Departments

General Education

This division offers various arts and science subjects including physical education aimed at cultivating students with wide-ranging knowledge and basic understanding required for the study of engineering. Our curriculum covers that of senior high schools putting stress on mathematics and science, and also offers some courses at the college level to the senior students.

◇Fulltime Academic Staff in Department of General Education

[Takamatsu Campus]

Title	Name	Research Field
Prof.	OKANO, Hiroshi	Inorganic Materials Chemistry Thin Film Engineering
	TAGUCHI, Jun	History of Educational Thought
	NAKASE, Mikio	Sports Methodology Coach Methodology
	HASHIMOTO, Norifumi	Synthetic Organic Chemistry Catalytic Chemistry
	YOSHIZAWA, Kosei	Theory of Sports Training
Associate Prof.	KOSHOU, Kiyohiro	Pedagogy English Educarion
	YODA, Jun	European History
	SATO, Fumitoshi	Algebraic Geometry
Senior Lecturer	TOKUNAGA, Shintaro	TESOL, East Asian History
	NOGUCHI, Naoshi	Japanese Literature
	TACHIKAWA, Naoki	Electrochemistry Lithium Battery
	NODA, Kazuto	Condensed Matter Theory
	MORISHITA, Jiro	American Studies
	UETOKO, Takahiro	Particle Physics
	KUWATA, Ken	Mathematical Physics
Assistant Prof.	KOMEIJI, Tatsuki	Japanese Woodblock-printed Book(Ukiyo-e, E-hon)
	OOISHI, Kenta	Partial differential equation

[Takuma Campus]

Title	Name	Research Field
Prof.	MINAMI, Takayuki	Differential Equation Hamiltonian System
	UCHIDA, Yuriko	Japanese History Women's Studies
	ARIMA, Hirotoshi	Methodology of Coaching
	FUJIHARA, Nobuhiro	Japanese Literature
	HASHIMOTO, Ryuta	Number Theory Continued Fraction
	UEHARA, Shigenori	Geometric Topology General Topology
	MORI, Kazunori	English Teaching, CALL
Associate Prof.	YOKOYAMA, Manabu	Methodology of Sports Training Health Education
	TAKENAKA, Kazuhiro	Synthetic Organic Chenistry, Organometallic Chemistry
	SIMIZU, Ikko	Astrophysics
	MORIOKA, Takaaki	Teaching English to Speakers of Other Languages
Senior Lecturer	TAMURA, Masaki	Indian Philosophy Buddhist Studies
Assistant Prof.	TAKAGI, Ren	Differential Geometry Submanifold Theory
	TERAO, Honoka	Japanese Literature


Learning English by a Native Speaker


Department of General Education


A Lesson in the Multimedia Room


Physics laboratory

◇Curriculum

Compulsory Subject	Credits
Japanese Ⅰ-Ⅲ	6
Japanese	2
Society Ⅰ-Ⅱ	4
Mathematics ⅠA	2
Mathematics ⅠB	2
Mathematics ⅠC	2
Mathematics ⅠD	2
Mathematics ⅡA	2
Mathematics ⅡB	2
Mathematics ⅡC	2
Mathematics ⅡD	2
Mathematics ⅢA	2
Mathematics ⅢB	2
Physics Ⅰ-Ⅱ	4
Chemistry Ⅰ-Ⅱ	4
Health and Physical Education Ⅰ-Ⅲ	6
English ⅠA	2
English ⅠB	2
English ⅡA	2
English ⅡB	2
English ⅢA	2
English ⅢB	2
Communication & Expression Ⅰ-Ⅱ	4
Art	2

Department of General Education in Spring

Collaborative Learning

[Takamatsu Campus]

Elective Subject	Credits
Literature Ⅰ	2
Human Science Ⅰ-Ⅲ	6
Social Science Ⅰ-Ⅲ	6
General Chemistry Ⅰ-Ⅱ	4
Phyisical Education Ⅰ-Ⅱ	2
English ⅣA	2
English ⅣB	2
English ⅤA	2
English ⅤB	2
Language Seminar Ⅰ-Ⅳ	8
Overseas English Program	1

[Takuma Campus]

Elective Subject	Credits
Human Science Ⅰ-Ⅳ	8
Social Science Ⅰ-Ⅳ	8
Topics in Natural Science	2
Physical Education Ⅰ, Ⅱ	4
English for Specific Purposes Ⅰ, Ⅱ	4
Chinese Ⅰ, Ⅱ	4
Overseas English Program	1
Teaching Support Activity	1

◇Main Experiment Facilities

	Room	Main Equipment
Takamatsu Campus	Physics Laboratory	High Vacuum Pump, Spectroscope, Induction Coil
	Chemical Laboratory	Sputtering System, PH Meter, Draft Chamber with Scrubber
	Language Laboratory	46 booths, 46 Computers, e-learning

