

**Course:** Structure, Properties and Processing of Polymers **Code:** MEM.016

**Credits:** 03

**Module:** Specific formation

**Research area:** Selection, processing e characterization

**Contents:**

Structural aspects of polymers: Influence of synthesis, processing, additives and exposure environment. Relationship between the properties and structure of polymers. Advanced techniques for structural characterization of polymers: Molar mass; spectroscopy; microscopy; mechanical characterization; thermal analysis; strategies to define the most appropriate techniques.

**References:**

1. YOUNG, R .J.; LOVELL, P. A. Introduction to polymers. 2nd edition. London: CRC, 2000.
2. GEDDE, U. W. Polymer physics. London: Chapman & Hall, 1995..
3. BIRLEY, A. W.; HAWORTH, B.; BATCHELOR, J. Physics of plastics. Munich:Hanser,1992.
4. KREVELEN, D. W. V. Properties of oolymers. Elsevier, 1997.
5. BARTH, W. G., MAYS, J. W. Modern methods of polymer characterization. John Wiley Professio, 1991.
6. BILLMAYER Jr, F. W. Textbook of polymer science. John Wiley & Sons, 1984.
7. CANEVAROLO Jr, S. V. Técnicas de caracterização de polímeros. São Paulo: Artliber, 2004.
8. LENG, Y. Materials characterization: introduction to microscopic and spectroscopic methods. Wiley, 2008.
9. HATAKEYAMA, T.; QUINN, F.X. Thermal analysis: fundamentals and applications to polymer science. 2nd edition. Wiley, 1999.