科目ナンバリング	U-LAS12 10017 LE57						
授業科目名 <英訳>	Physics of Wave and Oscillation Physics of Wave and Oscillation			担当者所属 職名・氏名	工学研究科　准教授　KIM, SUNMIN		
群	自然科学科目群			分野(分類)	物理学(基礎)	使用言語	英語
旧群	B群	単位数	2単位	週コマ数	1コマ	授業形態	講義（対面授業科目）
開講年度・開講期	2026・前期	曜時限	木4	配当学年	主として2回生	対象学生	理系向

[授業の概要・目的]

This course deals with fundamentals of oscillations and waves which commonly relate to various fields in nature such as dynamic motion as well as electromagnetic phenomenon.

[到達目標]

To understand the basic concepts of wave and oscillation with its mathematical description method

[授業計画と内容]

The course contents are as follows:

1) Introduction to the wave and oscillation phenomena
2) Equation and solution of simple harmonic motion
3) The solution of simple harmonic motion (continued)
4) Resistance and damped oscillation
5) Damped oscillation and forced vibration
6) Forced vibration and resonance
7) Coupled vibration and normal mode coordinates
8) Normal mode of a multi-degree-of-freedom system
9) Vibration of multiple rigid bodies
10) Vibration of an elastic body
11) Vibration of a string
12) Fourier series
13) Wave equation and solution, Sinewave
14) Waves superposition and interference
<<Final Examination>>
15) Feedback

[履修要件]

Having taken the course "Fundamental Physics A＆B" is recommended.

[成績評価の方法・観点]

Evaluation is based on assignments (40%) and written tests (final exam: 60%).

[教科書]

使用しない

Lecture notes will be provided during the class.

Physics of Wave and Oscillation(2)へ続く↓↓↓

Physics of Wave and Oscillation(2)

[参考書等]

（参考書）

Walter Fox Smith 『Wave and Oscillations』（Oxford University Press）ISBN:978-0-19-539349-1（very well organized context to deliver the basic concept of wave and oscillations）

[授業外学修（予習・復習）等]

Self-review is strongly recommended after each lecture.

[その他（オフィスアワー等）]

No specific office hour. Email communication is preferred through [kim.sunmin.6x@kyoto-u.ac.jp].

[主要授業科目（学部・学科名）]

理学部