	Room	Main Equipment
Takuma Campus	Physics Laboratory	Audio-visual Equipment, Measurement Device of Specific Charge
	Chemistry Laboratory	Ultra Pure Water Production System, Draft Chamber with Scrubber, Drying Oven
	Multimedia Learning Laboratory	48 booths (BYOD), e-learning

Industrial and Systems Engineering Division
(Takamatsu Campus)

Department of Mechanical Engineering

Mechanical engineers play a vital role in product design, development and manufacturing of industrial products in the modern industrial world as well as new challenges in developing countries.
Our educational program is designed to develop creative mechanical engineers who will excel in the industrial world and fulfill their personal desire to leave a legacy of successful accomplishments.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	KOJIMA,Takafumi	Thermodynamics Heat Transfer Engineering
	YOSHINAGA, Shinichi	Control Engineering
	JODAI, Yoshifumi	Fluids Engineering
Associate Prof.	TOKUDA, Taro	Strength of Matcrials Fracture Mechanics
	TAKAHASHI, Yoichi	Precision Machining　Forming Processes
	MAEDA, Yusaku	Sensor Engineering
Senior Lecturer	KIMURA, Yuto	Computational Mechanics
	TAKATANI, Hideaki	Robotics State Estimation
Assistant Prof.	FUJIOKA, Genko	Compasite material, Sensor engineering


Bending Test of Metallic Materals


Graduation Research


Computer Aidded Design & Drafting


Solar Car and Eco Car

◇Curriculum

Classification	Subject	Credits
Compulsory	Engineering Literacy	2
	Applied Mathematics Ⅰ	2
	Applied Mathematics Ⅱ	2
	History of Science and Technology	1
	Intellectual Property	1
	Exercise of Mechanical Engineering Ⅰ	1
	Exercise of Mechanical Engineering Ⅱ	1
	Engineering Mechanics Ⅰ	2
	Strength of Materials Ⅰ	2
	Strength of Materials Ⅱ	2
	Thermodynamics	2
	Hydraulics	2
	Mechanical Vibrations	2
	Working Technology	2
	Machine Element Design Ⅰ	1
	Machine Element Design Ⅱ	2
	Material Science and Engineering	2
	Electrical Engineering	1
	Control Engineering Ⅰ	1
	Fundamental Programming	2
	Numerical Methods	2
	Mechanical Design and Drafting Ⅰ	2
	Mechanical Design and Drafting Ⅱ	2
	Computer Aided Design and Drafting Ⅰ	3
	Fundamental of Working Exercise Ⅰ	3
	Fundamental of Working Exercise Ⅱ	3
	Fundamental of Working Exercise Ⅲ	2
	Mechanical Experiment Ⅰ	3
	Mechanical Experiment Ⅱ	3
	Graduation Research	8

Classification	Subject	Credits
Elective	Applied Mathematics Ⅲ	2
	Engineering Mechanics Ⅱ	2
	Strength of Materials Ⅲ	2
	Theory of Elasticity	2
	Heat Transfer Engineering	2
	Fluids Dynamics Ⅰ	2
	Electronics	2
	Computer Engineering	2
	Mechanism	2
	Computational Mechanics	2
	Computer Aided Design and Drafting Ⅱ	4
	Technical English	2
	Heat Engines	2
	Control Engineering Ⅱ	2
	Fluids Dynamics Ⅱ	2
	Job Training	1
	Special Lecture Ⅰ	1
	Special Lecture Ⅱ	1
	Special Lecture Ⅲ	1
	Special Lecture Ⅳ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Advanced Programming Training Ⅰ	4
	Advanced Programming Training Ⅱ	4
	Advanced Programming Training Ⅲ	4

◇Main Experiment Facilities

Room	Main Equipment
Workshop Lab.	Ultra-Precision Machine, Wire-Cut EDM Systems, Hobbing Machine, Precision Lathe
Mechanical Measurment Lab.	Non-Contact 3D Measuring Machine, Surface Finishing Indicator, Micro Hardness Tester
Material Testing Lab.	Universal Materials Testing Machine, Fatigue Testing Machine, Torsion Tester, Charpy Impact Tester
Materrial Lab.	Optical Microscope, Electric Furnace, Hardness Tester, SPD Equipment
Research Space Lab.	Hydraulic Servo-Mechanical Fatigue Testing Machine
Vibration Engineering Lab.	Vibration System, Vibration Meter
Wind Tunnel Lab.	Low Turbulent Wind Tunnel (40 m/s), Hot Wire Anemometer
Thermal Engineering Lab.	Heat Exchanger Testing Equipment
Internal Combustion Engine Lab.	Internal Combustion Engine Performance Testing Equipment, Engine Combustion Analysis System, Exhaust Gas Analyzer
Control Lab.	DC Servo Motor Testing System, Oscilloscope
Electronics Lab.	Oscilloscope, Digital Multi-Meter, Function Generator, DC Power-Supply Unit
Machine Shop	Lathe, Machining Center, CNC Lathe, Milling Machine, Grinding Machine, Crucible Furnace, Welding Equipment, Hydraulic Press
Drafting Room, CAD Room	Drafting Desks and Machines, Sketching Goods and Models, CAD System, 3D Printer

