

平成28年度 修士課程入学向け For students who entered master's course in FY2016 and later

表9-1 各ACEEES協創コースにおける異分野協創教育科目

Table 9-1 Interdisciplinary Co-creative Education Courses of ACEEES Co-creative Courses

平成28年度以降 修士課程入学向け For students who entered master's course in FY2016 and later 先端エネルギーコース／エネルギー分野 Advanced Energy Course in Energy Field		
大学院課程 Graduate Major	科目コード No.	授業科目 Course Title
機械コース Mechanical Engineering	MEC.C432.L	Structural Integrity Assessment (構造健全性評価学特論)
	MEC.U431.L	Automotive Structural System Engineering A (自動車構造システム工学A)
	MEC.U432.L	Automotive Comfort Mechanics Engineering A (自動車の快適性工学A)
	MEC.U433.L	Advanced Production Engineering A (先進生産工学A)
	MEC.U435.L	Basics of Automotive Design A (自動車設計の基礎A)
	MEC.H434.L	Advanced Course of Actuator Engineering (先端アクチュエータ)
	MEC.D431.L	振動・音響計測特論 (Advanced Sound and Vibration Measurement)
	MEC.J531.L	マイクロ・ナノシステム (Micro and Nano Systems)
	MEC.J431.L	超精密計測 (Ultra-precision Measurement)
	MEC.J432.L	超精密機構とその制御 (Mechanism and Control for Ultra-precision Motion)
	MEC.E451.L	Advanced course of radiation transfer (ふく射輸送学)
	ENR.K440	
	MEC.E433.L	Advanced Thermal-Fluids Measurement (熱流体先端計測)
	MEC.F431.L	Computational Thermo-Fluid Dynamics (計算熱流体力学)
	MEC.F531.L	Flying Object Engineering (飛翔体工学)
	MEC.E552.L	Leading edge energy technology (先端エネルギー技術)
	ENR.K580	
	MEC.E531.L	Plasma Physics (プラズマ物理)
	MEC.E432.L	Properties of Solid Materials (固体材料物性)
	MEC.E431.L	Thermodynamics of Nonequilibrium Systems (非平衡系の熱力学)
	MEC.E551.L	マルチスケール熱流動科学 (Advanced course of multiscale thermal-fluid sciences)
	ENR.K530	
	MEC.F532.L	希薄気体力学 (Rarefied Gas Dynamics)
	MEC.E452.L	燃焼物理学 (Advanced course of combustion physics)
	ENR.K450	
MEC.F451.L	乱流制御論 (Advanced course of turbulent flow and control)	
ENR.K430		
材料コース Materials Science and Engineering	MAT.P421.L	有機材料機能設計 (Organic Materials Functional Design)
	MAT.P422.L	有機材料科学設計 (Organic Materials Design)
	MAT.C500.L	光学材料特論 (Advanced Course of Materials Optics)
	MAT.M403.L	材料の環境劣化 (Environmental Degradation of Materials)
	MAT.P415.L	有機材料化学 (Chemistry of Organic Materials)
	MAT.P413.L	有機材料機能化学 (Soft Materials Functional Chemistry)
	MAT.P401.L	有機光学材料物理 (Organic Optical Materials physics)
	MAT.C403.L	セラミックス薄膜特論 (Advanced Course of Ceramic Thin Film Technology)
	MAT.C401.L	誘電体・強誘電体特論 (Advanced Course of Dielectric and Ferroelectric Materials)
	MAT.C408.L	無機表面化学特論 (Advanced Course of Surface Chemistry on Inorganic Materials)
	MAT.M404.L	Transport Phenomena at High Temperature (移動速度論)
	MAT.M401.L	回折結晶学 (Applied Diffraction Crystallography in Metals and Alloys)
	MAT.M416.L	Physical Chemistry for High Temperature Processes -Smelting and Refining Processes- (高温物理化学－製精錬プロセス)
	ENR.J403	
	MAT.M415.L	Physical Chemistry for High Temperature Processes -Thermodynamics- (高温物理化学－熱力学)
	ENR.J402	
	MAT.M405.L	Advanced Microstructure Design of Ferrous Materials (鉄鋼材料設計学特論)
	MAT.M406.L	非鉄金属材料設計学特論 (Advanced Microstructure Design of Non-ferrous Materials)
	MAT.M417.L	Physical Chemistry for High Temperature Processes -Oxidation of Metals- (高温物理化学－金属の高温酸化)
	ENR.J404	
	MAT.M414.L	Advanced Metal Physics (金属物性特論)
	ENR.J401	
	MAT.P406.L	ソフトマテリアル設計 (Soft Materials Design)
	ENR.J407	
	MAT.P402.L	ソフトマテリアル物理化学 (Soft Materials Physical Chemistry)
MAT.P403.L	Soft Materials Physics (ソフトマテリアル物理)	

