Research Supervisor and Research Subject
[Master's Course・Doctoral Course]

Information Science and Manufacturing Engineering

Supervisor		Research Subject	Main research themes	Master	Doctor	Remarks
Professor	Yasutaka Ando	①Surface Engineering ②Energy Conversion Materials ③Metallic Materials	Oxide semiconductor film deposition by solution precursor plasma spray High rate diamond synthesis by thermal plasma CVD	A(B)	F	
Professor	Yasuyuki Nemoto	①Renewable Energy ②Energy and Environmental Engineering ③Fluid and Thermal Engineering	Performance Improvement of Renewable Energy Systems (Wind, Hydro and Biomass systems) Sustainability Assessment of Renewable Energy Systems	A	F	
Associate Professor	Mitsumasa Iino	①Wave Energy ②Wind Energy ③Oscillation System	Research on Efficiency and Energy Conversion Characteristics of Wave Energy Converter Performance and Strength Evaluation and Efficiency Improvement of Small Wind Power Gneration Systems	A		
Professor	Yasuo Sakurai	①Oil-hydraulics and Pneumatics ②Fluid Mechanics ③Functional Fluid	Development of Component to Reduce Pressure Pulsation for Oil-hydraulic System Development of Immersion Cooling System for CPU by Electro-conjugate Fluid	B	F	
Professor	Shigeaki Kobayashi	①Structural and Functional Materials ②Grain Boundary Engineering ③Nanocrystalline Materials	Grain Boundary Engineering for Development of High Performance and Multifunctional Materials Development of High Strength Nanocrystalline Materials by Electrodeposition	B	F	
Professor	Masahiro Matsushita	①Heat transfer ②Hydrogen energy ③Compressible fluid	Establishment of calculation method of effective thermal conductivity of Metal Hydride Development of high performance cooling technology for high pressure turbine	B		
Professor	Masakazu Fujimoto	①Precision cutting and grinding ②Machine tool ③Ultrasonic vibration assisted machining	Development of designing of tools and machine tools for high precision and high efficiency machining	B	F	
Professor	Yutaka Doshida	①Electronic Ceramics and their Applications ②Material Design・Synthesis・Process ③Material and Electrical Properties Characterization	Environment-friendly Piezoelectric Ceramics and their Applications	C	E	
Professor	Tatsuya Doi	①Power Magnetics ②Electromagnetic Field Analysis ③Quantum Computation Theory	Development of Novel Self-organizing Power Magnetic device	C		
Professor	Koji Nishi	①Semiconductor ②Electric Machinery ③Model Based Design	Research on Miniaturization and Energy Conservation of Computer Systems and Power Electronics Equipments	C		
Professor	Kazuya Yokoyama	①Applied Superconductivity ②Magnet Technology ③Power System	Improvement of magnetizing method of superconducting bulk magnet and its application	C	E	
Professor	Akinori Kimura	①Particle Physics Simulation ②Computer Visualization ③3D Computer Graphics	Developments on Monte Carlo radiation simulation and computer visualization	D		
Professor	Hironori Hiraishi	①AI Application ②Cognitive Computing ③User Interface Design	Cognitive analysis and modeling from biological sensor data Design of new user interfaces which can consider user's situations Development of artificial intelligence applications by using machine learning techniques	D	E	
Professor	Hirokawa Yuichi	①Computational Science ②Artificial Intelligence ③High Performance Computing	Modeling and numerical simulation of fluid and pedestrian flow Optimization of design and study of inductive approach using AI Development of parallel algorithm and data structure	D		

・Master's Course
A Renewable Energy and Environmental Engineering
B Mechanical System Engineering
C Electrical and Electronic Engineering
D Systems and Information Engineering

・Doctoral Course
E Information Systems, Electrical and Electronic Engineering
F Manufacturing Systems and Energy Conversion Engineering