



# Polymer Membranes

## MATSCEN 5774

**Credit Hours:**

3.00 - 3.00

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**Course Components:**

Lecture

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**Course Description:**

Membrane separation mechanisms, transport models, permeability computations/measurements, membrane materials/types/modules, membrane contactors/reactions, and applications.

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**Prerequisites and Co-requisites:**

Prereq: ChBE 3508 (509), or Grad standing; or permission of instructor.

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**Course Goals / Objectives:**

- Acquire in-depth knowledge in the areas of membrane separation mechanisms, transport models, membrane permeability computations / measurements, membrane materials / types / modules, and membrane contactors / reactors
- Develop skills in applying transport models for the calculation of membrane permeability, flux, and the extent of separation for various membrane separations / systems
- Be able to determine the types of experimental data needed for the calculation of membrane permeability parameters
- Be able to select membrane processes for solving relevant separation / reaction problems
- Be able to use polymer membranes for solving environmental / energy problems
- Use a computer tool to calculate and analyze membrane separation characteristics