

**AE602**  
**MATHEMATICS FOR AEROSPACE ENGINEERS**

L-T-P-D: 3-0-0-0      Units: 4  
Course Instructor: Dr. PM Mohite  
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**Course Content:**

Matrices, determinants, vector spaces, linear transformation, eigensystems, linear equations, introduction to ordinary differential equations, homogeneous linear equations of second order, non-homogeneous linear equations of second order, free and forced oscillation problems, with variable coefficients, systems of equations, Fourier series, transform, Laplace transform, introduction to differencing methods; basic concepts of partial differential equation, classification of second order equations, wave propagation in one-dimension, parabolic equations, higher dimensional problems, Laplace equation, Series solutions, transform methods, elements of complex variables.

**Reference:**

1. Advanced Engineering Mathematics. Erwin Kreyszig, John Wiley & Sons.
2. Linear Algebra and its Applications. Gilbert Strang, Saunders College Publishing.
3. Linear Algebra with Applications. Otto Bretscher, Prentice-Hall International, Inc.
4. Differential Equations with Applications and Historical Notes. George F Simmons, Tata McGraw Hill Edition.

**Examination:**

Assignments: 25%  
Mid Semester: 30%  
End Semester: 45%

**Grading Policy:** Failure below absolute 40%.

**Note:**

- Assignments should be submitted on the due date. Late submission and copying of assignments will be penalized.
- Attendance will be monitored regularly.

**Class schedule:** As per given time table.