ME 521 Fluid Mechanics
Wichita State University

Class Information

Instructor:	Kurt Soschinske (So-schin-ske)
Session Time:	January 19 - May 8, 1999
Class Time:	5:35 P.M. - 6:50 P.M. Mondays and Wednesdays
Class Location:	~~211 Neff Hall~~
Office Location:	101D Engineering Building
Office Hours:	7:00-8:00 p.m. Mondays and ~~Wednesdays~~
	5:30-6:30 p.m. Thursdays, Fridays
	Other times by appointment
Telephone:	Home: 685-8773 (leave message)
E-mail:	ksosc@netscape.net

Course Information

Grading:	90 - 100	A
(Tentative)	80 - 89	B
	70 - 79	C
	60 - 69	D
	59 & below	F

Test	TEST 1	50 pts
/ Homework	TEST 2	50 pts
	TEST 3	50 pts
	TEST 4	50 pts
	Homework	50 pts

	Total	250 pts

All tests are closed book and closed notes. Allowed one 3 x 5 card
(no homework problem solutions on this card).

UNIT I
READING ASSIGNMENT: (Chapter 1.) All sections except 1.7 and 1.9
HOMEWORK: 1.10, 1.34, 1.48, 1.58, 1.65   Due 1/26

READING ASSIGNMENT: (Chapter 2.) All sections except 2.11 and 2.12
HOMEWORK: 2.18, 2.24, 2.31, 2.52, 2.72, 2.73   2/2

READING ASSIGNMENT: (Chapter 4.) Sections 4.1 and 4.2

READING ASSIGNMENT: (Chapter 3.) Up to and including Example 3.11   2/21
HOMEWORK: 3.10, 3.13, 3.14, 3.22, 3.26, 3.27, 3.49, 3.62, 3.73, 3.74

TEST 1   50 Points   7/14

UNIT II
READING ASSIGNMENT: Chapter 5. Omit sections 5.2.3, 5.2.4, 5.3.4, 5.3.5, 5.4
HOMEWORK: 5.4, 5.5, 5.7, 5.9 / 5.30, 5.34, 5.40, 5.50, 5.66 / 5.117, 5.118, 5.122

TEST 2   50 Points

UNIT III
READING ASSIGNMENT: Chapter 8. TBD
HOMEWORK: TBD

READING ASSIGNMENT: Chapter 9. TBD
HOMEWORK: TBD

TEST 3   50 Points

UNIT IV
READING ASSIGNMENT: Chapter 11. TBD
HOMEWORK: TBD

READING ASSIGNMENT: Chapter 12. TBD
HOMEWORK: TBD

TEST 4   50 Points

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homework problem solutions on this card)

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Course Information

Catalog
Description: <u>ME 521 Fluid Mechanics (3 credits)</u>
Fluid statics. Basic equations of fluid mechanics. Study
of flow in closed conduits and over immersed bodies.
Includes compressible flow, turbomachinery and
measurements in fluid mechanics.

Prerequisites: ME 398 Thermodynamics I (with C or better)
Math 555 Differential Equations

Textbook: Munson, B. R., Young, D. F., and Okiishi, T. H.,
<u>Fundamentals of Fluid Mechanics</u>, 3rd Edition,
John Wiley & Sons. 1998.

Objectives:
(skills to be
developed)

1. Demonstrate understanding of fluid properties
   and associated unit measurement systems.
2. Understand application of mechanics principles
   in fluid statics/dynamics to develop analytical tools
   and use the techniques to solve applicable problems.
3. Understand application of conservation laws
   in fluid dynamics analysis and use the techniques to
   solve applicable engineering problems
4. Identify basic flow regimes of internal and external
   flow and the physical implications for engineering
   and natural systems
5. Distinguish between compressible and incompressible
   flow and demonstrate ability to use basic techniques to
   account for fluid compressibility
6. Relate fluid mechanics principles to operation
   characteristics of various turbomachinery systems

Topics:

1. Fluid Properties
2. Fluid Statics
3. Fluid Dynamics - Bernoulli Equation
4. Conservation Laws - Finite Control Volume Analysis
5. Internal Flows
6. External Flows
7. Compressible Flow
8. Turbomachines