CE 365
Hydraulic Engineering

Michael Piasecki

January, 2023

Introduction

Syllabus

Instructor this Term:
Spring 2023
Prof Michael Piasecki
Office: Steinmann ST102
Tel: 212 650 8321 (email is better!)
Email: mpiasecki@ccny.cuny.edu
Email lab technician: Aasif Chowdhury achowdhury3@ccny.cuny.edu
Email lab TA: Said Meija

Class Meeting Place and Office Hours:

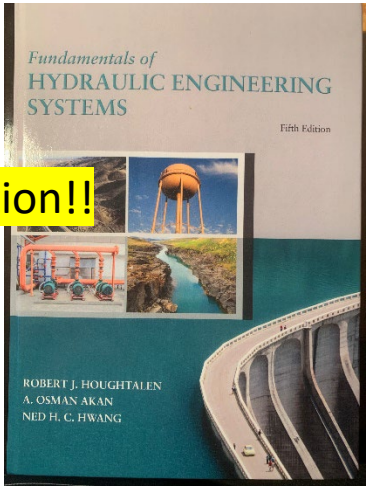
Class room:		SH 205		
ProblemSolving:		SH 205		
Lab:		Steinman C1A		
Office Hours		tbd and after appointment (the latter on Zoom)		
Meeting times:		Lecture	Mo	09:30am – 11:10am
	alternate	Lab Sec	We	02:00pm – 05:00pm
	alternate	ProbSolv	We	02:00pm – 03:30pm
Office Hours:		tbd		__:__pm – ___pm

Syllabus

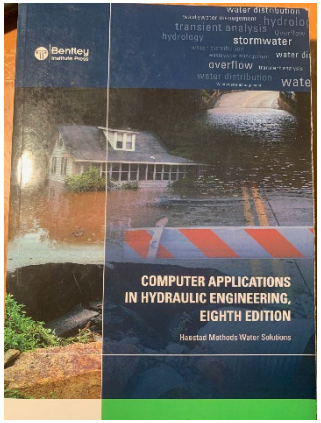
Textbooks:

Fundamentals of Hydraulic Engineering Systems, Houghtalen, Akan, Hwang, 5th Ed., Prentice Hall

5th Edition!!



Computer Applications in Hydraulic Engineering, Bentley Publishers, 8th Ed..



(we may get away without needing to buy)

Assessment Tools: (In addition to the End of Course survey)

Lab assignments (7)	21% (3% each)
Quizzes/Exams (2)	22% (11% each)
Project	24%
Cumulative Final Exam	33%
Homework (~10 assigned)	0% (assigned for voluntary consideration)

Course Evaluation & Grading

Lab Reports

Abstract:	10%
Intro:	10%
Proced & Results:	25%
Discussion:	25%
Conclusions:	10%
References:	5%
Presentation:	10%
Lab Participation:	5%