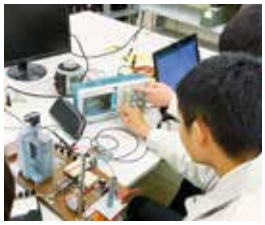
Department of Electrical and Computer Engineering

The department of electrical and computer engineering intends to educate the engineers who can contribute to the high technological society. For this purpose, the educational curriculum is designed to include the fundamental of mathematics and physics in the first stage, and applied technologies are programmed in the next stage. Furthermore, teamwork and cooperativeness, which are necessary in the social works, will be introduced in the various experiments and circuit design. Major parts of these subjects consist of the technologies of the embedded system.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	SHIGETA, Kazuhiro	Information and Communication Engineering Educational Technology
	TUJI, Masatoshi	Electronic Circuit Microwave Engineering
	URUSHIHARA, Shiro	Motion Control Control Engineering
	TARAO, Hiroo	Electromagnetic Compatibility, Bioelectromagnetics
	NAKAMURA, Atsunobu	Electric Materials
Associate Prof.	MURAKAMI, Yukikazu	Educational Technology
	KAKIMOTO, Takeshi	Software Development Management
	YAMAMOTO, Masashi	Material Science
	KITAMURA, Daichi	Statistical Signal Processing, Machine Learning
Senior Lecturer	YOSHIOKA, Takashi	Motion Control Motor Drive
Assistant Prof.	HINAMOTO, Yoichi	Digital Signal Processing


Lecture (logic circuits)


Experiment of Electronics


Plactice of Information Processing


Presentation of Circuit Design

◇Curriculum

Classification	Subject	Credits
Compulsory	Engineering Literacy	2
	Applied Mathematics Ⅰ	2
	Applied Mathematics Ⅱ	2
	History of Science and Technology	1
	Intellectual Property	1
	Fundamentals of Electrical and Computer Science Ⅰ	4
	Fundamentals of Electrical and Computer Science Ⅱ	4
	Fundamentals of Electricity	4
	Fundamentals of Electronics	4
	Electromagnetics Ⅰ	2
	Electrical Circuits Ⅰ	2
	Logic Circuits	2
	Fundamentals of Information Processing	4
	Electronic Circuits Ⅰ	1
	Information Mathematics	1
	Creative Engineering Experiment Training Ⅰ	2
	Creative Engineering Experiment Training Ⅱ	4
	Experiments on Electrical and Computer Science Ⅰ	4
	Experiments on Electrical and Computer Science Ⅱ	4
	Applied Experiments on Electrical and Computer Science	4
	Graduation Research	8
	Design of Circuits	2

Classification	Subject	Credits
Elective	Introduction of Semiconductor Physics	2
	Electromagnetics Ⅱ	2
	Electrical Circuits Ⅱ	2
	Instrumentation Engineer	2
	Electrical and Electronic Materials	2
	Electronic Circuits Ⅱ	2
	Electronic Circuits Ⅲ	2
	Energy Conversion Engineering	2
	Control Engineering	2
	Electronic Devices	2
	Communication Engineering	2
	Information and Communication Network	2
	Algorithms	2
	Computer Architecture	2
	Operating System	2
	Signal Processing	2
	Information and coding theory	2
	Intelligence Information Processing	2
	Numerical Simulation	2
	Statistical Data Processing	2
	Technical English	2
	Job Training	1
	Special Lecture Ⅰ	1
	Special Lecture Ⅱ	1
	Special Lecture Ⅲ	1
	Special Lecture Ⅳ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Advanced Programming Training Ⅰ	4
	Advanced Programming Training Ⅱ	4
	Advanced Programming Training Ⅲ	4

