Fundamentals of Physics I

Registration Code	0062211	**Credits**	2.0
Course Category	Sciences Basic		
Term (Semester) / Day / Period	G-I (1st year, Fall Quarter 1) / Tue., Thu. / 2（10:30～12:00）		
Instructor	SHIGEMORI Masaki		
Target Schools (Programs)	Sc(P・C・B)・En(P・C・Au)・Ag(B)		

●Objectives of the course
Fundamentals of Physics I (FP I) is the first of four lecture courses (FP I–IV) designed to cover the basic classical physics to provide a firm foundation for learning science and engineering. This course introduces the concepts and laws of classical mechanics. Further topics in mechanics will be covered in FP II.

●Course Prerequisites
Students without a good background in high school physics and basic calculus are advised to review those materials as soon as possible and would be expected to spend more time and effort for the course. This must be considered when deciding your course load. Students are expected to participate actively in class activities throughout the course.

●Course Contents(will not appear on the syllabus booklet but on our website)
The topics include kinematics, vectors, force and motion, energy, work and momentum, and are based on the following chapters in the textbook:

Chapter 2: Motion Along a Straight Line
Chapter 3: Vector
Chapter 4: Motion in Two and Three Dimensions Chapter 5: Force and Motion I
Chapter 6: Force and Motion II
Chapter 7: Kinetic Energy and Work
Chapter 8: Potential Energy and Conservation of Energy
Chapter 9: Center of Mass and Linear Momentum

Some examples of problem solving will be discussed in lectures, but the companion course, Fundamental Physics Tutorial Ia, is designed to develop students' problem solving skills.

●Evaluation methods
Class attendance is required. Absentees must give a valid reason (e.g. doctor's certificate). Students need to submit a Course Withdrawal Request Form when requesting course withdrawal. The "Absent" grade is reserved for students who withdraw just after the final exam. After that day, a letter grade will be awarded based on marks earned from all assessment during the semester.
Class attendance: 5%, Assignments: 25%, Exams (midterm and final): 70%.

●Notice for students
Concurrent registration of Fundamental Physics Tutorial Ia is strongly advised because it is necessary for mastering the content of the lectures.

Related courses: Calculus I &II, Linear Algebra I & II, Fundamentals of Physics II–IV.

Textbook	**Fundamentals of Physics** Extended 10th Edition International Student Version with **WileyPLUS Set** (John Wiley & Sons, 2014 ISBN: 9781118230749)
Reference Book	Feynman Lectures On Physics (Vol.1) by Richard P. Feynman (Pearson PTR)