Read it! …

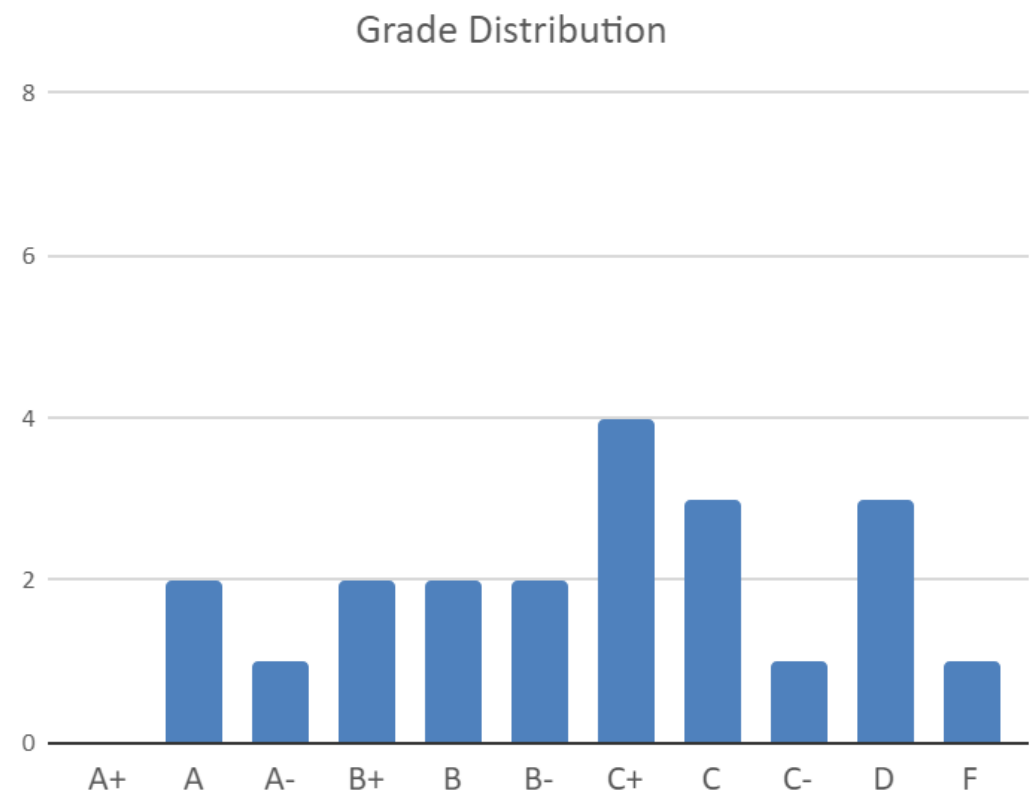
… and do not ever claim: Oh, we did not know.

Its available on the course website.

<u>Grading Scale (this is a good guideline)</u>

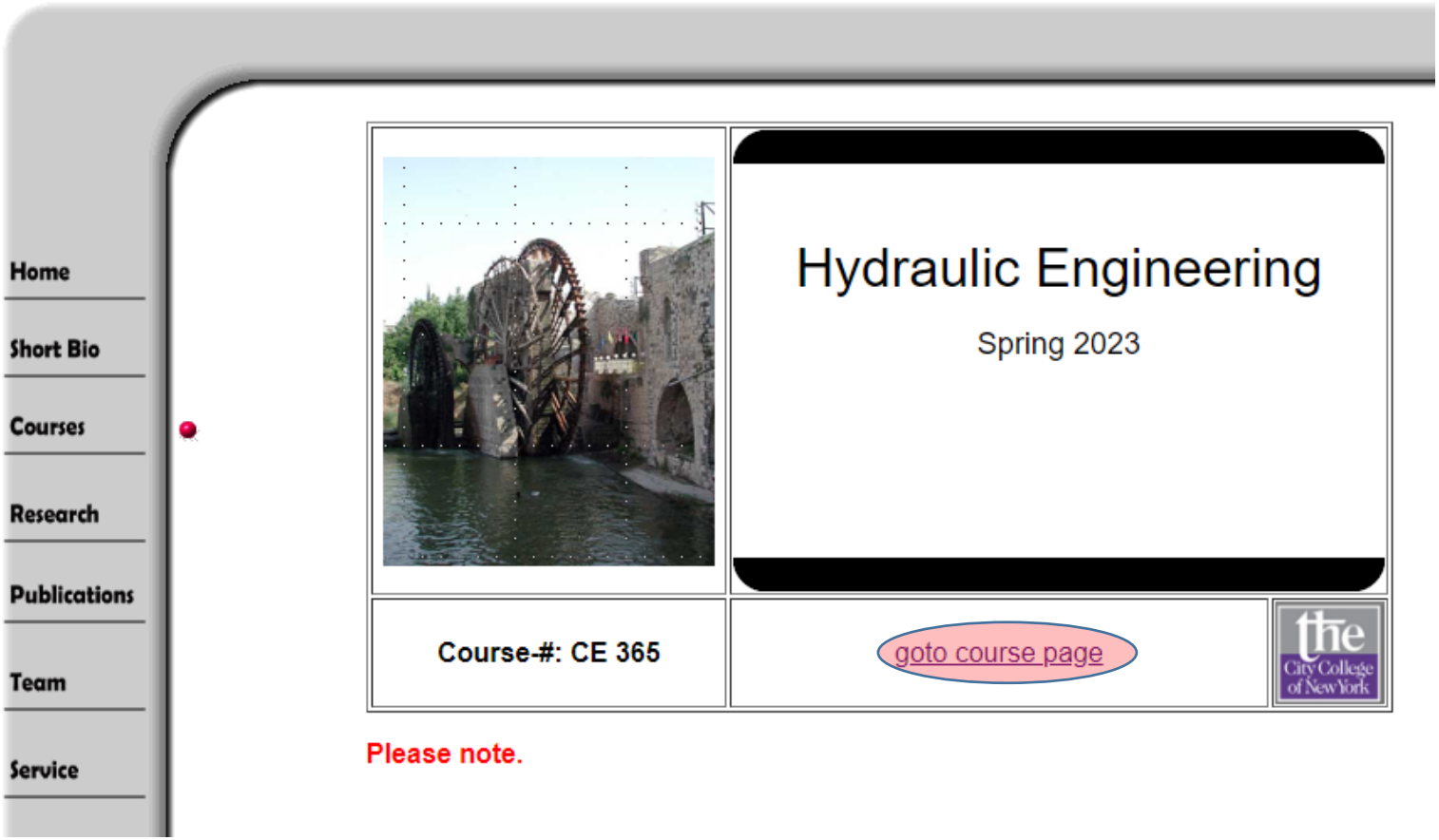
A+	92-100%	A	89-92%	A-	86-89%
B+	86-83%	B	80-83%	B-	77-80%
C+	73-77%	C	70-77%	C-	69-73%
D+	65-69%	D	60-65%		
F	Less than 60%				