◇Main Experiment Facilities

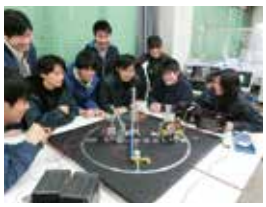
Room	Main Equipment
Measurement Control Lab.	SCR Inverter, Electric Machine Training System, He-Ne Laser, Optical Power
Electronics and Information Lab.	Curvetracer, Oscilloscope, Logic Analyzer, Microwave Measuring System, Print Board Fabrication System, Optical Communication/Optical Fiber Communication System
Materials Lab.	Lock-in Amplifier, Ultra High Resistance Meter, Liquid Nitrogen Cryostat, Thickness Meter, Green Laser
Power Electronics Lab.	Ball screw mechanical system with AC servo motor, Induction motor control system
Electromagnetic Compatibility Lab.	Uniform Magnetic Field Exposure System, Magnetic Field Measurement Device, Work Station
Electronics Lab.	Oscilloscope, Function Generator, DC Power supply, Q Meter, Digital Frequency Counter, Pulse Circuit Trainer
Acoustical Information Lab.	Anechoic Chamber, Acoustic Measuring System, Ultrasound Detector
Computer and Communication Engineering Lab.	Logical Circuit Experiment Apparatus, Semiconductor Element Experiment Apparatus, Arithmetic Circuit Trainer, AD/DA Converter Trainer, Logic Analyzer

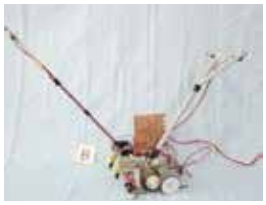
Department of Electro-Mechanical Systems Engineering

The department has a curriculum to educate students standing on mechatronics which is a combined engineering field that consists of mechanics, electronics, control engineering and computer science. The students are expected to have the role of not only simple manufacturing but also design & development, quality management, maintenance & inspection and so on in the production process.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	TOKUNAGA, Hidekazu	Conputational Learning Theory Web Mining
	SOUMA, Takeshi	Energy Engineering Energy Materials
	SHIMASAKI, Shin-ichi	Electromagnetic Processing of Materials
	SHOBAKO, Shinichiro	Welding & Joining Arc Plasma
Associate Prof.	YURA, Satoshi	Control Engineering Motion Control
	ISHII, Kohei	Biomedical Engineering
Senior Lecturer	TSUMORI, Nobuhiro	Nanophotonics Near-field Optics
	YAMASHITA, Tomohiko	High Voltage Engineering, Pulsed Power
	KADOWAKI, Jun	Soft robot, Pneumatic rubber muscle
Assistant Prof.	KAWAKAMI, Yusuke	Kansei Engineering, Signal Processing


Checking Robots


An Autonomous Robot


Working with Lathe Machine


Checking Electronic Components

◇Curriculum

Classification	Subject	Credits
Compulsory	Engineering Literacy	2
	Applied Mathematics Ⅰ	2
	Applied Mathematics Ⅱ	2
	History of Science and Technology	1
	Intellectual Property	1
	Electromagnetics Ⅰ	2
	Manufacturing Processes	2
	Fundamental Mechanics	2
	Engineering Materials Ⅰ	2
	Mechanical Engineering Design	2
	Mechanics of Materials Ⅰ	2
	Thermal Engineering Ⅰ	1
	Fluid Engineering Ⅰ	1
	Electric and Electronic Circuits Ⅰ	2
	Information Processing on Basis	2
	Mechatronics Ⅰ on Basis	3
	Mechatronics Ⅱ on Basis	3
	Mechatronics Ⅲ on Basis	3
	Mechatronics System Design	2
	System Control Engineering Ⅰ	2
	Technical Japanese Rhetoric	1
	Training and Exercise Ⅰ on MONOZUKURI Basis	3
	Training and Exercise Ⅱ on MONOZUKURI Basis	3
	Training and Exercise Ⅲ on MONOZUKURI Basis	2
	Experiment Ⅰ	4
	Experiment Ⅱ	4
	Graduation Research	8

Classification	Subject	Credits
Elective	Mechanics of Materials Ⅱ	2
	Engineering Materials Ⅱ	2
	Thermal Engineering Ⅱ	2
	Fluid Engineering Ⅱ	2
	Electric and Electronic Circuits Ⅱ	2
	Information Processing A	2
	Information Processing B	2
	System Control Engineering Ⅱ	2
	Mechanical Dynamics	2
	Robotics	2
	Mechanical Instrumentation	2
	Statistical Analysis	2
	Technical English	2
	Electromagnetics Ⅱ	2
	Semiconductor Engineering on Basis	2
	Electronic Instrumentation	2
	Sensor Devices	2
	Job Training	1
	Special Lecture Ⅰ	1
	Special Lecture Ⅱ	1
	Special Lecture Ⅲ	1
	Special Lecture Ⅳ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Advanced Programming Training Ⅰ	4
	Advanced Programming Training Ⅱ	4
	Advanced Programming Training Ⅲ	4

