ESSENTIAL PHYSICS 2 M 16:30 - 18:00

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

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

Students must buy the textbook, complete with the 'Mastering Physics' student access code card. 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/ep2`

Please check this regularly.

Homework

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

Course ID: EP22015TASKER
Student ID: Your Hokudai student ID

(2) During the semester, there will also be between 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 on 2016/01/18. 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 will count towards their 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 by the Wednesday after the lecture (more probably by Tuesday morning):

`http://astro3.sci.hokudai.ac.jp/~tasker/teaching/ep2`

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. If you sleep through the class, you will be marked at absent.

Course Outline:

Week 1	09/28	Syllabus overview / Maths practice
Week 2	10/05	Thermodynamics: Temperature and heat
Week 3	**10/15**	Thermodynamics: The ideal gas law
Week 4	10/19	Thermodynamics: The First Law of Thermodynamics
Week 5	10/26	Electromagnetism: Introduction to electric charge
Week 6	11/02	Electromagnetism: Gauss' Law
Week 7	11/09	Electromagnetism: Electric Potential
Week 8	11/16	Electromagnetism: Magnetic fields
Week 9	**11/30**	Electromagnetism: Magnetic fields, Ampere's Law
Week 10	12/07	Electromagnetism: Electromagnetic induction
Week 11	12/14	Electromagnetism: Maxwell's Equations
Week 12	12/21	Modern Physics: Particles and Waves
Week 13	**01/12**	Modern Physics: Quantum Mechanics
Week 14	01/18	Modern Physics: Particle Physics
Week 15	01/25	Final test

Grading

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

The pass grade is 60 %.

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.