Last Term Grade Distribution



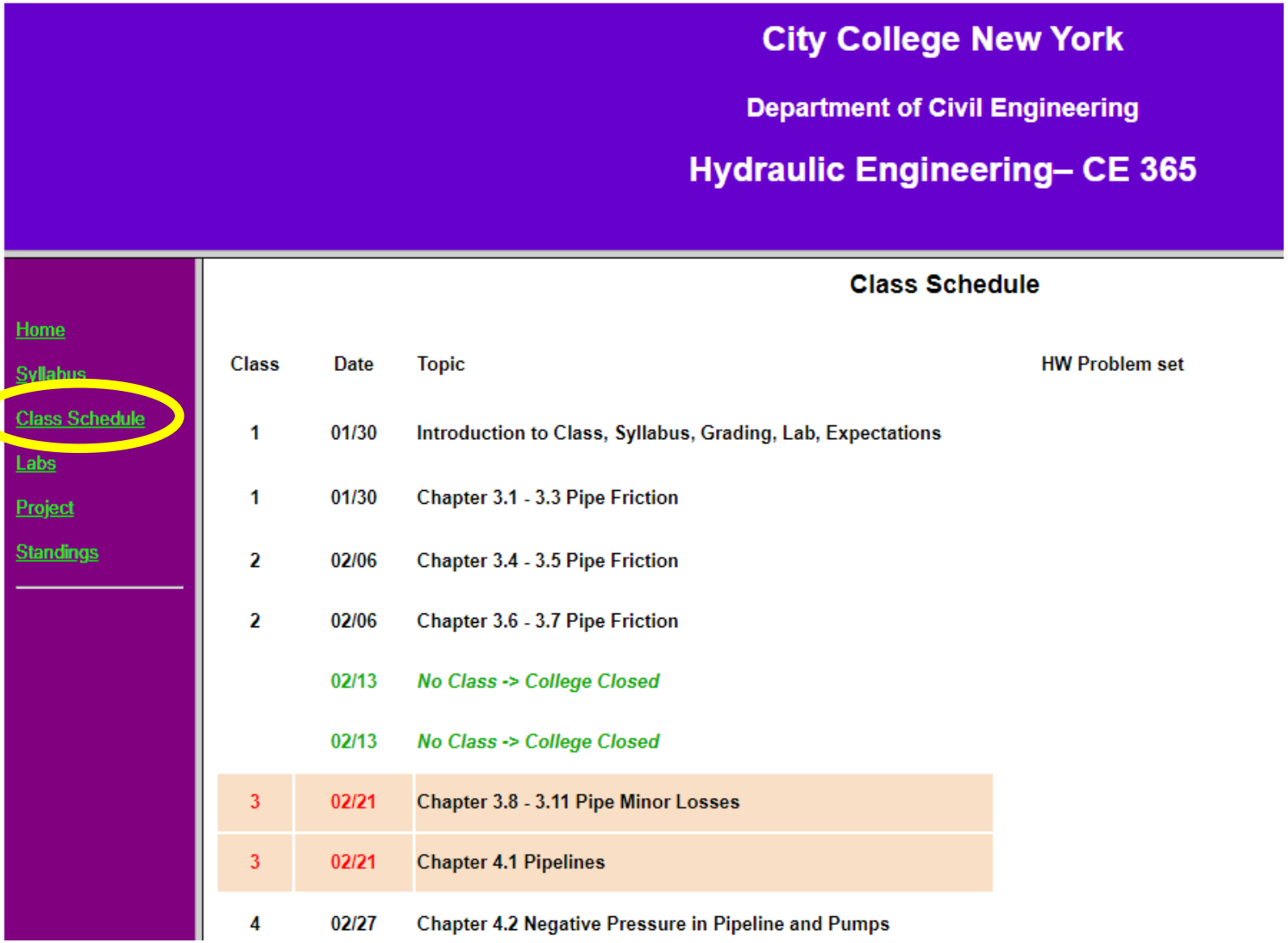
21 Students

Course Site



http://michaelpiasecki.org

Course Site



City College New York

Department of Civil Engineering

Hydraulic Engineering– CE 365

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Standings

Class Schedule

Class	Date	Topic	HW Problem set
1	01/30	Introduction to Class, Syllabus, Grading, Lab, Expectations	
1	01/30	Chapter 3.1 - 3.3 Pipe Friction	
2	02/06	Chapter 3.4 - 3.5 Pipe Friction	
2	02/06	Chapter 3.6 - 3.7 Pipe Friction	
	02/13	*No Class -> College Closed*	
	02/13	*No Class -> College Closed*	
3	02/21	Chapter 3.8 - 3.11 Pipe Minor Losses	
3	02/21	Chapter 4.1 Pipelines	
4	02/27	Chapter 4.2 Negative Pressure in Pipeline and Pumps	

Course Site: Labs

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Lab Related

1. Lab Manual: This document contains all the lab experiments you will conduct. We expect you to come prepared to the lab session knowing expected to do.

2. Lab Report Guidelines: So you know what to do when compiling your report.

Lab Groups (status)

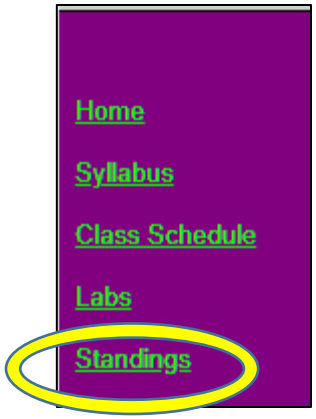
