

<<Last Updated:2022/01/01>>

Course Schedule Information

Course Code	881266
Semester	Fall and Winter Term
Day and Period	Mon2
Course Name (Japanese)	応用理工学入門
Room	
Course Name	Introduction of Mechanical, Materials and Manufacturing Science
Capacity	0
Course Numbering Code	88INES9U100
Required/Optional	
Credits	2.0
Student Year	1,2,3,4,5,6
Field	
Instructor	OSUKA Koichi
Course of Media Class	Not Applicable

※About Course of Media Class

"Course of Media Class" are classes in which more than half of the classes are held in places other than classrooms by making advanced use of various media.

Undergraduate students can include up to 60 credits in media class course as requirements for graduation.

Even if this is not the case, we may hold classes using the media.

Detailed Syllabus Information

Course Name	Introduction of Mechanical, Materials and Manufacturing Science				
Language of the Course	English				
Type of Class	Lecture Subject				
Course Objective	The aim of this course is to provide foreign students with the overview of the Division of Mechanical, Materials and Manufacturing Science from various representative topics.				
Learning Goals	Students can master the overview of the Division of Mechanical, Materials and Manufacturing Science.				
Requirement / Prerequisite					
Class Plan	<p>Week 1 Explanation of this lecture Week 2 Introduction of Design Engineering Week 3 Introduction to Nonlinear Control and Robotics(1) Week 4 Introduction to Nonlinear Control and Robotics(2) Week 5 Introduction to Computational Imaging Week 6 Introduction to LiVEMechX Week 7 Fundamentals of electrical energy conversion devices for sustainable society and future directions on R&Ds Week 8 Computer simulation of multiphase flows with particles (1) Week 9 Computer simulation of multiphase flows with particles (2) Week 10 Materials engineering as a means of solving environmental problems Week 11 Thermoelectric conversion materials Week 12 Materials and Manufacturing Processes Week 13 Systems Engineering for Manufacturing Week 14 Content Materials in our Life and their Production Processes Week 15 Content Creation of New Materials by Additive Manufacturing (3D Printing)</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 50px;">1st</td> <td>Title:Introduction</td> </tr> <tr> <td></td> <td>Explanation of this lecture</td> </tr> </table>	1st	Title:Introduction		Explanation of this lecture
1st	Title:Introduction				
	Explanation of this lecture				

	Instructor : Prof. Osuka
2nd	Title:Design Engineering
	Introduction of Design Engineering
	Instructor : Assoc. Prof. Nomaguchi
3rd	Title:Control Engineering
	Introduction to Nonlinear Control and Robotics(1)
	Instructor : Prof. Ishikawa
4th	Title:Robot Engineering
	Introduction to Nonlinear Control and Robotics(2)
	Instructor : Prof. Ishikawa
5th	Title:Imaging Engineering
	Introduction to Computational Imaging
	Instructor : Assoc.Prof. Mizutani
6th	Title:Bio-MEMS
	Introduction to LiVEMechX
	Instructor : Proc. Morishima
7th	Title:Energy Engineering
	Fundamentals of electrical energy conversion devices for sustainable society and future directions on R&Ds
	Instructor : Prof. Tsushima
8th	Title:Multi Physics
	Computer simulation of multiphase flows with particles (1)
	Instructor : Senior Lecturer Washino
9th	Title:Multi Physics
	Computer simulation of multiphase flows with particles (2)
	Instructor : Senior Lecturer Washino
10th	Title:Materials engineering
	Materials engineering as a means of solving environmental problems
	Instructor : Assoc.Prof. Katsuyama
11th	Title:Materials engineering
	Thermoelectric conversion materials
	Instructor : Assoc.Prof. Katsuyama
12th	Title:Materials and Manufacturing
	Materials and Manufacturing Processes
	Instructor : Assoc. Prof. Tstsumi
13th	Title:Systems Engineering
	Systems Engineering for Manufacturing
	Instructor : Assoc. Prof. Iwata
14th	Title:Materials Design and Processing
	Content Materials in our Life and their Production Processes
	Instructor : Prof. Koizumi
15th	Title:Materials Design and Processing
	Creation of New Materials by Additive Manufacturing (3D Printing)
	Instructor : Prof. Koizumi
Independent Study Outside of Class	Sufficient reviews are expected every lesson.
Textbooks	To be distributed from each instructor.
Reference	

Grading Policy	Participation and attitude in the class: 40% Report paper and final examination: 60%
Other Remarks	
Special Note	Professors for each lecture ask you to submit a report paper. The subject of the report paper will be announced in each lecture. The deadline of the submission of the report paper is at the beginning of the next lecture. The report is to be submitted to Collaboration and Learning Environment (CLE) system.
Office Hour	
Keywords	
Messages to Prospective Students	

Instructor(s)

Instructor Name	Name (hiragana)	Affiliation, Title, Course	Office	Extension	Fax	E-mail
Koichi Osuka	おおすか こういち	Mechanical Engineering/Professor	06-6879-4878	4878	06-6879-4878	osuka@mech.eng.osaka-u.ac.jp

Cautions for Students

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