



Course Syllabus

Department/Faculty School of Engineering
Graduate Program Materials Engineering and Nanotechnology
Degree <input checked="" type="checkbox"/> Academic Master's <input checked="" type="checkbox"/> Doctorate (PhD) <input type="checkbox"/> Professional Master's
Course Name Supramolecular nanotechnology
Professor(s)
Office hours 48
Course Overview The course deals with learning supramolecular chemistry, self-assembly of molecules, understanding interactions and specific affinities between molecules that originate systems or structures of greater complexity, chemical reactivity, and molecular nanotechnology.
Topics outline 1. Atomic/molecular organization. 2. Synergistic interaction between the constituents of multi-component systems. 3. Energetics of phenomena governed by weak interactions. 4. Molecular recognition, transformation, transport and signaling. 5. Obtaining new features and properties. 6. Integrated chemical systems. 7. Self-assembly, self-replication, and self-repair. 8. Building blocks in Supramolecular Chemistry.
Letter Grade Assignment Grade A (Excellent) - Grade points between 9 and 10 Grade B (Good) - Grade points between 8 and 8.9 Grade C (Satisfactory) - Grade points between 7 and 7.9 Grade D (Unsatisfactory) - Grade points between 0 and 6.9

Updated on 04/10/2023



Texts, Materials, and supplies

- 1- ATWOOD, JERRY L. **Comprehensive Supramolecular Chemistry II, Second Edition**, 2nd Edition, Elsevier, 2017.
2. WEISS, RICHARD G. **Molecular Gels: Structure and Dynamics**, RSC, UK, 2018. ISBN:978-1-78801-111-2
- 3- TOMA, H. E. **Nanotecnologia molecular- materiais e dispositivos**, 1ª edição. Blucher, São Paulo, 2016.
- 4) STEED, J. W. *et al.* **Concepts in Supramolecular Chemistry**, Wiley: England, 2007.
- 5) LEHN, J. M. **Supramolecular Chemistry–Concepts and Perspectives**; VCH: Weinheim, 1995.
- 6) GODDARD, W. A. *et al.* **Handbook of Nanoscience, Engineering, and Technology**, 2nd ed., CRC Press: Boca Raton, 2007.