Group #	Names					
1	V	V	V	V		
2	V	V	V	V		
3	V	V	V	V		
4	V	V	V	V		
5	V	V	V	V		
6	V	V	V	V		
7	V	V	V	V		
8	V	V	V	V		
9	V	V	V	V		
10	V	V	V	V		
11	V	V	V	V		
12	V	V	V	V		

Course Site: Labs

Lab Schedule

Date	Lab #	Lab Experiment	Experiment Video	Lab Data/Room
01/25		First Lab Lecure: Introduction to the Course		ONLINE
02/01	Lab#1	exp #1 HydroStatic Pressure assigned	Experiment #1 Video	Wet-Lab Steinman C1
02/08		Lab Questions/Problem Solving #1		ONLINE
02/15	Lab#2	exp #1 HydroStatic Pressure due exp #3 Bernoulli Principle assigned	Experiment #3 Video	Wet-Lab Steinman C1
02/22		Lab Questions/Problem Solving #2		ONLINE
03/01	Lab#3	exp #3 Bernoulli Principle due exp #2 Fluid Friction & Minor Losses assigned	Experiment #2 Video	Wet-Lab Steinman C1
03/08		Lab Questions/Problem Solving #3		
03/15	Lab#4	exp #2 Fluid Frictrion & Minor Losses due exp #7 Outfall Diffuser assigned	Experiment #7 Video	AT HOME
03/22		Lab Questions/Problem Solving #4		ONLINE
03/29	Lab#5	exp #7 Outfall Diffuser due exp #4 Pumps (Exerc. F&G) assigned	Experiment #4 Video	Wet-Lab Steinman C1
04/05		No Session: Spring Break		

