Material Science

Course Code: SM22012 / Google Classroom Code: guqsdw3

Year	2021
Course	Lecture on Basic Material Science
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Day/Period	Fall Semester Thu 2
Credit(s)	2
Instructor	YUSUKE WAKABAYASHI
Semester	Fall Semester
Course code/number	SPH-PHY507B
Language Used in Course	Two languages or more

Affiliation	Department of Physics
Course Title (Japanese)	Basic Concepts in Solids
Course Title (English)	Basic Concepts in Solids
Purpose /Abstract (Japanese)	In this course, students will lean fundamental concepts of solid state physics, such as crystal structure, reciprocal space, x-ray diffraction, phonon, band dispersion, Fermi surface, semiconductor, and magnetism.
Purpose /Abstract (English)	In this course, students will lean fundamental concepts of solid state physics, such as crystal structure, reciprocal space, x-ray diffraction, phonon, band dispersion, Fermi surface, semiconductor, and magnetism.
Goal (Japanese)	Students will learn fundamental concepts of solid state physics that is prerequisite to their own research.
Goal (English)	Students will learn fundamental concepts of solid state physics that is prerequisite to their own research.
Contents and progress schedule of the class (Japanese)	This class is open only to students from abroad, therefore expected to be a mini-class. Main part of the lecture will be provided through the Google classroom (on-demand style). Face-to-face class will be also held for discussion. The schedule will be announced through the Google classroom.
Contents and progress schedule of the class (English)	This class is open only to students from abroad, therefore expected to be a mini-class. Main part of the lecture will be provided through the Google classroom (on-demand style). Face-to-face class will be also held for discussion. The schedule will be announced through the Google classroom.
Grading(Japanese)	Evaluation is performed comprehensively based on class participation, attendance and submitted assignments.
Grading (English)	Evaluation is performed comprehensively based on class participation, attendance and submitted assignments.
Books required /referenced (Japanese)	Ashcroft and Mermin, Solid state physics
Books required /referenced (English)	
Preparation and review (Japanese)	The session time is limited and therefore self-directed learning is important. Students are required to prepare and review for each class.
Preparation and review (English)	The session time is limited and therefore self-directed learning is important. Students are required to prepare and review for each class.
Practical business	

Remarks (Japanese)	E-mail address: wakabayashi@tohoku.ac.jp
Remarks (English)	
Last Update	2021/06/23 15:16
	1単位の授業科目は、45時間の学修を必要とする内容をもって構成することを標準としています。1単位の修得に必要となる学修時間の目安は、「講義・演習」については15～30時間の授業および授業時間外学修（予習・復習など）30～15時間、「実験、実習及び実技」については30～45時間の授業および授業時間外学修（予習・復習など）15～0時間です。 One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside of class. In laboratory, practical training, and practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.