

<b>Fundamentals of Physics III</b>			
<b>Undergraduate / Graduate</b>	Undergraduate	<b>Registration Code</b>	0051221
<b>Course Category</b>	Sciences Basic	<b>Credits</b>	2.0
<b>Term (Semester) / Day / Period</b>	G-II (1st year, Spring Semester) / Mon. & Wed. / 2 (10:30~12:00)		
<b>Instructor</b>	GELLOZ Bernard Jacques		
<b>Contact e-mail of the Instructor</b>	bernard.gelloz@nagoya-u.jp		
<b>Target Schools (Programs)</b>	Sc(P·C·B)·En(C·Au)·Ag(B)		
<p><b>●Goals of the Course</b> This is the third of a series of courses that cover the Fundamentals of Physics, introducing the concepts and laws of electricity and magnetism.</p> <p><b>●Objectives of the Course</b> Electricity and magnetism are important for understanding nature and are essential for studying science and engineering. Students learn the fundamentals of electricity and magnetism and its mathematical descriptions and will be able to solve a range of problems in electricity and magnetism. By the end of this course, students will be able to: 1) Understand the concepts of electric fields, electric potential, capacitance, current and resistance, magnetic fields, induction and inductances, etc. 2) Understand Coulomb's law, Gauss' law, law of Biot and Savart, Ampere's law, Faraday's law, Lenz's law, etc., and solve actual problems in electricity and magnetism. 3) Find mathematical solutions to problems in electricity and magnetism expressed by equations and explain the physical meanings of the solutions.</p> <p><b>●Course Content or Plan</b> Chapter 21: Electric Charge Chapter 22: Electric Fields Chapter 23: Gauss' Law Chapter 24: Electric Potential Chapter 25: Capacitance Chapter 26: Current and Resistance Chapter 27: Circuits Chapter 28: Magnetic Fields Chapter 29: Magnetic Fields Due to Currents Chapter 30: Induction and Inductance</p> <p><b>●Course Prerequisites and Related Courses</b> Fundamentals of Physics I &amp; II and Calculus I&amp;II.</p> <p><b>●Course Evaluation Method and Criteria</b> Class attendance is required - absentee must give a valid reason (e.g. doctor's certificate). A student will receive the ABSENT grade if he does not sit for either Intermediate Exam or Final Exam without valid reason. A student who wishes to receive the ABSENT grade ask for it to Prof. Gelloz until after the Final Exam. Students need to submit a Course Withdrawal Request Form when requesting course withdrawal. Weightage of course components: Class attendance: 5%, Lecture Assignment: 15%, Intermediate Exam: 40%, Final Exam: 40%.</p> <p><b>●Study Load (Self-directed Learning Outside Course Hours)</b> This course is as intensive as (if not more) than other fundamentals of physics courses (FPI&amp;FP II) because of the higher mathematical skills involved and the higher number and complexity of concepts. You are expected to register for Fundamental Physics Tutorial Iia (FPTIIa) and to spend at least several hours per week studying in order to do well. There are weekly online assignments.</p> <p><b>●How to Respond to Questions</b> Please use email to contact teachers and Teaching Assistants if you have any questions outside class. In class, students may ask questions at any time.</p>			
<b>Textbook</b>	Fundamentals of Physics Extended 10th Edition International Student Version with WileyPLUS Set (John Wiley & Sons, 2010 ISBN-13: 978-1118230725)		
<b>Reference Book</b>	Feynman Lectures On Physics (Vol. 2) by Richard Phillips Feynman (Pearson PTR) (ISBN-13: 978-0465024940)		