Course Site



Name	Lab1	Lab2	Lab3	Lab4	Lab7	Lab5	Quiz1	Quiz2	Proj	Final	%	Final Grade
Max Points	20	20	20	20	20	20	100	100	100	90	100	
_2584	20	18.5	18.5	18.5	19	19.5	78	75	90	55		B
_4555	19	20	18	17	14	17.5	98	95	97	43		B+
_1592	18.5	17	17	18	19.5	17.5	87	70	75	67		B
_5161	19	20	20	20	20	20	96	75	92	58		A-
_6806	18	16.5	19.5	19.5	18	18	59	75	100	6 0		B
_8221	19.5	16.5	17.5	17	15	19.5	54	65	60.8	26		D
_8177	19	20	20	20	20	20	66	90	90	17		C
_7656	18	16.5	19.5	17	16.5	19	71	80	80	52		B-
_4464	20	18.5	19.5	19.5	16.5	19	90	75	85	69		A-
_7698	19	20	18	17	14	17.5	26	80	75	21		D
_8633	20	18.5	18.5	18.5	19	19.5	41	85	80	20		C-
_9718	19.5	16.5	17.5	17	15	19.5	8	65	60.8	46		D
_6682	20	18.5	19.5	19.5	16.5	19	92	80	95	78		A+
_6067	18.5	17	17	18	19.5	17.5	68	70	75	60		B-
_1317	18	16.5	19.5	19.5	18	18	65	90	90	67		B+
_8244	19	20	18	17	14	17.5	55	95	97	60		B
_5823	18	16.5	19.5	19.5	18	18	69	75	100	55		B
_1881	19	19	19.5	20	20	20	68	80	95	76		A
_4646	20	18.5	18.5	18.5	19	19.5	34	85	80	30		C

Course Organization

- All Lectures will be in-person, except when the need arises to have them online. In that case they will be recorded on **Zoom** and subsequently made available online on the course website.

- The Lab Lecture/ProbSolvSessions will in all likelihood be online. Note that these are alternating with the wet-lab (level C room C1A in Steinman), which are in-person.

- You will receive invitations to specific course folder on Dropbox where I want you to deposit your lab report submissions.

- The office hours will be online via **Zoom**. You can also request a private talk, those will be in **Zoom** also (those are not to be abused for private tutoring, i.e., class material Related issues).

- In case we need to be online, I will need to mute you automatically on arrival in the meeting. But you will be able to unmute yourself in case you want to say something. For clarity and background noise reduction try to stay muted as much as you can.

Course Rules

During Exams (In-Class):

1. Closed books, formula sheet will be provided

2. All cell phones and tablets need to turned off and handed in

3. All bags need to be placed against the front wall

4. All jackets need to be with your bags

5. No programmable pocket calculators only the following calculator is allowed:
   Texas Instruments 30XIIS (or lesser ones such as TI-30Xa)

6. There will be “A” and “B” versions of every exam. The seating pattern during exams will be staggered, hence you will sit next to students who have a different version.

7. There will be no bathroom visits, please take care of these needs prior to sitting down. Only exception is a medical condition, to be supported by a Doctor’s statement.

Course Rules

Attendance and Late Submission Policy:

- No Lecture attendance requirement
- Lab attendance requirement though! (Groups organize and police themselves)
- Every day late on lab report => 20% deduction

Academic Integrity Policy:

- No copying of reports
- Very strict rules during mid terms and final. No phones, tablets, simple calculator https://www.ccny.cuny.edu/civileng/ce-policy
- Violations will passed on the CCNY integrity committee
- **http://www.cuny.edu/about/administration/offices/la/Academic_Integrity_Policy.pdf**

Disability Policy:

- If needed appropriate accommodations in AccessAbility Center
- Need letter from AccessAbility officially requiring these accommodations
- Need “Exam Administration Request Form” in case of exams

