

**Course Title:**  
**Elastic Wave Theory and Applications in Seismology**

**Syllabus:**

1. Fundamentals of Continuum Mechanics
2. Elastic and Anisotropic Material Properties
3. Wave Propagation, Reflection, and Transmission in Elastic Media
4. Numerical Solution of the Wave Equation

**Bibliography:**

- Achenbach, J. D. *Wave Propagation in Elastic Solids*. North-Holland, 1973.
- LeVeque, R. J. *Finite Difference Methods for Ordinary and Partial Differential Equations*. SIAM, 2007.
- Love, A. E. H. *A Treatise on the Mathematical Theory of Elasticity*. Dover Publications, 1944.
- Pujol, J. *Elastic Wave Propagation and Generation in Seismology*. Cambridge University Press, 2003.