

Tribology Minor

This 15-hour multidisciplinary minor prepares students from various science and engineering majors for careers that require a background in friction, wear and lubrication (tribology). Students will be prepared for not only the lubricant and bearing manufacturing industry, but for design and maintenance in the power generation, vehicle, and manufacturing industries. Students who complete this minor will acquire the skills necessary to identify critical parameters in a tribological system, design a tribological system for the needs of a specific application, including geometry, lubricant, and surface properties. Students will also understand the chemical formulation and operating mechanisms of lubricants and additives.

Code	Title	Hours
Courses required		
MECH 5240 or PFEN 5300 or CHEN 5410	Boundary and Full-Film Lubrication Rheology Macromolecular Science and Engineering	3
MECH 5230	Friction, Wear and Lubrication	3
CHEM 2080 or CHEM 2030 or CHEM 4070	Organic Chemistry II Survey of Organic Chemistry Physical Chemistry I	3
Electives courses		
CHEN 5430	Business Aspects of Chemical Engineering	3
MATL 5600	Corrosion	3
MECH 5830	Engines (This Course is newly added.)	3
MECH 5270	Metalworking and Manufacturing Tribology	3
CHEN 5660	Macroscale Assembly and Applications of Nanomaterials	3
MECH 5970	Intermediate Special Topics in Mechanical Engineering (Can be Advanced Manufacturing)	3
ENGR 3520	Leadership in Engineering & Business Theory	3
MATL 5200	Materials Characterization	2
BSEN 5540	Biomass and Biofuels Engineering	3
CHEN 5120	Surface and Colloid Science	3
CHEM 4070	Physical Chemistry I	3
MECH 5250	Multiscale Contact Mechanics	3
ENGR 3510	Introduction to Business and Engineering	3
CHEN 5420	Polymer Chemical Engineering	3
BSEN 4250	Hydraulic Control Systems Design	3