



Jordan University of Science and Technology
Faculty of Engineering
Aeronautical Engineering Department

AE482 Aircraft Performance - JNQF Level: 7

Second Semester 2023-2024

Course Catalog

3 Credit Hours. Aircraft performance in steady flight; Straight and level flight; Flight limitations; Drag; Power; Performance curves in terms of thrust and power; Gliding flight; Climbing flight; Range and endurance; Other methods of solution to performance problems; Aircraft performance in accelerated flight; Climbing flight; Take off; Landing; Turning flight; Introduction to helicopters; Helicopter performance; Thrust and torque theory; Rotor flow effects; Power required; Vertical climb.

Teaching Method: Blended

Text Book

Title	Aircraft Performance and Design
Author(s)	John D. Anderson
Edition	9th Edition
Short Name	Textbook
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
Ref #1	Introduction to Aircraft Performance, Selection and design	Hale, Francis J.	8th Edition	
Ref # 2	Fundamentals of Airplane Flight Mechanics	David G. Hull	8th Edition	
Ref # 3	3) Fundamentals of Aerodynamics	John D. Anderson, Jr	9th Edition	
Journals	AIAA ? American Institute of Aeronautics and Astronautics	Journal	1st Edition	
Internet links	https://www.aiaa.org	AIAA	2nd Edition	
Internet links	http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2010.pdf	FAA Regulations	2nd Edition	

Instructor

Name	Dr. MUATH BANI HANI
Office Location	-
Office Hours	Sun : 11:30 - 12:30 Mon : 10:00 - 12:00 Tue : 11:30 - 12:30 Wed : 10:00 - 12:00
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Class Schedule & Room
Section 1: Lecture Time: Sun, Tue : 09:30 - 10:30 Room: CH2110

Prerequisites		
Line Number	Course Name	Prerequisite Type
713440	AE344 Aerodynamics (1)	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Introduction to aerodynamics of flight	From Textbook , From Internet links
Weeks 3, 4	Review of airplane aerodynamics and the drag polar	From Textbook
Weeks 5, 6	Characteristics of propulsion	From Textbook
Weeks 7, 8	Airplane equations of motion	From Textbook
Weeks 9, 10, 11, 12	Airplane performance of steady flight	From Textbook
Weeks 13, 14, 15, 16	Airplane performance of accelerated flight	From Textbook

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Determine the relationship between the lift and drag forces and Drag Polar [100SO1] [100L7K1]	10%	First Exam
Implement the basics of propulsion characteristics related to aircraft performance [100SO1] [100L7K1]	10%	First Exam
Explain the airplane equations of motion [100SO1] [100L7K1]	20%	First Exam, Second Exam, Final Exam
Demonstrate the main characteristics of a steady flight [100SO1] [100L7K1]	30%	Second Exam, Final Exam
Conduct performance analysis of an airplane at accelerated flight [100SO1] [100L7K1]	30%	Final Exam

Relationship to Program Student Outcomes (Out of 100%)						
SO1	SO2	SO3	SO4	SO5	SO6	SO7
100						

Relationship to NQF Outcomes (Out of 100%)	
L7K1	
100	

Evaluation	
Assessment Tool	Weight
First Exam	30%
Second Exam	30%
Final Exam	40%

Policy

Course Policy	<p>Attendance The student is required to attend all the registered courses. The instructor shall register student attendance or absence electronically. JUST policy requires the faculty member to assign ZERO grade (35) if a student misses 20% of the classes. If you miss a class, it is your responsibility to find out about any announcements or assignments you may have missed</p> <p>Exam/Homework Makeup exam should not be given unless there is a valid excuse according to JUST policies. Arrangements to take an exam at a time other than the one scheduled MUST be made prior to the scheduled exam time. Cheating or copying from a neighbor on exam, quiz, or homework is an illegal and unethical activity. The standard JUST policy will be applied. All assignments must be your own work (your own words) Students are responsible for all the information provided in the lecture. Information presented in class supersedes any information posted elsewhere</p>
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