

MENG 4399 Independent Study
Course Syllabus

Semester / Year	Spring 2023
Catalog Description	Independent study in a specific advanced area of mechanical engineering not covered by organized courses. May be repeated as content changes. A maximum of six (6) hours may be used for undergraduate credit on the degree plan if topics vary.
Prerequisites	Consent of Instructor and Department Chair
Section Number	001
Instructor Name	Dr. Nelson Fumo
Contact Information	nfumo@uttyler.edu
Class Type / Instruction Mode / Location	Independent/Meetings with instructor/Tyler
Class Time	
Office Hours	Mo 11 am to 12 pm, TU/Th 2 pm to 3 pm
No. of Credits	3
Required Textbook	None
Optional References	N/A
Additional Rules and Requirements	Student must meet the faculty at least once a week to report informal advances.
Evaluation Method	Advance 1 due on January 18: Concepts on separation membranes (10%) Advance 2 due on February 6: Review on CFD for simulation of membranes (20%) Advance 3 due on March 6: Instructional module on creating a CFD model of a membrane (20%) Advance 4 due on April 3: Model and simulations of an organic (polymer) membrane (20%) Advance 5 due on April 28: Report on sensitive analysis of organic membranes (30%)
Grading Policy / Scale	Letter grades, scale: A: 90 – 100; B: 80 – 89; C: 70 – 79; D: 60 – 69; F: < 60
Important Events / Dates	Census date: January 23 Last date to withdraw from one or more 15-week courses: March 23 Final date: April 29
Attendance / Makeup policy / other rules	Request on change of due day of an advance will be considered but it will not be allowed to affect the other due days.



Course Learning Objectives / ABET & PEOs Relation	<p>By the end of this course, students will be able to:</p> <ol style="list-style-type: none">1. Demonstrate the ability of self-directed learning.2. Develop skills to support independent learning.3. Communicate effectively engineering related material to an engineering audience. <p>For the topic assigned, by the end of this course the student should be able to:</p> <ol style="list-style-type: none">1. Create the CFD model of a separation membrane for air dehumidification.2. Describe the parameter defining the efficiency of separation membranes.
Tentative Topics / Course Plans	<p>Concepts on separation membranes Characterization of separation membranes Use of CFD for simulation of membranes Sensitive analysis applied to separation membranes performance</p>
University Policies	<p>https://www.uttyler.edu/academic-affairs/files/syllabus_information_2021.pdf</p>