シラバス参照

科目ナンバリング	TMA-MEE213E
開講年度	2023
科目名	(IMAC-U) 機械力学 I
科目名(英語)	(IMAC-U)Mechanical Vibrations I
単位数	2
担当教員	FEDORYNENKO DMYT 林部 充宏
メディア授業科目 /Course of Media Class	

開講言語	English (英語)
授業の目的・概要及び達成方法等	1. Class subject(目的) To acquire fundamental knowledge regarding dynamic problems which may arise in machinery. 2. Object and summary of class(概要) To learn dynamic characteristics of the systems with one, two, and multi degrees of freedom obtained by modeling machinery. 3. Goal of the study(達成目標等) To acquire the ability to apply the knowledge obtained in this class to engineering design.
授業の目的・概要及び達成方法等(E)	1. Class subject To acquire fundamental knowledge regarding dynamic problems which may arise in machinery. 2. Object and summary of class To learn dynamic characteristics of the systems with one, two, and multi degrees of freedom obtained by modeling machinery. 3. Goal of the study To acquire the ability to apply the knowledge obtained in this class to engineering design.
他の授業科目との関連及び履修上の注意	
他の授業科目との関連及び履修上の注意(E)	Fundamental knowledge of Mathematics and Mechanics are required.
授業計画	
授業計画(E)	1. Introduction and fundamental mathematics 2. Free vibrations of systems with one degree of freedom: vibration of an undamped system (I) 3. Free vibrations of systems with one degree of freedom: vibration of an undamped system (II) 4. Free vibrations of systems with one degree of freedom: vibration of an undamped system (III) 5. Free vibrations of systems with one degree of freedom: vibrations with viscous damping 6. Free vibrations of systems with one degree of freedom: vibrations with viscous, Coulomb, and hysteretic damping 7. Forced vibrations of systems with one degree of freedom (I) 8. Forced vibrations of systems with one degree of freedom (II) 9. Free vibrations of systems with two degrees of freedom (I) 10. Free vibrations of systems with two degrees of freedom (II) 11. Forced vibrations of systems with two degrees of freedom 12. Vibrations of multidegree-of-freedom systems (I) 13. Vibrations of multidegree-of-freedom systems (II) 14. Summary 15. Final examination
授業時間外学修	生徒は各クラスを1～2時間勉強する必要があります。理解できない部分が残っている場合は、質問すたほうがいいです。
授業時間外学修(E)	Students are required to review each class for one to two hours. If there remain any parts they cannot understand, they should ask questions.
成績評価方法及び基準	

成績評価方法及び基準(E)	Students are evaluated on performed in-class assignments and the final exam. The in-class assignments are given to students at the end of each lecture. The coverage of the assignments corresponds to the contents of the previous class. Students must solve the given problems within 15 minutes and then hand them in at the end of the lecture.

教科書および参考書

No	書名	著者名	出版社	出版年	ISBN/ISSN	資料種別
1.	『Mechanical Vibrations SI (5th Edition)』	S. S. Rao	Pearson Education	2011	9789810687120	
2.	『Mechanical Vibrations』	S. G. Kelly	Schaum's Outline Series	1996	0070340412	
3.	『An Introduction to Mechanical Vibrations, (3rd Edition)』	R. F. Steidel, Jr.	Wiley	1989	0471845450	

関連URL	Google Classroom is planned to be used as a course LMS. Google Classroom: [TB14025] (IMAC-U) Mechanical Vibrations I 2023; class code is x5hg2ml
添付ファイル	
オフィスアワー	
オフィスアワー(E)	Usually, office hours are arranged individually upon request. Please get in touch with the course instructor by email.
備考	The course is organized without a specific textbook. Instead, handouts and presentations for each lecture are supposed to be used.
実務・実践的授業/Practical business ※〇は、実務・実践的授業であることを示す。/Note:"〇" Indicates the practical business	
その他	
更新日付	2023/03/08 11:03

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時間に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 od class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.