3.Specialized Subjects

Subject Types (*1)	Subjects Subjects labeled by ● are provided in English Subjects labeled by ■ are provided in Japanese/English		Hours in total	Credits	International Mechanical and Aerospace Engineering Course (April enrollment) (*3) Semester (*2)	[For subjects left] ☆: Required ○: Elective Blank: Auditable Subject (not credits for graduation)		International Mechanical and Aerospace Engineering Course (October enrollment) (*3) Semester (*2)	[For subjects left] ☆: Required ○: Elective Blank: Auditable Subject (not credits for graduation)	
M	Introduction to Mechanical and Aerospace Engineering		30	2	1	○		3		
En	Introduction of Engineering Chemistry		30	2	1	○		3		
En	Exercises in Mathematics and Physics I	●	30	1	2	☆		2	☆	
En	English in Technology I		30	1	1	○		3	○	
En	Exercises in Mathematics and Physics II	●	30	1	3	☆		3	☆	
En	Practice of Information Processing	●	30	1	4	☆		4	☆	
En	Team-based Engineering for Invention	■	30	1	2	○		4・6	○	
M	Mathematics I	●	30	2	3	○		3	○	
M	Mathematics II	●	30	2	3	○		3	○	
M	Numerical Analysis	●	30	2	3	○		3	○	
M	Mechanics	●	30	2	3	○	[Semi-elective ①]	3	○	[Semi-elective ①]
M	Exercises in Computer-Aided Problem Solving	●	30	2	3	○		3	○	
M	Mechanics of Materials I	●	30	2	4	○		4	○	
M	Fluid Mechanics I	●	30	2	4	○		4	○	
M	Mechanics of Materials II	●	30	2	4	○	[Semi-elective ②]	4	○	[Semi-elective ②]
En	Academic Writing		30	1	3	○		3	○	
M	Quantum Mechanics	●	30	2	4	○		4	○	
M	Mechanical Vibrations I	●	30	2	4	○		4	○	
M	Thermodynamics I	●	30	2	4	○	[Semi-elective ③]	4	○	[Semi-elective ③]
M	Control Engineering I	●	30	2	4	○		4	○	
M	Quantum Mechanics A		30	2	4			4		
M	Mechanical Vibrations		30	2	4			4		
M	Thermodynamics A		30	2	4			4		
M	Physical Chemistry of Interface		30	2	4			4		
M	Fundamentals of Control Engineering		30	2	4			4		
M	Electromagnetics	●	30	2	5	○		5	○	
M	Thermodynamics II	●	30	2	5	○		7	○	
M	Materials Science I	●	30	2	4	○	[Semi-elective ④]	4	○	[Semi-elective ④]
M	Materials Science II	●	30	2	5	○		5	○	
M	Electromagnetics A		30	2	4			4		

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M	Thermodynamics B		30	2	4			4		
M	Materials Science A		30	2	4			4		
M	Materials Science B		30	2	4			4		
M	Computer Seminar I	●	30	1	4 (*4)	☆		4~5	☆	
M	Mechanical and Aerospace Engineering Seminar I	■	60	2	4	☆		4	☆	
M	Design and Drawing I	●	30	1	4 (*4)	☆		5	☆	
M	Computer Seminar		30	1	4			4		
M	Design and Drawing		30	1	4			4		
M	Mechanical and Aerospace Engineering Seminar A1		30	1	4			4		
M	Introduction to Quantum Science and Energy Systems		30	2	4			4		
M	Mechanical and Aerospace Engineering Seminar A		30	2	4			4		
M	Introduction to Energy and Environmental Technology		30	2	4			4		
M	Science Technology and Industry in Japan (Supplemental 1)	●	30	1	4	○		4	○	
M	Mechanical Vibrations II	●	30	2	5	○	[Semi-elective ④]	5	○	[Semi-elective ④]
M	Manufacturing Engineering and Technology I	●	30	2	5	○		5	○	
M	Fundamentals of Information Science I	●	30	2	5	○		5	○	
M	Electrical and Electronic Circuit I	●	30	2	5	○	[Semi-elective ⑤]	5	○	
M	Manufacturing Engineering and Technology II	●	30	2	5	○		5	○	
M	Electrical and Electronic Circuit II	●	30	2	7	○	[Elective ⑥]	7	○	[Semi-elective ⑤]
M	Fundamentals of Information Science II	●	30	2	5	○		5	○	
M	Control Engineering II	●	30	2	5	○	[Semi-elective ⑤]	5	○	
M	Fluid Mechanics II	●	30	2	5	○		5	○	
M	Heat Transfer	●	30	2	7	○	[Elective ⑥]	7	○	
M	Heat and Mass Transfer	●	30	2	8	○		8	○	[Elective ⑥]
M	Theory of Elasticity	●	30	2	5	○	[Semi-elective ⑤]	5	○	
M	Space Engineering	●	30	2	7	○	[Elective ⑥]	7	○	[Semi-elective ⑤]
M	Biomechanical Engineering	●	30	2	7	○		7	○	
M	Resource Recycling		30	2	5			5		
M	Fundamentals of Information Science		30	2	5			5		
M	Electrical and Electronic Circuit		30	2	5			5		
M	Quantum Mechanics B		30	2	5			5		

