

基本情報	
時間割コード／Course Code	Fall and Winter Term Fri2 ☑用理工学入門 ☑ntroduction of Mechanical, Materials and Manufacturing Science #CALC! #CALC! 講義科目 2 Yuichiro Koizumi
開講区分(開講学期)／Semester	
曜日・時間／Day and Period	
開講科目名／Course Name (Japanese)	
開講科目名(英)／Course Name	
教室／Room	
定員／Capacity	
ナンバリング／Course Numbering Code	
必修・選択／Required/Optional	
授業形態／Type of Class	
単位数／Credits	
年次／Student Year	
分野／Field	
担当教員／Instructor	
メディア授業科目／Course of Media Class	

詳細情報	
授業サブタイトル／Course Subtitle	English 聴講・視聴,発表 #REF! The aim of this course is to provide foreign students with the overview of the Division of Mechanical, Materials and Manufacturing Science from various To be distributed from each instructor. #REF!
開講言語／Language of the Course	
学習方法／Learning Method	
授業の目的と概要／Course Objective	
履修条件・受講条件／Requirement / Prerequisite	
出欠席及び受講に関するルール／Attendance and Student Conduct Policy	
教科書・指定教材／Textbooks	
参考図書・参考教材／Reference	
成績評価に関する補足情報／Additional Information on Grading	
合理的配慮／Reasonable Accommodation	
特記事項／Special Note	
オフィスアワー／Office Hour	
実務経験のある教員による授業科目／Course conducted by instructors with practical experience	

成績評価詳細情報	
学習目標(1)／Learning Goal(1)	☑udents can master the overview of the Division of Mechanical, Materials and Manufacturing Science.
学習目標(2)／Learning Goal(2)	
学習目標(3)／Learning Goal(3)	
学習目標(4)／Learning Goal(4)	
学習目標(5)／Learning Goal(5)	

評価方法					
学習目標／Learning Goal	レポート・論文	学習への参加度			
学習目標(1)／Learning Goal(1)	○	○			
学習目標(2)／Learning Goal(2)					
学習目標(3)／Learning Goal(3)					
学習目標(4)／Learning Goal(4)					
学習目標(5)／Learning Goal(5)					
評価割合(%)／Grade Breakdown	60%	40%	%	%	%

授業計画			
回／Time	題目／Title	内容／Content	授業時間外学習／Independent Study Outside of Class
第1回	Introduction	Guidance for this lecture series [Prof. Koizumi]	Reviewing lecture materials and notes.
第2回	Materials Design and Processing	Materials in our Life and their Production Processes [Prof. Koizumi]	Reviewing lecture materials and notes.
第3回	Materials Design and Processing	Creation of New Materials by Additive Manufacturing (3D Printing) [Prof. Koizumi] Introduction to Lattice Defects Analysis	Reviewing lecture materials and notes. Writing a report .
第4回	Materials Analysis	Using Positron Annihilation Spectroscopy [Assoc. Prof. Mizuno] Introduction to Lattice Defects Analysis	Reviewing lecture materials and notes.
第5回	Materials Analysis	Using First-principles Calculations [Assoc. Prof. Mizuno]	Reviewing lecture materials and notes. Writing a report assigned by the instructor.
第6回	Manufacturing science	Introduction to Welding and Joining Processes Using Arc Plasma [Assoc. Prof. (Lecturer) Komen]	Reviewing lecture materials and notes. Writing a report .
第7回	Manufacturing science	Visualization and Simulation of Welding and Joining Processes Using Arc Plasma [Assoc. Prof. Ogino]	Reviewing lecture materials and notes. Writing a report .
第8回	Discussion	Discussion on the contents in weeks 1-7 [Prof. Koizumi]	Reviewing the issue discussed.
第9回	Bio-MEMS	Introduction to LiVEMechX [Proc. Morishima]	Reviewing lecture materials and notes. Writing a report .
第10回	Combustion Engineering	Introduction to Combustion Phenomena and Numerical Analysis [Assoc. Prof.(Lecturer) Hori]	Reviewing lecture materials and notes. Writing a report .
第11回	Modelling and simulation	Computer simulation of multiphase flows with particles [Assoc. Prof. (Lecturer) Washino]	Reviewing lecture materials and notes. Writing a report .
第12回	Control Engineering	Introduction to dynamical systems and control [Assoc. Prof. Minami]	Reviewing lecture materials and notes. Writing a report .

第13回	Imaging Engineering	Introduction to Computational Imaging[Assoc.Prof. Mizutani]	Reviewing lecture materials and notes. Writing a report .
第14回	Design Engineering	Introduction of Design Engineering: Backgrounds and Fundamental Approaches (Product Design and Innovation)[Assoc. Prof. Nomaguchi]	Reviewing lecture materials and notes. Writing a report .
第15回	Discussion	Discussion on the contents in weeks 8-15 [Prof. Koizumi]	Reviewing the issue discussed.

授業担当教員					
教員氏名／Instructor Name	ふりがな／Name (hiragana)	所属・職名・講座名／Affiliation, Title, Course	居室／Office	内線／Extension	e-mail／E-mail
Yuichiro Koizumi	こいずみ ゆういちろう	Materials and Manufacturing Science	R2-614	7477	ykoizumi@mat.eng.osaka-u.ac.jp