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先端エネルギーコース／エネルギー分野 Advanced Energy Course in Energy Field

大学院課程 Graduate Major	科目コード No.	授業科目 Course Title	
材料コース Materials Science and Engineering	MAT.P404.L	Soft Materials Functional Physics (ソフトマテリアル機能物理)	
	MAT.P411.L	Soft Materials Chemistry I (ソフトマテリアル化学-I)	
	MAT.P412.L	Soft Materials Chemistry II (ソフトマテリアル化学-II)	
	MAT.P414.L	ソフトマテリアル機能 (Soft Materials Function)	
	MAT.P405.L ENR.J406	有機電子材料物理 (Organic Electronic Materials Physics)	
	MAT.P424.L	有機材料加工 A (Advanced Course in Polymer Processing A)	
	MAT.P425.L	有機材料加工 B (Advanced Course in Polymer Processing B)	
	MAT.P423.L	有機複合材料 (Advanced Course in Composite Materials)	
	MAT.P426.L	材料熱物性特論 (Thermal Properties of Materials)	
	MAT.M409.L	相平衡の熱力学 (Thermodynamics for Phase Equilibria)	
	MAT.M411.L	金属の相変態と組織制御 (Phase Transformation and Microstructure Control)	
	MAT.C501.L	材料強度学特論 (Advanced Course of Deformation and Fracture of Engineering Materials)	
	MAT.M410.L	固体の変形と強度 (Deformation and Strength of Solids)	
	MAT.M418.L ENR.J405	材料組織の形成と拡散 (Microstructure Evolution and Diffusion in Metals)	
	MAT.M407.L	Advanced Solid State Physics (固体物理特論)	
	MAT.C406.L	磁気物性特論 (Advanced Course of Magnetism)	
	MAT.M408.L	Quantum Statistical Mechanics (量子統計力学)	
	MAT.C404.L	半導体物性特論(材料) (Physics and Chemistry of Semiconductors)	
	MAT.C414.L	固体科学入門 (Introduction to Solid State Science)	
	MAT.C503.L	Advanced Course of Material Development II (材料開発特論第二)	
	MAT.C407.L	Advanced Course of Nano-Bionics (ナノバイオニクス特論)	
	MAT.M402.L	Characterization of Nanomaterials (ナノ材料計測)	
	MAT.C415.L NCL.N403	Nuclear Materials and Structures (原子力材料と構造工学)	
	MAT.C504.L	機能デバイス特論 (Functional Devices)	
	MAT.C505.L	計算材料学特論 (Computational Materials Science)	
	MAT.C400.L	結晶科学 (Crystals Science)	
	MAT.C506.L	固体表面の濡れ制御 (Advanced Course in Wettability Control of Solid Surface)	
	MAT.C412.L	高分子バイオマテリアル (Polymeric Biomaterials)	
	MAT.C502.L	材料開発特論第一 (Advanced Course of Material Development I)	
	MAT.C405.L	材料機器分析特論 (Advanced Course of Instrumental Analysis for Materials)	
	MAT.C411.L	触媒化学特論 (Advanced Course of Catalytic Chemistry)	
	MAT.C507.L	先端デバイス特論 (Advanced Photo-Electronic Devices)	
	MAT.C409.L	微粒子工学特論 (Advanced Course of Fine-Particle Engineering)	
	MAT.C410.L ENR.J408	無機エネルギー変換材料特論 (Energy Conversion Ceramics Materials)	
	MAT.C402.L	量子光物性特論 (Quantum Physics in Optical Response of Materials)	
	原子核工学コース Nuclear Engineering	NCL.N405.L	Nuclear Reactor Thermal-hydraulics (原子力熱流体工学)
		NCL.N407.R	Nuclear Safety Engineering (原子力安全工学)
		NCL.N402.R	Neutron Transport Theory (中性子輸送理論)
		NCL.N406.R	Nuclear Reactor Theory (原子炉理論)
		NCL.C401.R	Nuclear Fuel Cycle Engineering (核燃料サイクル工学)
NCL.N403.L		Nuclear Materials and Structures (原子力材料と構造工学)	
NCL.B401.L		Radiation Biology and Medicine (放射線生物学・医学)	
NCL.N401.L		Basic Nuclear Physics (原子核物理基礎)	
NCL.C403.L		Nuclear Chemical Engineering (原子力化学工学特論)	
エネルギーコース Energy Science and Engineering	ENR.J406.L	有機電子材料物理 (Organic Electronic Materials Physics)	
	ENR.K530.L	マルチスケール熱流動科学 (Advanced course of multiscale thermal-fluid sciences)	
	ENR.K413.L MEC.E432	Properties of Solid Materials (固体材料物性)	
	ENR.K580.L	Leading edge energy technology (先端エネルギー技術)	
	ENR.K430.L	乱流制御論 (Advanced course of turbulent flow and control)	
	ENR.K440.L	Advanced course of radiation transfer (ふく射輸送学)	
	ENR.A407.A	エネルギーシステム論 (Energy system theory)	

