

Course	Computational Haptics
Course No.	02RB236
Credits	2.0Credits
Grade	1, 2Year
Timetable	FallAB Mon4,5
Instructor	Hiromi Mochiyama, Hiroaki Yano
Course Overview	The main purpose of this lecture is to explore the basics of neurophysiology necessary to create haptic systems for humans, methods to develop devices, and haptic rendering.
Remarks	The course is taught in even years. Those who do not belong to the PhD program in Empowerment Informatics need the permission of the instructor to register. Open in an odd number year. Not open in 2017.
Course Type	lectures
Course Remarks	Lecture in Japanese with English slides
Relationship to EMP Educational Objectives	
Course Objectives	1. To acquire basic neurophysical knowledge of haptic sensations (tactile and proprioceptive sensations) 2. To acquire basic knowledge of haptic devices 3. To acquire basic knowledge of haptic rendering methods
Course Schedule	1)Introduction to the course, haptic illusions 2)Basic physiology of touch 3)Haptic sensors and displays 4)Tactile interfaces, haptic design 5)Computational mechanics of tactile sensing 6)Haptic sensing, control systems & human experience of force feedback 7)Force feedback interfaces 8)Physical models and control systems for force feedback interfaces 9)Evaluation and application of force feedback interfaces 10)Haptic device contest
Graduating Methods and Criteria	Final Exam: 50%, Haptic Device Contest: 30%, Reports: 20%
Homework	
Textbook	1. N/A
References	
Office Hour	Vary (please make an appointment over email)
Messages for Students	Please attend the class while imagine the actual system development on your own.
Teaching Fellow / Teaching Assistant	
Keywords	