 4. Express a dynamical system as a mathematical model. 5. Apply the Laplace Transform to solve differential equations. 6. Solve linear higher-order differential equations with variable coefficients using power series. 7. Solve systems of differential equations by the elimination method. 8. Solve systems of linear first-order differential equations. 9. Express real-life applications as systems of first-order differential equations. 10. Use direction fields to illustrate solutions of differential equations. 11. Apply the Existence and Uniqueness Theorem. 12. Apply Euler's Method to approximate solutions to differential equations.
MnTC goal areas:	None

**Can be taking as a Prerequisite or Corequisite.*