



Department	Course Name	Course Number	Semester
Mechanical Engineering	Optimization	0904902	

2025 Course Catalog Description

Optimization and its use in engineering design, analysis, and operation. Problem formulation, classical solution techniques, and heuristic approaches, and their applications to the disciplines within engineering.

Instructors

Name	E-mail	Section	Office Hours	Lecture Time

Prerequisites

Prerequisites by topic	
Prerequisites by course	0904901
Co-requisites by course	
Prerequisite for	

Topics Covered

Week	Topics
1	
2	
3	
4	
5	
6	
7	
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10	
11	
12	
13	
14	
15	

Evaluation

Assessment Tools	Expected Due Date	Weight

Contribution of Course to Meet the Professional Components



Relationship to Student Outcomes							
SOs	1	2	3	4	5	6	7
Availability							
Relationship to Aeronautical Engineering Program Objectives (AEPOs)							
AEPO1		AEPO2	AEPO3	AEPO4	AEPO5		
ABET Student Outcomes (SOs)							
1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics						
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors						
3	An ability to communicate effectively with a range of audiences						
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts						
5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives						
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions						
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies						
Updated by ABET Committee, 2025							