Course Rules

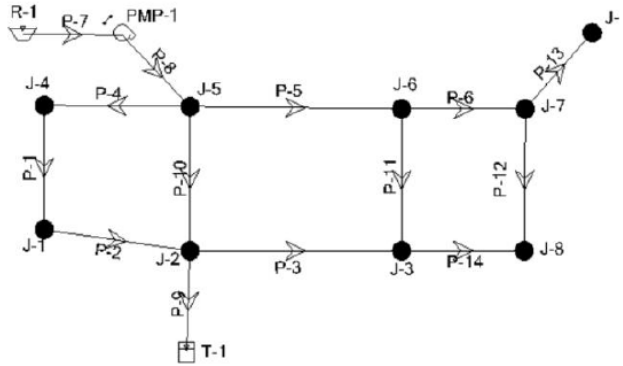
Missing Quizz/Exam due to illness Policy:

- Students who have an unavoidable and serious emergency or severe illness that prevents them from attending a required class period, or submitting an assignment, exam, project, etc. on the day it was due, will not be penalized provided that they provide official documentation that excuses them. The documentation may be reviewed by Dean Beharry, and must justify the student's absence for the required class period or their inability to submit work on the day it was due. As a priority, missed work will be shifted to similar graded work, or it will not be counted, or, as a last resort, a make up opportunity will be provided.

~~**Missing Quizz/Exam due to infrastructure failure Policy:**~~

- ~~You will need to make sure your infrastructure is functioning. I will not accept excuses such as "sorry my internet was down", "my computer was out of whack this morning" (that is the equivalent to "my dog ate my HW")~~

Course Project



Water Distribution Network

- Use of Bentley Systems **WaterGEMS** App
- We have access to a student server
- Best: you can download it from Bentley's Student Server for use on your personal comp.

Teams:

- 3 (or 4) persons per team (same for Lab). Every group will split, e.g. Lab group 1 would split into 1A and 1B. You need to self organize here and let me know.
- Consists of two parts: part I will be a set of tutorials; part II will be a set of one or two small real world problems.
- Need to coordinate workloads on execution and write up
- You need to produce a project report, in PDF! => Submit in DropBox

Timing:

- Project will be assigned after the topic of Water Distribution Networks has been covered in class; about halfway through the term.
- Due date will be the last Friday before end of the semester at 12noon.

Business: Homeworks & Reading Assignments

- Assigned weekly, or perhaps every other week, mostly from book perhaps others.
- They will NOT be graded
- Solutions will be made available on website
- These are, in a way, volunteer efforts. They are suggested to you so you can practice problems and better learn the material
- Note that some Quizzes and Final exam problems will be drawn from the book.
  => the more problems you solve from the book the higher the likelihood you will have seen the problem before.
- Note that the exams will contain some short questions pertaining to the topics covered. To answer them you are best off actually having read the sections assigned.

Business: Lab Groups

Need to organize the lab groups:

We will have groups of 6 students (or 7, because the numbers do not work out perfectly as a multiple of 6, i.e., 6 students/group)

⇒ By this evening submit your pick of 6 or 7 names (we will need 3 groups with 7 students). Either way, first come first serve (email arrival time stamp)

⇒ If it does not matter to you, no need to do anything. You will be placed.

⇒ You can submit only 3 or 4 or 5 names, but preference will be given to groups of 6 (or 7). The remaining slots will be filled randomly.

⇒ The group will also work together on the project, albeit, split into two sub-groups of 3/3 or 3/4

Business: Office Hours

Need to organize our Office Hours:

Office Hours are on ___ and/or ___

=> need a good 1.0hrs time slot

such as 10:00 – 11:00

Time	Monday	Tuesday	Wednesday	Thursday	Friday
10:00 – 11:00					
11:00 – 12:00					
12:00 – 01:00					
01:00 – 02:00					
02:00 – 03:00			X		
03:00 – 04:00			X		
04:00 – 05:00			X		

What I expect from you?

- Work 4-8 hours per week

- Study Hydraulics with good attitude. More than ever before the responsibility to learn and grasp the material falls on you. I can only aid you in doing so.

- Always ask questions when encountering a problem, but try to address these problems during office hours. I will try to accommodate requests outside office hours as best I can but recognize that I am busy doing other things.

- DO NOT send requests late at night or on weekends and expect instantenous responses. I will respond if it is something that I need to address, but allow for some time to do so.