◇Main Experiment Facilities

Room	Main Equipment
Engineer Material Lab.	Optical Microscope, Electric Furnace, Video Microscope, Vickers Brinell and Rockwell Hardness Tester, SPD Equipment
Mechanics of Material Lab.	300kN Universal Testing Machine, Torsion Tester Charpy Impact Testing Machine, Rotating Bending Fatigue Testing Machine
Thermal Engineering Lab.	High-frequency Induction Furnace, Electrometer, Laser Displacement Sensor, High-speed Camera, Heat Exchanger Testing Equipment
Electronics Lab./Electronic Control Lab.	Oscilloscope, Digital Multi-Meter, Function Generator, Electronic Voltmeter, Universal Counter, DC Power-Supply Unit, PCB-CAD/CAM
CAD Room	Video Projector, Personal Computer, 3D CAD
Exercise Room	Video Projector, Personal Computer, 3D CAD, 3D Printer
Control Lab.	Temperature Control Testing System, Water Level Control Testing System
FA Training Factory	3D Modeling Machine, Vertical Milling Machine, Drilling Machine, Band Sawing Machine
Measuring Lab.	Air Micrometer, Micro-Indicator, Tool Micrometer Microscope
Training Factory	Engine Lathe, Drilling Machine, Universal Milling Machine Universal Band Sawing Machine, Machining Center, Welders

Department of Civil Engineering

The department of civil engineering is working on fostering engineers who can contribute to the construction of infrastructure supporting safe and comfortable lives of citizens and the maintenance of the natural environment which is also deeply related to the construction of infrastructure.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	MUKAITANI, Mitsuhiko	Geotechnical Engineering Geoenvironmental Engineering
	ARAMAKI, Noritaka	Geotechnical Engineering Resource Development Engineering
	MIYAZAKI, Kosuke	Infrastructure Planning Transportation Planning
	TAGAWA, Tadashi	Sanitary Engineering Environmental Engineering
	YANAGAWA, Ryoichi	Coastal Disaster Management Engineering Coastal Ecosystem Engineering
Associate Prof.	HAYASHI, Kazuhiko	Concrete Engineering Maintenance Engineering
	TAKAHASHI, Naoki	Hydraulic Engineering Ecological Engineering
	HASEGAWA, Yuki	Concrete Engineering Agricultural Engineering
Senior Lecturer	IMAOKA, Yoshiko	Urban Planning Welfare Engineering
Assistant Prof.	MATSUMOTO, Masayuki	Earthquake engineering Seismic engineering


Loading of steel structure


Surveying


Hydraulic Experiment


Numerical Model Analysis

◇Curriculum

Classification	Subject	Credits
Compulsory	Engineering Literacy	2
	Applied Mathematics Ⅰ	2
	Applied Mathematics Ⅱ	1
	History of Science and Technology	1
	Intellectual Property	1
	Structural Mechanics Ⅰ	2
	Structural Mechanics Ⅱ	2
	Structural Mechanics Ⅲ	1
	Structural Design Ⅰ	2
	Construction Materials	2
	Soil Mechanics Ⅰ	1
	Soil Mechanics Ⅱ	1
	Construction Management	1
	Hydraulics Ⅰ	1
	Hydraulics Ⅱ	1
	River and Coastal Engineering Ⅰ	1
	Environmental Engineering Ⅰ	2
	Environmental Engineering Ⅱ	1
	Information Processing Ⅰ	2
	Information Processing Ⅱ	2
	Surveying Ⅰ	2
	Planning Ⅰ	1
	Planning Ⅱ	1
	Design and Drawing Ⅰ	1
	Design and Drawing Ⅱ	1
	Civil Experiments and Exercises Ⅰ	4
	Civil Experiments and Exercises Ⅱ	2
	Civil Experiments and Exercises Ⅲ	4
	Civil Experiments and Exercises Ⅳ	4
	Civil Experiments and Exercises Ⅴ	3
	Introduction of Civil Engineering	2
	Current Topics on Civil Engineering	1
	Engineering Study with Creative Training	1
	Graduation Research	8

Classification	Subject	Credits
Elective	Structural Design Ⅱ	2
	Soil Mechanics Ⅲ	2
	River and Coastal Engineering Ⅱ	2
	Applied Mechanics	2
	Environmental Engineering Ⅲ	2
	Environmental Impact Assessment	2
	Information Processing Ⅲ	2
	Surveying Ⅱ	2
	Disaster Prevention Engineering	2
	Applied Mathematics Ⅲ	2
	Technical English	2
	Job Training	1
	Special Lecture Ⅰ	1
	Special Lecture Ⅱ	1
	Special Lecture Ⅲ	1
	Special Lecture Ⅳ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Advanced Programming Training Ⅰ	4
	Advanced Programming Training Ⅱ	4
	Advanced Programming Training Ⅲ	4