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M	Electromagnetics B		30	2	5			5		
M	Kinetics in Reactions		30	2	5			5		
M	Transform Phenomena		30	2	5			5		
M	Radiological Engineering		30	2	5			5		
M	Environmental Earth Science		30	2	5			5		
M	Environmental System I		30	2	5			5		
M	Laboratory Experiment I	■	30	1	5(*4)	☆		7	☆	
M	Mechanical and Aerospace Engineering Seminar II	■	30	1	5~6	☆		5~6	☆	
M	Production Process Practice	■	30	1	5(*4)	☆		7	☆	
M	Mechanical and Aerospace Engineering Seminar A2		30	1	5			5		
M	Laboratory Experiment A		30	1	5			5		
M	Mechanical and Aerospace Engineering Seminar B		30	1	5~6			5~6		
M	Computer Seminar II	●	30	1	5(*4)	○	[Semi-elective ⑤]	7	○	[Semi-elective ⑤]
M	Multidisciplinary Internship (Supplemental 1)	●	30	1	5	○		5	○	
M	Strength and Fracture Materials	●	30	2	8	○	[Elective ⑥]	8	○	[Elective ⑥]
M	Computational Mechanics of Materials	●	30	2	6	○	[Semi-elective ⑤]	6	○	[Semi-elective ⑤]
M	Computational Fluid Dynamics	●	30	2	8	○	[Elective ⑥]	8	○	[Elective ⑥]
M	Compressible Fluid Dynamics	●	30	2	8	○		8	○	
M	Machine Design I	●	30	2	6	○	[Semi-elective ⑤]	6	○	[Semi-elective ⑤]
M	Machine Design II	●	30	2	8	○	[Elective ⑥]	8	○	[Elective ⑥]
M	Robotics I	●	30	2	6	○	[Semi-elective ⑤]	6	○	[Semi-elective ⑤]
M	Robotics II	●	30	2	6	○		6	○	
M	Measurement and Instrumentation I	●	30	2	6	○		6	○	
M	Measurement and Instrumentation II	●	30	2	6	○		6	○	
M	Energy Conversion System Engineering	●	30	2	7	○	[Elective ⑥]	7	○	[Elective ⑥]
M	Aircraft Design	●	30	2	8	○		8	○	
M	Mechanical Properties and Fracutre of Materials		30	2	6			6		
M	Mathematical Fluid Dynamis		30	2	6			6		
M	Fundamental of Measurement and Instrumentation		30	2	6			6		
M	Nuclear Energy Physics		30	2	6			6		
M	Radiochemistry		30	2	6			6		

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M	Neutron Transport		30	2	6			6		
M	Computational Mechanics		30	2	6			6		
M	Environmental System II		30	2	6			6		
M	Environmental Materials Science		30	2	6			6		
M	Geomechanics		30	2	6			6		
M	Energy and Resources		30	2	6			6		
M	Laboratory Experiment II	■	30	1	6	☆		6	☆	
M	Design and Drawing II	■	30	1	6 (*4)	☆		7	☆	
M	Laboratory Experiment B		30	1	6			6		
En	Information Mathematics		30	2	6	○		6	○	
En	Automata and Formal Languages		30	2	6	○		6	○	
En	Digital Computing		30	2	6	○		6	○	
En	Algorithms and Data Structures		30	2	6	○	[Elective ⑤]	6	○	[Elective ⑤]
En	Information and Communication Theory		30	2	6	○		6	○	
En	Fundamental Mathematics for Machine Learning and Data Sciences		30	2	6	○		6	○	
M	Tribology	●	30	2	7	○		7	○	
En	Introduction to Electronic Engineering		30	2	7	○		7	○	
En	Introduction to Materials Science		30	2	7	○		7	○	
En	Introduction to Civil Engineering and Architecture		30	2	7	○		7	○	
En	Introduction to Intellectual Property Right		15	1	7	○		7	○	
En	Introduction to Medical Devices		30	2	7	○	[Elective ⑥]	7	○	[Elective ⑥]
En	Engineering Ethics		15	1	7	○		7	○	
En	English in Technology II		30	1	7	○		7	○	
En	Artificial Interlligence		30	2	7	○		7	○	
M	Combustion Engineering	●	30	2	7	○		7	○	
M	Radiation Protection and Safety Engineering		30	2	7			7		
M	Fuels and Materials of Nuclear Energy Systems		30	2	7			7		
M	Reservoir Engineering		30	2	7			7		
M	Material Science for Energy		30	2	7			7		
M	Nuclear Chemical & Environment Engineering		30	2	8			8		
M	Special Lecture of Energy and Environmental									

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M	Plant Visit					○			○	
M	Industrial Practice									
M	Special Seminar and Practice					○			○	
M	Special Lectures I (Supplemental 2)					○	[Elective ⑥]		○	[Elective ⑥]
M	Special Lectures II					○			○	
En	Overseas Study I ~ IV									
En	Institute of Engineering Education Special Lectures					○			○	
M	Graduation Thesis	●		6	6 7 8	☆		7 8 9	☆	

*1. In the “Subject Types” column, “En” indicates Engineering common subjects, “M” indicates Mechanical & Aerospace Engineering subjects.

*2. Whether a subject is a semester subject or a quarter subject depends on subject and year. Please check the timetable of the year.

*3. Only students admitted through the Global Entrance Examination or Future Global Leadership Program Entrance Examination will be assigned to the International Mechanical and Aerospace Engineering Course (IMAC-U)

*4. April enrollment students must take Japanese taught classes.

Supplemental 1 Class offered for IMAC-U

Supplemental 2 Automotive Engineering etc.,