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エネルギーコース Energy Science and Engineering	ENR.A408.A	エネルギーシステム経済論 (Economy of energy system)
	ENR.B430.L	科学技術特論 (Advanced Science and Technology in Energy and Environment)
	ENR.K462.L MEC.H434	Advanced Course of Actuator Engineering (先端アクチュエータ)
	ENR.J504.L MAT.C503	Advanced Course of Material Development II (材料開発特論第二)
	ENR.J401.L	Advanced Metal Physics (金属物性特論)
	ENR.J414.L MAT.M405	Advanced Microstructure Design of Ferrous Materials (鉄鋼材料設計学特論)
	ENR.J416.L MAT.M407	Advanced Solid State Physics (固体物理特論)
	ENR.K414.L MEC.E433	Advanced Thermal-Fluids Measurement (熱流体先端計測)
	ENR.J411.L MAT.M402	Characterization of Nanomaterials (ナノ材料計測)
	ENR.K421.L MEC.F431	Computational Thermo-Fluid Dynamics (計算熱流体力学)
	ENR.K531.L MEC.F531	Flying Object Engineering (飛翔体工学)
	ENR.J445.L NCL.N403	Nuclear Materials and Structures (原子力材料と構造工学)
	ENR.J404.L	Physical Chemistry for High Temperature Processes -Oxidation of Metals- (高温物理化学－金属の高温酸化)
	ENR.J403.L	Physical Chemistry for High Temperature Processes -Smelting and Refining Processes- (高温物理化学－製精錬プロセス)
	ENR.J402.L	Physical Chemistry for High Temperature Processes -Thermodynamics- (高温物理化学－熱力学)
	ENR.K521.L MEC.E531	Plasma Physics (プラズマ物理)
	ENR.J417.L MAT.M408	Quantum Statistical Mechanics (量子統計力学)
	ENR.B431.L	Recent technologies of fuel cells, solar cells batteries and energy system (燃料電池・太陽電池・蓄電池・エネルギーシステムの最新技術)
	ENR.J425.L MAT.P411	Soft Materials Chemistry I (ソフトマテリアル化学-I)
	ENR.J426.L MAT.P412	Soft Materials Chemistry II (ソフトマテリアル化学-II)
	ENR.J424.L MAT.P404	Soft Materials Functional Physics (ソフトマテリアル機能物理)
	ENR.J423.L MAT.P403	Soft Materials Physics (ソフトマテリアル物理)
	ENR.B432.L GEG.E404	Technologies for Energy and Resource Utilization (エネルギー・資源の有効利用技術)
	ENR.B435.L GEG.S402	The economics and systems analysis of environment, resources and technology (資源環境技術のシステムと経済学概論)
	ENR.K412.L MEC.E431	Thermodynamics of Nonequilibrium Systems (非平衡系の熱力学)
	ENR.J413.L MAT.M404	Transport Phenomena at High Temperature (移動速度論)
	ENR.B501.L	エネルギー経済・政策特別講義 (Special lecture of economics and politics in energy)
	ENR.J441.L MAT.C403	セラミックス薄膜特論 (Advanced Course of Ceramic Thin Film Technology)
	ENR.J428.L MAT.P414	ソフトマテリアル機能 (Soft Materials Function)
	ENR.J407.L	ソフトマテリアル設計 (Soft Materials Design)
	ENR.J422.L MAT.P402	ソフトマテリアル物理化学 (Soft Materials Physical Chemistry)

