



Department	Course Name	Course Number	Semester
Mechanical Engineering	Fundamentals of Electrical Engineering none EE students	0903203	

2025 Course Catalog Description

Electrical quantities. Circuit principles. Basics of DC and AC analysis. Polyphase circuits. Transformers. Semiconductor diodes. Bipolar transistors. Field effect transistors. Thyristors. Operational amplifiers. Introduction to electric drives. DC drives. AC drives: induction motors, synchronous motors, reluctance and stepping motors. Servomotor drives.

Instructors

Name	E-mail	Section	Office Hours	Lecture Time

Prerequisites

Prerequisites by topic	
Prerequisites by course	0302102
Co-requisites by course	
Prerequisite for	

Topics Covered

Week	Topics
1	
2	
3	
4	
5	
6	
7	
8	
9	
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									