

2026 年度シラバス

科目分類/Subject Categories			
学部等/Faculty	/大学院工芸科学研究科（博士前期課程）： /Graduate School of Science and Technology (Master's Programs)	今年度開講/Availability	/有：/Available
学域等/Field	/独立専攻：/Fibro/BBM	年次/Year	/1～2年次：/1st through 2nd Year
課程等/Program	/先端ファイブ科学専攻：/Master's Program of Advanced Fibro-Science	学期/Semester	/秋学期：/Fall term
分類/Category	/授業科目：/Courses	曜日時限/Day & Period	/集中：/Intensive

科目情報/Course Information				
時間割番号 /Timetable Number	65119921			
科目番号 /Course Number	65160220			
単位数/Credits	2			
授業形態 /Course Type	講義：Lecture			
クラス/Class				
授業科目名 /Course Title	複合材料：Composite Materials			
担当教員名 / Instructor(s)	/WE-TEAM 関係教員：Related teacher of WE-TEAM			
その他/Other	インターンシップ実施科目 Internship	国際科学技術コース提供科目 IGP	PBL 実施科目 Project Based Learning	DX 活用科目 ICT Usage in Learning
	実務経験のある教員による科目 Practical Teacher			
科目ナンバリング /Numbering Code				

授業の目的・概要 Objectives and Outline of the Course	
日	To extend one's knowledge in the domain of composites. Keywords Reinforcing textiles, matrix materials, structure, manufacturing technologies, weaving and braiding technologies, different wetting technologies, applications
英	To extend one's knowledge in the domain of composites. Keywords Reinforcing textiles, matrix materials, structure, manufacturing technologies, weaving and braiding technologies, different wetting technologies, applications

学習の到達目標 Learning Objectives	
日	To extend one's knowledge in the domain of composites
英	To extend one's knowledge in the domain of composites

学習目標の達成度の評価基準 / Fulfillment of Course Goals (JABEE 関連科目のみ)	
日	
英	

授業計画項目 Course Plan		
No.	項目 Topics	内容 Content

1	日	Manufacturing Technologies-I	Learn nanotechnology for composites
	英	Manufacturing Technologie-I	Learn nanotechnology for composites
2	日	Manufacturing Technologies-II	Learn advanced robotics for composites
	英	Manufacturing Technologies-II	Learn advanced robotics for composites
3	日	Manufacturing Technologies-III	Learn recycling technology for composites
	英	Manufacturing Technologies-III	Learn recycling technology for composites
4	日	Weaving and Braiding Technologies-I	Learn the weaving techniques for composites
	英	Weaving and Braiding Technologies-I	Learn the weaving techniques for composites
5	日	Weaving and Braiding Technologies-II	Learn braiding techniques for composites
	英	Weaving and Braiding Technologies-II	Weaving and Braiding Technologies-II
6	日	Weaving and Braiding Technologies-III	Learn the applications of weaving and braiding for composites
	英	Weaving and Braiding Technologies-III	Learn the applications of weaving and braiding for composites
7	日	Three Dimensional Reinforcing Structures-I	Learn 3D woven- braided- and stitched composites
	英	Three Dimensional Reinforcing Structures-I	Learn 3D woven- braided- and stitched composites
8	日	Three Dimensional Reinforcing Structures-II	Learn resin application to three-dimensional preforms
	英	Three Dimensional Reinforcing Structures-II	Learn resin application to three-dimensional preforms
9	日	Three Dimensional Reinforcing Structures-III	Learn mechanical evaluation of 3D composites
	英	Three Dimensional Reinforcing Structures-III	Learn mechanical evaluation of 3D composites
10	日	Load Bearing Textiles and Sandwich Structures-I	Learn the fabrication and characterization of composites sandwich structures
	英	Load Bearing Textiles and Sandwich Structures-I	Learn the fabrication and characterization of composites sandwich structures
11	日	Load Bearing Textiles and Sandwich Structures-II	Learn the durability and Modeling of composites sandwich structures
	英	Load Bearing Textiles and Sandwich Structures-II	Learn the durability and Modeling of composites sandwich structures
12	日	Load Bearing Textiles and Sandwich Structures-III	Learn the applications of the composites sandwich structures
	英	Load Bearing Textiles and Sandwich Structures-III	Learn the applications of the composites sandwich structures
13	日	Wetting Technologies-I	Learn the wetting mechanism for composites
	英	Wetting Technologies-I	Learn the wetting mechanism for composites
14	日	Wetting Technologies-II	Learn the wetting resin for composites
	英	Wetting Technologies-II	Learn the wetting resin for composites
15	日	Wetting Technologies-III	Learn the wet molding process for composites
	英	Wetting Technologies-III	Learn the wet molding process for composites

履修条件 Prerequisite(s)	
日	
英	

授業時間外学習（予習・復習等） Required study time, Preparation and review	
日	Bsc level in mathematics, organic chemistry, physical chemistry, general process engineering, textile technology and materials engineering
英	Bsc level in mathematics, organic chemistry, physical chemistry, general process engineering, textile technology and materials engineering

教科書／参考書 Textbooks/Reference Books	
日	
英	

成績評価の方法及び基準 Grading Policy	
日	written closed-book exam
英	written closed-book exam

留意事項等 Point to consider	
日	
英	