Basic Course Information Course Number	01005104	Subject Category	Compulsory (M	1
Class Format	Lecture	Credit Type and Number of Credits	Compulsory (M) 1 Year 3	1
Department Period of Study Required Materiale	Handout materials based on	Student Category Classes per Week "Applied physics of Ko	Year 3 1 een", ISBN978-4-627-1510	
neructor	Takeshi TOSHIMA	Arnon Sakonkanapon	ž.	]
20Line Unecouve its aimed to express the following elec- nteriocked and are analyzable events. Electric current IOhms hav, resistivity ZMagnetic field Biot-Savart's law, Ann Shectromagnetic force Lorentz force. Magnetic material imagnetization, ma Specifically, each item of the following s	tromagnetism phenomena an conductivity, temperature co sere's law! Fleming's left-hand rule. Gwr gnetic susceptibility, permeabi rubric will be the target.	d understand that thes efficient, Joule heat, ele oradius (Larmor radius), liity, magnetic energy, hy	r are mathematically ictric quantity Hall effect) rstenesis	]
Evaluation (Rubrio)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)	
It is possible to explain the electric current (current, Ohmis law, resistivity, conductivity, temperature coefficient, Joule heat, electric cuantity)	Ability to solve not only basic problems but also applied problems on midterm and/or final exams about this category.	It is possible to explain the electric current current. Ohm's law, resistivity, conductivity, temperature coefficient. Joule heat, electric quantity	Can not explain the electric current (current, Ohm's law, resistivity, conductivity, lemporature coefficient, Joule heat, electric quantity!	
It is possible to explain the magnetic field (Biot-Savart's law, Ampere's law) It is possible to explain the	Ability to solve not only basic problems but also applied problems on midterm and/or final exams about this category. Ability to solve not only	It is possible to explain the magnetic field (Biot-Savart's law, Ampere's law) It is possible to	Can not explain the magnetic field (Biot- Savart's law. Ampere's law! Can not explain the	-
It is possible to explain the electromagnetic force (Lorent2 force. Fleming's left-hand rule. Govoradius Larmor radius). Hall effecti	Ability to solve not only basic problems but also applied problems on midterm and/or final exams about this category.	electromagnetic force Lorentz force. Fleming's left-hand rule, Gyroradius (Larmor radius), Hall effecti	Can not explain the electromagnetic force Lorentz force, Fleming's left-hand rule, Gyroradius Larmor radius), Hall effect	
It is possible to explain magnetic material invigoretization, magnetic successfully, potensibility, magnetic energy, hysteresis	Ability to solve not only basic problems but also applied problems on midterm and/or final exams about this category.	It is possible to explain magnetic material imagnetization, magnetic suscoptibility, permesibility, magnetic energy, hysteresis	Can not explain magnetic material (magnetization, magnetic susceptibility, permeability, magnetic energy, hysteresisi	
	Relationship with Learning	Cutoome		,
M22) Addity to design, propose and e writeme G(1) Wolk knowledge on Science an society. Rease change Teaching Method Outline:		al ability to apply them	n to solve problems in the	
Class Format: Please Note :			physical quantities can athematics n. The student is requested al to ensure further study by	
Course Plan Semester 2	Contents and Meth	hod of Course	Goale	Related MCC
1st week	Guidance: Review of the co	nductor and insulator.	Review of electromagnetism II	V-C 2 3 V-C 2 3 V-C 2 3 V-C 2 3 V-C 2 3
2nd week	Relationship between charg (definition of	pe and electric current, current)	Understand the electric current/definition of electric currentl, Ohm's law, resistivity, conductivity	
3rd week	Electric current and	electric energy	Understand the temperature coefficient, Joule heat, electric quantity, law of conservation of electric change	
4th week	Perform calculations using curren	knowledge of electric it.	Mock examination	V-C 2 3
5th week	Magnetic field. Oersted's la	w and Ampere's law	Understand the magnetic field and relationship between the magnetic field and Ampere's law	V-C 2 3
6th week	Magnetic field and E	Siot-Savart law	Understand the Biot-Savart law	
7th week	Perform calculations using k field,	knowledge of magnetic	Mock examination	
8th week	Wrap-up of 1st half of	semester (Review)	Review and summarize learning	
9th week	Midterm Exar	nination	For week 1-8	
10th week	Return Midterm Exam Pa	upers and Feedback	Review learning	V-C 2 3
11th week	Bectromagnetic force (Lorer hand ru	ntz foros. Fleming's left del	Understand the electromagnetic force Lorentz force). Fleming's left-hand rule.	V-C 2 3
12th week	Electromagnetic force gororadi	Cyclotron motion. usi	Understand Laplace force. cyclotron motion. Gyroradius (Larmor radius)	V-C 4 5
13th week	Electromagnetic for	ce (Hall effect)	Understand the relationship between the electromagnetic force and Hall effect	V-C 4 5
14th week	Perform calculations us electromagne	sing knowledge of tic force.	Mock examination	V-C 2 3
15th week	Magnetic material imagn susceptibility, pe	retization, magnetic rmeability	Understand the magnetic materials and their physical quantities	V-C 2 3
	Magnetic material imagne	tic energy, hysteresisi	Understand the magnetic energy and hysteresis	
16th week	1	mowledge of magnetic	Mock examination	
1ଟିଙ୍ଗ week 17th week	Perform calculations using materia	si.		
	Perform calculations using 4 materia		Review and summarize learning	
17th week		semester (Review)	Beview and summarize learning For week 11-18	
17th week	Wrap-up of 1st half of	semester (Review) nation		