PHYSICS 170 MECHANICS I: SECTION 101 (2017 W1)

Lectures: 2:00 PM to 2:50 PM, Monday, Wednesday and Friday in West Mall Swing Space 121

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        Office hours: Tuesday, 11 AM -12 noon or by appointment via email

Text: R.C. Hibbeler, *Engineering Mechanics: Statics and Dynamics,*
    Prentice-Hall Publishing Company, Third Custom Edition (of the 14th edition)

SCHEDULE

Week	Lectures	Text Sections	Homework due	Tutorial
1	Sep 6, 8	1.1-1.6, 2.1-2.4		
2	Sep 11, 13, 15	2.5-2.9	1	1
3	Sep 18, 20, 22	3.1-3.4, 4.1-4.3	2	2
4	Sep 25, 27, 29	4.4-4.8	3	3
5	Oct 2, 4, 6	5.1-5.7	4	4
6	Wed Oct 11 Fri Oct 13	8.1-8.2 October Exam: Chapters 1, 2, 3, 4	5 Mon Oct 16, 11:59 PM	
7	Oct 16, 18, 20	8.3, 12.1-12.7	6	5
8	Oct 23, 25, 27	12.8-12.10	7	6
9	Oct 30, Nov 1, 3	13.1-13.5	8	7
10	Nov 6, 8 Fri Nov 10	13.6, 14.1-14.2 November Exam: Chapters 5, 8, 12	9 Mon Nov 13, 11:59 PM	
11	Nov 15, 17	14.3-14.6	10	8
12	Nov 20, 22, 24	15.1-15.4	11	9
13	Nov 27, 29, Dec 1	15.5-15.7	12	

MARKS

Final Exam (covers all course material)	50
October Exam	20
November Exam	20
Mastering Engineering Assignments	5
Tutorial Assignments	5
Total	100

Grading policy (Important!): You must obtain a total of at least 45 marks out of 90 on the three exams (Final Exam, October Exam, November Exam) for your marks from Mastering Engineering Assignments and Tutorial Assignments to count towards your Final Grade. In other words, you cannot pass the course as a whole without passing the exam component of the course.

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ADDITIONAL INFORMATION

Instructor e-mail

You may receive e-mails from me as mattchoptuk@gmail.com. You can reply to these normally and they will be directed to choptuik@physics.ubc.ca.

Connect

This course will be administered through Connect. You will be able to find fairly complete information about the course there, including announcements, lecture notes, your tutorial and mid-term grades (in due course) and more. Note that your Mastering Engineering grades will not be posted there, but you will be able to see them on the homework site itself.

Text and Mastering Engineering (Homework)

It is recommended that you purchase a copy of the text, but this is not mandatory. Likewise, it is **highly** recommended that you purchase access to Mastering Engineering (ME). If you choose not to you will forfeit the 5 marks that are allocated to the ME problem sets. ME is an online homework system which is described in more detail in the document "Information About Mastering Engineering Assignments" available on Connect.

The UBC bookstore bundles the 3rd custom edition of the text together with an ME access code for $189.10.   Buying the bundle will also give you access to an online version of the text.

Another option is to purchase a used copy of the 3rd custom edition, or an older edition (2nd custom edition, or $10^{th}/11^{th}/12^{th}/13^{th}$ edition of the full text will be fine) and then buy the ME access code separately for $96.00. Note that this will **not** provide you with access to the online text.

Registering for Mastering Engineering (Important!)

If you purchase the text/access code bundle, register at

>   http://masteringengineering.com

If you purchase the standalone access code, register at:

>   https://register.pearsoncmg.com/reg/register/reg1.jsp

In both cases the Course ID is **MECHOPTUIK56773**

Additional information concerning the registration process is available in the document "Getting Started with Mastering Engineering" on Connect.

Tutorials

Tutorials start the week of September 11. In each tutorial you will work in a small group of 3 or 4 students to solve and write up a single problem. Instructions describing how problems are to be completed and written up are available on Connect in the document "Information About Tutorial Assignments".

Piazza

We will use a Piazza forum as the chief mechanism for posing and answering questions concerning the course. In particular, rather than e-mailing the instructor with a question about the course, you will create a post in the Piazza forum and then, with luck, that post will be answered by the instructor, or by one or more of your fellow students, or by one or more of the TAs. You can even post anonymously If you wish. There are numerous advantages to this approach. For example, the question you post may be one that others in the course also have—an answer to yours is thus efficiently an answer to theirs. Additionally, Piazza allows us to typeset mathematical expressions (using the LaTeX language), which allows for more precise and concise specification of questions and answers. All of the virtues of Piazza will not be belaboured here—suffice it to say that it has been found to be very useful for managing course-related discourse.

The URL for our Piazza forum is

https://piazza.com/ubc.ca/winterm12017/phys170/home

Before you can start participating in the forum, you must sign up at

https://piazza.com/ubc.ca/winterm12017/phys170

and to sign up you **must** have an email address that ends in "**ubc.ca**". If you don't have such an address, you can get one at

https://id.ubc.ca

If, for whatever reason, you are unable to get a ubc.ca email address, then send an email to the instructor with your usual email address and you will be added to the access list.

Everyone is encouraged to join the forum as soon as possible.

Calculators

The recommended calculator for the course is the TI 84+ (or TI 83 or other comparable TI graphing calculator). The bookstore sells these for $144.95. For our purposes, a key feature of this particular calculator is its ability to solve systems of linear equations in several variables, as well as nonlinear equations in a single variable. Additionally, in the solution of many problems, we will take advantage of the calculator's specific memory structure.

Use of a TI graphing calculator is not mandatory. There are less expensive options that will suffice for the course, but you should ensure that whatever calculator you purchase (or have already) is capable of solving at least 3 linear equations in 3 unknowns.

Some representative and relatively inexpensive models with this capability include:

- Sharp EL-W516X ($40.04 on Amazon)
- Casio fx-991MS ($32.20 on Amazon)

Instructions for using these calculators to solve linear systems (as well as to perform other advanced functions) are readily available on the web, as well as in the guide books that come with the machines.

Web based calculation

In addition to calculators, you can also use web resources to help you with the calculations you will need to do to complete your homework assignments (but not your tutorial assignments or exams).   One of the most powerful such resources—yet one that is easy to use for tasks such as solving linear equations—is WolframAlpha, available at https://www.wolframalpha.com/