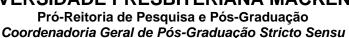


UNIVERSIDADE PRESBITERIANA MACKENZIE





Course Syllabus

Department/Faculty: School of Engineering			
Graduate Program: Materials Engineering and Nanotechnology			
Degree ☑ Academic Master's	☑ Doctorate (PhD)	☐ Professional Master's	
Course Name: Supramolecular nanotechnology			
Professor:			
Prof. Dr. Thiago da Cruz Canevari			
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

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. 3- TOMA, H. E. *Nanotecnologia molecular- materiais e dispositivos*, 1ª edição. Blucher, São Paulo. 2016.
- 4. 4) STEED, J. W. et al. Concepts in Supramolecular Chemistry, Wiley: England, 2007.
- 5. 5) LEHN, J. M. Supramolecular Chemistry–Concepts and Perspectives; VCH: Wienheim, 1995.
- 6. 6) GODDARD, W. A. et al. Handbook of Nanoscience, Engineering, and Technology, 2nd ed., CRC Press: Boca Raton, 2007.