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エネルギーコース Energy Science and Engineering	ENR.J410.L MAT.M401	回折結晶学 (Applied Diffraction Crystallography in Metals and Alloys)
	ENR.K561.L MEC.F532	希薄気体力学 (Rarefied Gas Dynamics)
	ENR.J505.L MAT.C504	機能デバイス特論 (Functional Devices)
	ENR.J420.L MAT.M411	金属の相変態と組織制御 (Phase Transformation and Microstructure Control)
	ENR.J438.L MAT.C400	結晶科学 (Crystals Science)
	ENR.J419.L MAT.M410	固体の変形と強度 (Deformation and Strength of Solids)
	ENR.J501.L MAT.C500	光学材料特論 (Advanced Course of Materials Optics)
	ENR.J412.L MAT.M403	材料の環境劣化 (Environmental Degradation of Materials)
	ENR.J503.L MAT.C502	材料開発特論第一 (Advanced Course of Material Development I)
	ENR.J443.L MAT.C405	材料機器分析特論 (Advanced Course of Instrumental Analysis for Materials)
	ENR.J502.L MAT.C501	材料強度学特論 (Advanced Course of Deformation and Fracture of Engineering Materials)
	ENR.J405.L	材料組織の形成と拡散 (Microstructure Evolution and Diffusion in Metals)
	ENR.J437.L MAT.P426	材料熱物性特論 (Thermal Properties of Materials)
	ENR.J444.L MAT.C406	磁気物性特論 (Advanced Course of Magnetism)
	ENR.K411.L MEC.D431	振動・音響計測特論 (Advanced Sound and Vibration Measurement)
	ENR.J418.L MAT.M409	相平衡の熱力学 (Thermodynamics for Phase Equilibria)
	ENR.K472.L MEC.J432	超精密機構とその制御 (Mechanism and Control for Ultra-precision Motion)
	ENR.K471.L MEC.J431	超精密計測 (Ultra-precision Measurement)
	ENR.K450.L	燃焼物理学 (Advanced course of combustion physics)
	ENR.J442.L MAT.C404	半導体物性特論(材料) (Physics and Chemistry of Semiconductors)
	ENR.J415.L MAT.M406	非鉄金属材料設計学特論 (Advanced Microstructure Design of Non-ferrous Materials)
	ENR.J408.L	無機エネルギー変換材料特論 (Energy Conversion Ceramics Materials)
	ENR.J421.L MAT.P401	有機光学材料物理 (Organic Optical Materials physics)
	ENR.J436.L MAT.P415	有機材料化学 (Chemistry of Organic Materials)
	ENR.J432.L MAT.P424	有機材料加工 A (Advanced Course in Polymer Processing A)
	ENR.J433.L MAT.P425	有機材料加工 B (Advanced Course in Polymer Processing B)
	ENR.J430.L MAT.P422	有機材料科学設計 (Organic Materials Design)
	ENR.J427.L MAT.P413	有機材料機能化学 (Soft Materials Functional Chemistry)
	ENR.J429.L MAT.P421	有機材料機能設計 (Organic Materials Functional Design)
	ENR.J431.L MAT.P423	有機複合材料 (Advanced Course in Composite Materials)

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エネルギーコース Energy Science and Engineering	ENR.J439.L	誘電体・強誘電体特論 (Advanced Course of Dielectric and Ferroelectric Materials)
	MAT.C401	
	ENR.J440.L	量子光物性特論 (Quantum Physics in Optical Response of Materials)
	MAT.C402	