◇Main Experiment Facilities

Room	Main Equipment
Structural Engineering Lab.	Static and dynamic loading machine, Beam testing machines, Servo-type 1D&2D shaking tables, 2D soil tanks
Materials Engineering Lab.	Automatic compression testing machine (Cap. of 3000kN), Universal testing machine (Cap. of 1000kN), Concrete mixer, Oil jacks and oil pumps, Concrete cylinder end grinder, Freezing and thawing machine, Testing apparatuses for various concrete, Concrete curing water bath
Hydraulic Engineering Lab.	Three dimensional channel, Movable channels, Wave making channels, Shape-created weir, Pipe line with a Venturi meter, Wave height indicators, Various recorders
Geotechnical Engineering Lab.	Automatic consolidation testing apparatus, Universal compression testing apparatus, Cyclic triaxial compression test apparatus, Large-scaled universal direct shear apparatus, Falling head permeability test apparatus, B-type viscometer, High speed camera, Various soil testing apparatus
Environmental Engineering Lab.	Total organic carbon analyzer, Ion chromatograph, Gas chromatograph, Autoclaves, Centrifuge, Ultra pure water system, Electronic scale, Constant temperature ovens
Equipment room	Global Navigation Satellite Systems, Geographic Information System, Remote Sensing, Total station, Digital type theodolites(4set), Automatic levels, Electro-optical distance meters(4set), Plane table, Pranimeters, Stereoscope

Department of Communication Network Engineering

Both modern industry and society rely heavily on telecommunication systems, which are also known as a "neural network" of society. The constituents of the systems are electric wires, optical fibers and electromagnetic waves, as well as a great deal of computers. The aim of the Department of Communication Network Engineering is to foster competent engineers in this promising field of telecommunications. The curriculum is organized so that students can qualify for various national licenses such as an On-the-Ground I-Category Special Radio Operator, or a First-Class Technical Radio Operator for On-the-Ground Services.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	INOUE, Tadaaki	Communications Measurement
	ISSHIKI, Hiromi	Biomedical Engineering
	ONO, Akira	Telecommunication Electronic Circuit
	SHIRAISHI, Keiichi	Computer Algebra e-Learning
Associate Prof.	MANABE, Katsuya	Electromagnetic Theory Microwave Theory and Techniques
	TAKAJO, Hideyuki	Educational Technology Ubiquitous Computing
	SHOHON, Toshiyuki	Coding Theory Communication Engineering
	KUMEKAWA, Kazuya	Computer Networks
	KAWAKUBO, Takashi	Field Emission Surface Physics
Assistant Prof.	URAKAMI, Taisei	Wireless Communication Antennas and Propagation


Wireless Communication Experiment


Optical Fiber Communication


Radar Detection


Computer Network Experiment

◇Curriculum

Classification	Subject	Credits
Compulsory	Applied Mathematics	2
	Probability and Statistics	2
	Applied Physics Ⅰ	2
	Electric Engineering	2
	Information Processing Ⅰ	2
	Information Processing Ⅱ	2
	Digital Circuits Ⅰ	2
	Electric Circuits Ⅰ	2
	Electric Circuits Ⅱ	2
	Electric CircuitsA	2
	Electromagnetics Ⅰ	2
	Electromagnetics Ⅱ	2
	Electronic Circuits Ⅰ	2
	Electronic Circuits Ⅱ	2
	Electric and Electronic Measurements Ⅰ	2
	Electronics	2
	Wireless Communication Engineering Ⅰ	2
	Seminar on Communication Engineering	4
	Fundamental Engineering Exercises	2
	Engineering Exercise	2
	Creative Experiments and Practices	4
	Experiments and Practices	2
	Experiments in Communication Network Engineering	2
	Experiments in Communication Engineering Ⅰ	4
	Experiments in Communication Engineering Ⅱ	4
	Graduation Research	8
Elective	Applied Physics Ⅱ	2
	Information Processing Ⅲ	2
	Electric and Electronic Measurements Ⅱ	2
	Wireless Communication Engineering Ⅱ	2
	Antennas and Propagation Ⅰ	2
	Antennas and Propagation Ⅱ	2
	Communication SystemA	2
	Communication SystemB	2
	Tlecommunications Law Ⅰ	2
	Tlecommunications Law Ⅱ	2
	Computer Networks Ⅰ	2
	Computer Networks Ⅱ	2
	Information Theory	2
	Seminar on Radio Engineering	2
	Data Communications	2
	Optoelectronics	2
	Mathematics for Information Science	2
	Information Security	2
	Network Programming	2
	Internship	1
	Special Lectures Ⅰ	1
	Special Lectures Ⅱ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Research Fundamentals Ⅰ	1
	Research Fundamentals Ⅱ	1
	Research Fundamentals Ⅲ	1
	AI Ⅰ	1
	AI Ⅱ	1
	AI Ⅲ	1
	AI Ⅳ	1

