

基本情報			
時間割コード／Course Code	Fall and Winter Term Tue4 現代物理学の最前線 Current Topics in Modern Physics #CALC! #CALC! 講義科目 2 Mikito KOSHINO		
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	Introduction to modern physics English 聴講・視聴 Introduction to the current topics in modern physics Written reports to lecturers to be judged by level of understanding #REF! The contents of the syllabus are subject to change. Please be sure to check the latest information before registering for courses.
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)	Understanding of modern physics, from elementary particle physics to solid state physics
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	100%	%	%	%	%

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	Experimental nuclear physics	The basic concept of the structure of nuclei and nuclear reactions will be described.	Study based on the distributed materials
第2回	Experimental nuclear physics	Nuclear reactions in stars, synthesis of elements, and neutron stars will be introduced based on nuclear reactions studied at laboratories.	Study based on the distributed materials
第3回	High-Energy Laser Physics	Experimental approaches to reproducing astronomical HED states in a laboratory with high-intensity lasers. Recent progress and prospect	Study based on the distributed materials
第4回	High-Energy Laser Physics	of laser-based inertial confinement fusion, one of the applications of the HED state	Study based on the distributed materials
第5回	Experimental condensed matter physics	Spintronics from the viewpoint of fundamental physics	Study based on the distributed materials
第6回	Experimental condensed matter physics	Quantum technologies using spins in semiconductor quantum dots	Study based on the distributed materials
第7回	Experimental condensed matter physics	Development of superconducting materials	Study based on the distributed materials
第8回	Experimental condensed matter physics	Fundamentals and Applications of Mass Spectrometry Imaging	Study based on the distributed materials
第9回	Condensed matter theory	Graphene and 2D materials	Study based on the distributed materials
第10回	Condensed matter theory	Quasicrystals	Study based on the distributed materials
第11回	Condensed matter theory	Electron-hole system	Study based on the distributed materials
第12回	Condensed matter theory	Anderson Localisation	Study based on the distributed materials
第13回	Theoretical particle physics	Symmetry and anomalies in field theory	Study based on the distributed materials
第14回	Theoretical particle physics	The black hole information paradox	Study based on the distributed materials
第15回	Theoretical particle physics	Theory of Nuclear Physics	Study based on the distributed materials

第16回	Theoretical particle physics	Theory of Nuclear Physics	Study based on the distributed materials
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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
Mikito Koshino	こしのみきと	Department of Physics			koshino@phys.sci.osaka-u.ac.jp