

Sunday 8-10 AM & Monday 10-12 AM (R. 103)

Topics

1. Vector and tensor analysis (up to 5 Esf.).....Exercise (50 p.)
 - Vector and tensor algebra
 - Differentiation
 - Integral theorems
2. Tensor application in engineering (up to 19 Esf.).....Exercise (50 p.)
3. Curvilinear coordinates (up to 18 Far.).....Exercise (50 p.)

Midterm (300 points)... 21 Ord. 1399, 8-10 AM

4. Fourier series (up to 22 Ord.).....Exercise (50 p.)
 - Trigonometric Fourier series
 - Orthogonality
 - Operations on Fourier series
 - Double Fourier series
 - Fourier Integral
 - Fourier Transform
5. Partial Differential Equations (up to 19 Kho.).....Exercise (50 p.)
 - Introduction and definitions
 - Separation of variables
 - PDEs in cylindrical and spherical coordinate systems

Final (450 points)... 8 Tir 1399, 8-10 AM

Total Grade =1000 points

Total sessions = 29 sessions

Total hours =58 hours

References

1. M.E. Gurtin, E. Fried, and L. Anand, The mechanics and thermodynamics of continua.
2. E.C. Young, Vector and tensor analysis.
3. G.P. Tolstov, Fourier series.
4. F.B. Hildebrand, Advanced calculus for applications.