◇Main Experiment Facilities

Room	Main Equipment
Electromagnetic Anechoic Chamber	EMI(Electromagnetic Interference)Receiver, CVCF(Constant-voltage Constant-Frequency)Power Supply, BiLog Antenna, Artificial Mains Network, Absorbing Clamp, Turn Table, Vector Network Analyzer
Applied Electromagnetic Wave Lab.	Radar, Satellite Compass, AIS(Automatic Identification System)Receiver, Radio Direction Measurement Equipment, Radio Transmitter, Radio Receiver
Photonics Lab.	Sampling Oscilloscope, Spectrum Analyzer, EO Converter, OE Converter, OTDR(Optical Time Domain Reflectometer)
3rd Fundamental Communication Eng. Lab.	Pulse Pattern Generator, Error Rate Detector, Optical Spectrum Analyzer
Information Network Exercise Room	Training Equipments for LAN(Local Area Network)Integration(Routers, Switching Hubs, Wireless LAN Access Points, Personal Computers), Microcomputer Development and Training System

Department of Electronic Systems Engineering

In light of the advancements of mechatronics and Information technologies, there is a large demand for engineers in the development and integration of computer science, robotic systems and telecommunications.
The program in our department is designed to offer students many options from various fields such as hardware, software, electronics and communication technologies. We combine theory and practical application in the same course which provides practical laboratory experience. Our goal is to cultivate ingenuity and innovation in our students and provide them with all skills necessary for a successful career in the electronics industry.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	MISAKI, Yukinori	Robot Engineering
	YAGI, Masakazu	Solid State Physics
Associate Prof.	TSUKIMOTO, Isao	Electronic Circuits
	MIKAWA, Michio	Solid State Physics
	JOHNSTON, Robert Weston	Embedded Systems
	SHIMIZU, Tomo	Semiconductor Devices
	MORIMUNE, Taichiro	Solid State Physics
	IWAMOTO, Naoya	Semiconductor Devices
Senior Lecturer	ONISHI, Akinari	Assistive Technology
	YOSHIOKA, Genta	Human Robot Interaction


Robot Manufacture Experiment using MINDSTORMS


Fundamental Electronic Circuit Experiments in English


Digital Circuit Manufacture Experiment using VHDL (in 5th Grade)


Graduation Work with Region Cooperation (in 5th Grade)

◇Curriculum

Classification	Subject	Credits
Compulsory	Applied Mathematics	2
	Probability and Statistics	2
	Applied Physics Ⅰ	2
	Electric Engineering	2
	Electric Circuits Ⅰ	2
	Electric Circuits Ⅱ	2
	Fundamental Electric Circuits	4
	Electromagnetics Ⅰ	2
	Electromagnetics Ⅱ	2
	Elecronics	2
	Electronic Circuits Ⅰ	2
	Electronic Circuits Ⅱ	2
	Semiconductor Electronics	2
	Semiconductor Device Engineering	2
	Digital Circuits Ⅰ	2
	Digital Circuits Ⅱ	2
	Elecronic Measurements	2
	Control Engineering Ⅰ	2
	Information Processing Ⅰ	2
	Information Processing Ⅱ	2
	Electronic Systems Engineering Seminar	4
	Fundamental Engineering Exercises	2
	Creative Experiments and Practices	4
	Experiments and Practices	2
	Experiments in Elecrtonic Engineering	4
	Experiments in Electronic Engineering Ⅰ	4
	Experiments in Electronic Engineering Ⅱ	4
	Graduation Research	8
Elective	Applied Physics Ⅱ	2
	Electric Circuits Ⅲ	2
	Solid State Physics	2
	Optoelectronics	2
	Electrical and Electronic Materials	2
	Control Engineering Ⅱ	2
	Robot Engineering	2
	Sensor Electronics	2
	Special Lecture in Electronic Systems Engineering	2
	Information System	2
	Communication SystemA	2
	Information Processing Ⅲ	2
	Data Communications	2
	Image Processing Technology	2
	System Engineering	2
	Internship	1
	Special Lectures Ⅰ	1
	Special Lectures Ⅱ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Research Fundamentals Ⅰ	1
	Research Fundamentals Ⅱ	1
	Research Fundamentals Ⅲ	1
	AI Ⅰ	1
	AI Ⅱ	1
	AI Ⅲ	1
	AI Ⅳ	1

