

Subject (科目名)	Mechanical Vibrations I (機械力学 I)	Credits	2	Day/Slot	(1) Mon. / 2nd 10:30 - 12:00 (2) Fri. / 2nd 10:30 - 12:00
Course Code	VJ244F82	Semester	Fall/Q*	Period	Oct. 2, 2017 – Dec. 1, 2017*
Instructor (Post)	Mitsuhiro HAYASHIBE (Prof.)	*This is a Quarter Subject.	Campus	Aobayama Campus	
			Building	Research Building No.2 of the Department of Mechanical and Aerospace Engineering	
Faculty	Faculty of Engineering		Class Room	Room 214 (Ki-2-214)	
Class subject	To acquire fundamental knowledge regarding dynamic problems which may arise in machinery.				
Object and summary of class					
To learn dynamic characteristics of the systems with one, two and multi degrees of freedom obtained by modeling machinery.					
Keywords	-				
Goal of study					
To acquire the ability to apply the knowledge obtained in this class to engineering design.					
Contents and progress schedule of class					
1. Introduction and fundamental mathematics 2. Free vibrations of one-degree-of-freedom systems (I) 3. Free vibrations of one-degree-of-freedom systems (II) 4. Free vibrations of one-degree-of-freedom systems (III) 5. Forced vibrations of one-degree-of-freedom systems 6. Free vibrations of one-degree-of-freedom systems with viscous damping (I) 7. Free vibrations of one-degree-of-freedom systems with viscous damping (II) 8. Free vibrations of one-degree-of-freedom systems with viscous damping (III) 9. Forced vibrations of one-degree-of-freedom systems with viscous damping 10. Free vibrations of two-degree-of-freedom systems (I) 11. Free vibrations of two-degree-of-freedom systems (II) 12. Forced vibrations of two-degree-of-freedom systems 13. Vibrations of multi-degree-of-freedom systems 14. Summary 15. Summary and examination					
Preparation	Fundamental knowledge on Mathematics I and Mechanics are required.				
Record and evaluation method	-				
Textbook and references	Mechanical Vibrations SI (5th Edition) S. S. Rao Mechanical Vibrations S. G. Kelly An Introduction to Mechanical Vibrations, (3rd Edition) R. F. Steidel, Jr.				
Self study	Students are required to review each class for one to two hours. If there remain any parts they cannot understand, they should ask questions.				
In addition	-				