



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

**Course name and number:**

<b>AE482 Aircraft Performance</b>
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**Credit, contact hours and categorization:**

Credit and contact hours	Contact hours	Categorization
3 Credit Hours	Sunday-Tuesday-Thursday 1-hour lecture Or Monday-Wednesday 1.5-hours lecture	Engineering Topic

**Instructor's or course coordinator's name:**

Name	Dr. Yazan Taamneh
Office location	N1-L2
Email address	ymtaamneh@just.edu.jo

**Textbook and other supplemental materials:**

Textbook			
Title	Aircraft Performance and Design		
Author(s)	John D. Anderson		
Edition	9th Edition		
Other Information	Tata McGraw-Hill		
References			
Book Name	Author(s)	Edition	Other Information
Introduction to Aircraft Performance, Selection and design	Hale, Francis J.	8 <sup>th</sup> Edition	WILEY
Fundamentals of Airplane Flight Mechanics	David G. Hull	8 <sup>th</sup> Edition	Springer
Fundamentals of Aerodynamics	John D. Anderson, Jr	9 <sup>th</sup> Edition	McGrawHill
AIAA American Institute of Aeronautics and Astronautics	Journal	Journal	Journal
<a href="https://www.aiaa.org">https://www.aiaa.org</a>	AIAA	Website	Website
<a href="http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2010.pdf">http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/pilot_handbook/media/PHAK%20-%20Chapter%2010.pdf</a>	FAA Regulations		



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**Course information:**

Course Catalogue		
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.		
<b>Course type :</b> This course is <b>Required</b> to fulfill the program.		
Prerequisites or co-requisites		
Line Number	Course Name	Prerequisite Type
713440	AE344 Aerodynamics (1)	Prerequisite / Pass

**Specific goals of the course :**

Specific outcomes of instruction and the student outcomes (SO) mapping		
Outcomes	SO Mapping	Course Outcome Weight (Out of 100%)
Determine the relationship between the lift and drag forces Drag Polar.	5SO 8, 15SO 1	20%
Implement the basics of propulsion characteristics related to aircraft performance.	20SO 8	20%
Explain the airplane equations of motion.	5SO 8, 15SO 1	20%
Demonstrate the main characteristics of a steady flight .	6SO 6, 4SO 7, 5SO 8, 5SO 1	20%
Conduct performance analysis of an airplane at accelerated flight .	5SO 8, 15SO1	20%

**Brief list of topics to be covered:**

Tentative List of Topics Covered		
Weeks	Topic	References
Week 1	Introduction to aerodynamics of flight	Textbook
Weeks 2, 3, 4	Review of airplane aerodynamics and the drag polar	Textbook
Week 5, 6	Characteristics of propulsion	Textbook
Week 7	Airplane equations of motion	Textbook
Weeks 8-12	Airplane performance of steady flight	Textbook
Weeks 13-16	Airplane performance of accelerated flight	Textbook