◇Main Experiment Facilities

Room	Main Equipment
Common Lab.	Liquid Crysta, Tunable Filters,Cooled CCD Camera,Multispectral Imaging System, Hyperspectral Camera
Measurement Engineering Lab.	Equipment of Supply Current Test to Detect Lead Opens of CMOS ICs, Oscilloscope, Current Probe
Computer Engineering Lab.	Oscilloscope, Radiation Detector, Analog Waveform Processing System
Circuit Design Lab.	Photoelectron Yieid Spectroscopy, UV-VIS NIR Spectrophotometer, Organic Thin Film Deposition Apparatus, Spectroscopic Reflectometer, Laser Micro-machining Apparatus, Atomic Force Microscope
Optoelectronics Lab.	Fluorometer, Quantum efficiency measurement system, Diffraction-grating monochromator, He-Cd laser, Ar ion laser, Cryogenic refrigerator
Electronics Lab.	Infrared Thermal Camera, 3D Printer, 3D Scanner, Tabletop Microscope, Non-Mydriatic Auto Fundus Camera, Pulse Oximeter
Materials Engineering Lab.	Pulsed Laser Depositon System, Sputtering Apparatus, Hall Effect Measurement System, X-ray Diffraction Equipment
Plasma Sinering Lab.	Spark Plasma Sinering System

Department of Information Engineering

The department offers students an opportunity to acquire the theoretical fundamentals of computer science, and learn how to apply this practical knowledge to everyday problems. The department aims to educate the students to be able to perform tasks such as the following:
-Information system development
-Application development and integration, such as sound and image processing, computer networking.

◇Fulltime Academic Staff

Title	Name	Research Field
Prof.	MIYATAKE, Akiyoshi	Educational System Engineering
	TOKUNAGA, Shuichi	Image Processing
	KAWATA, Jun	Plasma Surface Interaction
	KANAZAWA, Keizo	Image Processing
	KAWAZOME, Hayato	Plasma Spectroscopy
Associate Prof.	KONDOH, Yuji	Computer Algebra
	OKUYAMA, Shingo	Algebraic Topology
	TIN HTAY HLAING	Natural Language Processing
	SASAYAMA, Manabu	Information Retrieval Machine Translation
Senior Lecturer	MIYAZAKI, Takahiro	Remote Sensing

◇Curriculum

Classification	Subject	Credits
Compulsory	Applied Mathematics	2
	Probability and Statistics	2
	Applied Physics Ⅰ	2
	Electric Engineering	2
	Electric Circuits Ⅰ	2
	Electronic Circuits Ⅰ	2
	Digital Circuits Ⅰ	2
	Digital Circuits Ⅱ	2
	Information Engineering	2
	Computer Architecture	2
	Information Processing Ⅰ	2
	Information Processing Ⅱ	2
	Software Design and Development	4
	Communicaion Theory	2
	Data Structures and Algorithms	2
	Compiler	2
	Seminar on Information Engineering	6
	Fundamental Engineering Exercises	2
	Information Engineering Exercises	2
	Creative Experiments and Practices	4
	Experiments and Practices	2
	Experiments in Information Engineering	2
	Experiments in Information Engineering Ⅰ	4
	Experiments in Information Engineering Ⅱ	4
	Graduation Research	8
Elective	Applied Physics Ⅱ	2
	Mathematics for Information Science	2
	Numerical Analysis	2
	Electromagnetics	2
	Semiconductor Electronics	2
	System Engineering	2
	System Programming	2
	System Software	2
	Infromation System	2
	Artificial Intelligence Ⅰ	2
	Artificial Intelligence Ⅱ	2
	Digital Image Processing	2
	Database Management System	2
	Computer Networks Ⅰ	2
	Computer Networks Ⅱ	2
	Information Security	2
	Internship	1
	Special Lectures Ⅰ	1
	Special Lectures Ⅱ	1
	Pre-research Activity Ⅰ	1
	Pre-research Activity Ⅱ	1
	Pre-research Activity Ⅲ	1
	Research Fundamentals Ⅰ	1
	Research Fundamentals Ⅱ	1
	Research Fundamentals Ⅲ	1
	AI Ⅰ	1
	AI Ⅱ	1
	AI Ⅲ	1
	AI Ⅳ	1


Digital Circuit Experiment


Network System Integration


3D Content Creation for Virtual Reality


Programming Contest

◇Main Experiment Facilities

Room	Main Equipment
Control Circuit Lab.	3D Input/Output Device(3D Scanner, 3D Milling machine) 3D CAD/CAM software
Engineering Science Lab.	Educational design and prototyping platform, LabVIEW, Electronic Circuit Simulator
Network Lab.	Experiment equipments for network skill acquisition(Router,L2,L3 switch)
Knowledge Information Processing Lab.	The server for analyzing Big Data
ICT Lac.	203.2cm diagonal screen size Integrated Touch Display
Reference Room	AI learning server
Image information processing Lab.	Embedded technology training robot teaching materials
Joint Use Lab.	3D content creation system