

## MTR952 - MICROSCOPIA E MICROANÁLISE DE MATERIAIS

Carga horária: 6 h/semana (teórica: 4 h; experimental: 2h)

Créditos: 6

Ementa:

Fundamentos, Aplicabilidade e limitações: Microscopia óptica; Microscopia de força atômica; Microscopia túnel de varredura; Microscopia eletrônica (Microscopia eletrônica de transmissão, Microscopia eletrônica de varredura, Microanálise de raios-x e EELS). Preparação de amostras para microscopia.

Bibliografia:

1. Eugene Hechts, *Optics*, 2<sup>nd</sup> edition, Addison-Wesley (1987).
  2. JEOL, *Principle and skillful use of scanning probe microscopes*, JSTM-4200 Series, (1998).
  3. D.B. Williams and C.B. Carter, *Transmission electron microscopy* (A textbook for Materials Science), Plenum Press, (1996).
  4. P. Hirsch, A. Howie, R. Nicholson, D.W. Pashley, M.J. Whelan, *Electron microscopy of thin crystals*, Krieger Publishing Company, (1977).
  5. J.I. Goldstein, D.E. Newbury, P. Echlin, D.C. Joy, A. D. Romig Jr., C.E. Lyman, C. Fiori, and E. Lifshin, *Scanning electron microscopy and x-ray microanalysis* (A text for biologists, materials scientists, and geologists), 2<sup>nd</sup> ed., Plenum Press, (1994).
  6. C.E. Lyman, D.E. Newbury, J.I. Goldstein, D.B. Williams, A.D. Romig Jr., J.T. Armstrong, P. Echlin, C.E. Fiori, D.C. Joy, E. Lifshin, and K-R. Peters, *Scanning electron microscopy, x-ray microanalysis, and analytical electron microscopy* (A laboratory workbook), Plenum Press, (1990).
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