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ME 451-002: Introduction to Aerodynamics

Pushpendra Singh

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ASSIGNMENT SHEET   ME451 INTRODUCTION TO AERODYNAMICS SPRING 2021

TEXT: KUETHE/CHOW, <u>Foundations of Aerodynamics</u>, 5th Ed., J. Wiley

Week	Topic	Reading	Problems
1.	Properties	1.1-1.3, 1.5-1.9	1.7.1
	Kinematics	2.1-2.8	2.3.2, 2.4.3,2.6.3,2.7.3
2.	Kinematics, contd.	2.9-2.16	2.8.3,2.9.1,2.10.3,2.12.2,2.13.6
3.	Dynamics	3.1-3.7	3.2.2,3.2.4,3.4.1,3.7.2
	QUIZ 1		
4.	Flow about a body	4.1-4.6	4.2.2,4.4.3,4.5.1,4.6.1
5-6.	Flow about a body, contd.	4.6-4.10	4.8.1
	Airfoil theory	5.1-5.3	5.3.1
	QUIZ 2		
7.	Airfoil theory	5.4-5.7	5.5.1
8.	Finite wing	6.1-6.6	6.3.1,6.5.1
9.	Compressible fluids	7.1-7.5,8.1-8.8	7.2.1,7.3.1,8.4.1,8.8.1
	and governing equations		
	QUIZ 3		
10-11.	One-dimensional flows	9.1-9.9	9.2.1,9.3.2,9.3.4,9.6.1,9.9.1
12.	Compressible flows	10.1-10.5	10.2.2,10.3.1,10.4.1,10.4.3
13-14.	Shock relations	10.6-10.10	10.4.4,10.5.1,10.6.1,10.7.2
			10.8.1,10.8.5,10.10.1
15.	Final Examination		

Grading: **Homework 20%**

3 Quizzes (15x3=45%)

Final 35%

ME 451
INTRODUCTION TO AERODYNAMICS

Instructor: Dr. P. Singh
Office: 316 MEC
Phone: 973-596-3326
Email: singhp@njit.edu

Synchronous online course: Wednesday 9:00-11:50 am
The class will meet online with all students attending remotely via webex

Webex address: link on Canvas home page or https://njit.webex.com/meet/singhpnjit.edu

Online Office Hours: by appointment

Prerequisite: undergraduate fluid mechanics and thermodynamics I

Homework problems will be assigned every week (see the problems handout sheet). These are intended to help broaden and solidify your understanding of the subject matter, and to give you practice in putting your understanding of the material into words. It is therefore essential that you do as many of them as you can. However, only those that are assigned in the class should actually be handed in. From each set of homework problems collected, one problem will be chosen at random and graded. *Late homework will not be accepted.*

There will be *no* makeups for missed quizzes. Unexcused quizzes will earn 0 points. The grade for an excused quiz will be based on the final exam grade.