ESSENTIAL PHYSICS 1 M 16:30 - 18:00

Instructor: Elizabeth TASKER, office 2-9-11, tasker@astro1.sci.hokudai.ac.jp

TA: Hikari SHIRAKATA, office 2-9-03, shirakata@astro1.sci.hokudai.ac.jp

Textbook: 'Essential University Physics with MasteringPhysics', Richard Wolfson / Pearson, ISBN 978-0321714381

Students must have the 'Mastering Physics' student access code card to complete the homework. The book can be bought from the University COOP (Seikyou) or from amazon.co.jp.

Notices: Any important information about the course will be posted on the course website:

`http://astro3.sci.hokudai.ac.jp/~tasker/teaching/ep1`

Please check this regularly.

Homework

(1) Weekly homework problem sets will be on the 'Mastering Physics' website:
`http://www.masteringphysics.com`.

Course ID: EP12016TASKER
Student ID: Your Hokudai student ID

(2) During the semester, there will also be approximately 3 short news articles to read. Students must identify the main points of the article and write a 3-5 sentence summary.

(3) For the end of the semester, students will write a 250 word summary of a news article of their choice. The news article can be one previously covered in class, or one of their own choosing. This article must be submitted with their summary by 2016/07/25. It counts for 5% of the homework percentage.

Clickers: During each lecture, there will be questions on the concepts being covered. Students will answer these using clickers. This is the attendance grade.

Here, it is more important to try than to get the correct answer! If you achieve more than 60% on the clickers, you will get 100% of the marks.

Slides: The slides from each lecture (in .pdf form) will be put on the course website on the Tuesday after the lecture:

`http://astro3.sci.hokudai.ac.jp/~tasker/teaching/ep1`

Attendance policy: You must attend more than 80% of the classes (less than 3 absences). If you cannot avoid missing a class, contact the instructor beforehand or at the earliest possible opportunity. Students sleeping in class will be marked as 'absent' for that lecture.

Course Outline:

Week 1	04/18	Syllabus introduction / How to review a science article
Week 2	04/25	Mechanics: the importance of units & Motion in 1D
Week 3	05/02	Mechanics: motion in 2D and 3D
Week 4	05/09	Mechanics: circular motion and Newton's Laws
Week 5	05/16	Mechanics: forces
Week 6	05/23	Mechanics: work and energy
Week 7	05/30	Mechanics: conservation of energy
Week 8	06/06	Mechanics: momentum and rotation
Week 9	**06/20**	Waves: oscillatory motion
Week 10	**06/23, 6pm**	Waves: wave motion
Week 11	06/27	Waves: fluid motion
Week 12	**07/11**	Optics: reflection and refraction
Week 13	[????]	Optics: mirrors and lenses
Week 14	07/25	Optics: interference and diffraction
Week 15	08/01	Final test

([????]: Lecture to be rescheduled.)

Grading

Homework	40 %
Attendance / in class quiz	20 %
Final test	40 %

The pass grade is 60 %.

Marks are '**absolute**'; it is possible for all students to achieve an 'A' in this class.

Extra Help: If you have any problems with the course, please email me. I will be happy to arrange a time to meet and discuss any issue with the course.