

Curriculum

Basic Interdisciplinary Subjects in Science and Technology

■ – Compulsory Subjects ■ – Compulsory Elective Subjects ■ – Elective Subjects

Classes	1st Year	2nd Year	3rd Year	4th Year
Basic Interdisciplinary Subjects in Science and Technology	<p>English Communication I · II</p> <p>German I · II</p> <p>French I · II</p> <p>Chinese I · II</p> <p>Science of Physical Education I · II</p> <p>Basic Humanities I · II</p> <p>Basic Social Science I · II</p> <p>Basic Seminar I · II</p>	<p>English Communication III · IV</p> <p>German III · IV</p> <p>French III · IV</p> <p>Chinese III · IV</p> <p>Science of Physical Education III · IV</p> <p>Area Studies(Europe & America) I · II</p> <p>Area Studies(Asia) I · II</p>	<p>Literature</p> <p>Psychology</p> <p>Japanese Constitution</p> <p>International Relations</p> <p>International Economics</p> <p>Practical English I · II</p>	

Curriculum

Specialized Education Department of Materials Science and Engineering

● Common Subjects with Division of Applied Chemistry ■ – Compulsory Subjects ■ – Compulsory Elective Subjects ■ – Elective Subjects ■ – Free Elective Subjects

Classes		1st Year	2nd Year	3rd Year	4年次
Specialized Education	Basic Science and Technology Subjects	Calculus I · II Linear Algebra I · II Physics I · II Physics Exercise Experiments in Physics I · II Chemistry I · II Experiments in Chemistry I · II Biology Introduction of Science and Technology Computer Literacy Mathematics Review Course I · II Physics Review Course I · II Chemistry Review Course I · II English Review Course I · II	Earth Science I · II Experiments in Earth Science I · II Experiments in Biology Ethics for Engineers		
	Materials Science and Engineering Basics	Applied Mathematics I · II · III Electromagnetics I & Exercise Engineering Mechanics ●	Electromagnetics II & Exercise Mechanics of Materials I · II & Exercise Quantum Mechanics I · II & Exercise Solid State Physics I · II & Exercise Thermodynamics Statistical Mechanics Design and Drawing ●		
	Applied Physics Materials			Vacuum Engineering ● Surface Engineering ●	
	Electronic Materials	Electric Circuits & Exercise	Design and Fabrication of Electronic Circuits Analog Circuits	Digital Circuits Semiconductor Devices Quantum Electronics Introduction to Semiconductor Physics Semiconductor Electronics ● Crystals Crystal Growth Magnetic Materials Optical & Dielectric Materials	

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Specialized Education Department of Materials Science and Engineering

● Common Subjects with Division of Applied Chemistry ■ – Compulsory Subjects ■ – Compulsory Elective Subjects ■ – Elective Subjects ■ – Free Elective Subjects

Classes		1st Year	2nd Year	3rd Year	4年次
Specialized Education	Mechanical Materials and Processing		Ferrous Alloys●	Metal Matrix Alloys Sintering Materials Polymers● Composite Materials● Fracture Mechanics Plasticity of Solids Metal Cutting Process Melt Processing Machine Elements● Machine Design and Drawing●	
	Chemistry Materials			Fundamentals of Chemical Reaction● Solid State Chemistry of Macromolecules● Electrochemistry●	Safety Engineering● Quantum Chemistry●
	Material Evaluation and Analyses			Analytical & Characteristic of Electronic Materials Analytical & Characteristic of Mechanical Materials Analytical Chemistry●	
	Common	Introduction of Material Engineering	Literacy of Science and Technology Experiments in Materials Science and Engineering I	Experiments in Materials Science and Engineering II・III Seminar on Materials Science and Engineering	Graduation Research Practical Intellectual Property Strategy●