

2025 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	/春学期：/Spring 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	65109916			
科目番号 /Course Number	65160209			
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	テクニカルテキスタイルの応用 I：Application of Technical Textiles I			
担当教員名 / Instructor(s)	/奥林 里子/(KRUCINSKA Izabella)：OKUBAYASHI Satoko/KRUCINSKA Izabella			
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	M_AF6131			

授業の目的・概要 Objectives and Outline of the Course	
日	Keywords: Technical textiles, house interior, sports, leisure, packaging, building, agriculture, aerospace, electronics, information, environment Final competences: 1 Understanding of technical applications of textile materials and structures. 2 Be able to design specific textile products for technical markets.
英	Keywords: Technical textiles, house interior, sports, leisure, packaging, building, agriculture, aerospace, electronics, information, environment Final competences: 1 Understanding of technical applications of textile materials and structures. 2 Be able to design specific textile products for technical markets.

学習の到達目標 Learning Objectives	
日	Understanding of technical applications of textile materials and structures
英	Understanding of technical applications of textile materials and structures

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	Introduction of technical textiles	To learn technical fibers, yarns, fabrics and their coloration and finishing.
	英	Introduction of technical textiles	To learn technical fibers, yarns, fabrics and their coloration and finishing.
2	日	Technical textiles for household	To learn the applications of technical textiles for furniture, interior of house and floorcoverings.
	英	Technical textiles for household	To learn the applications of technical textiles for furniture, interior of house and floorcoverings.
3	日	Technical textiles for sports - clothes-	To learn the applications of technical textiles for sportswear.
	英	Technical textiles for sports - clothes-	To learn the applications of technical textiles for sportswear.
4	日	Technical textiles for sports - footwear-	To learn the application of technical textiles for sports shoes.
	英	Technical textiles for sports - footwear-	To learn the application of technical textiles for sports shoes.
5	日	Technical textiles for leisure	To learn the applications of technical textiles for tent, paraglider and sporting tools.
	英	Technical textiles for leisure	Technical textiles for leisure
6	日	Technical textiles for packaging	To learn the applications of technical textiles for bags, sacks and wrappings of textile bales, carpets, food and industrial product.
	英	Technical textiles for packaging	To learn the applications of technical textiles for bags, sacks and wrappings of textile bales, carpets, food and industrial product.
7	日	Technical textiles for building	To learn the applications of technical textiles for sustainable building and biomimetic building.
	英	Technical textiles for building	To learn the applications of technical textiles for sustainable building and biomimetic building.
8	日	Technical textiles for agriculture	To learn the applications of technical textiles for agriculture, aquaculture, horticulture and forestry.
	英	Technical textiles for agriculture	To learn the applications of technical textiles for agriculture, aquaculture, horticulture and forestry.
9	日	Technical textiles for aerospace	To learn the applications of technical textiles for space suit, stratosphere platform and space structure.
	英	Technical textiles for aerospace	To learn the applications of technical textiles for space suit, stratosphere platform and space structure.
10	日	Technical textiles for electronics	To learn the applications of technical textiles for printed circuit board and magnetic shieldings.
	英	Technical textiles for electronics	To learn the applications of technical textiles for printed circuit board and magnetic shieldings.
11	日	Technical textiles for information	To learn the applications of technical textiles for optical communication device.
	英	Technical textiles for information	To learn the applications of technical textiles for optical communication device.
12	日	Technical textiles for environment -water treatment-	To learn the applications of technical textiles for wastewater and seawater treatments.
	英	Technical textiles for environment -water treatment-	To learn the applications of technical textiles for wastewater and seawater treatments.
13	日	Technical textiles for environment -energy storage-	To learn the application of technical textiles for energy harvesting and storage.
	英	Technical textiles for environment -energy storage-	To learn the application of technical textiles for energy harvesting and storage.

		environment -energy storage-	
14	日	Technical textiles for future	To learn potential applications of technical textiles for human's safe and comfortable life.
	英	Technical textiles for future	To learn potential applications of technical textiles for human's safe and comfortable life.
15	日	Review of applications of technical textiles	To review the applications of technical textiles as learned in this course.
	英	Review of applications of technical textiles	To review the applications of technical textiles as learned in this course.

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	Initial competences: <ul style="list-style-type: none"> • Bsc level in mathematics, physics, general process engineering; • Advanced understanding of textile technology and materials engineering.
英	Initial competences: <ul style="list-style-type: none"> • Bsc level in mathematics, physics, general process engineering; • Advanced understanding of textile technology and materials engineering.

教科書／参考書 Textbooks/Reference Books	
日	* Handbook of Technical Textiles https://www.elsevier.com/books/handbook-of-technical-textiles/horrocks/978-1-78242-458-1 https://www.elsevier.com/books/handbook-of-technical-textiles/horrocks/978-1-78242-465-9 *Textile Advances in the Automotive Indust
英	* Handbook of Technical Textiles https://www.elsevier.com/books/handbook-of-technical-textiles/horrocks/978-1-78242-458-1 https://www.elsevier.com/books/handbook-of-technical-textiles/horrocks/978-1-78242-465-9 *Textile Advances in the Automotive Indust

成績評価の方法及び基準 Grading Policy	
日	End-of-term evaluation Examination methods in case of periodic evaluation during the first examination period: Written Examination Examination methods in case of periodic evaluation during the second examination period: Written Examination
英	End-of-term evaluation Examination methods in case of periodic evaluation during the first examination period: Written Examination Examination methods in case of periodic evaluation during the second examination period: Written Examination

留意事項等 Point to consider	
日	Teaching language is English. Intensive course
英	Teaching language is English. Intensive course