

### 3.Specialized Subjects

Subject Types (*1)	Subjects Subjects labeled by ● are provided in English Subjects labeled by ■ are provided in Japanese/English	Semester, IMAC-U #2	Hours in total	Credits	Subjects with Registration restrictions	Course						Registration [For subjects left] ☆: Required ○: Elective Blank: Auditable Subject (not units for graduation)
						Mechanical Systems	Finemechanics	Robotics	Aerospace Engineering	Mechanical / Biomedical Engineering	International Mechanical and Aerospace Engineering Course	
M	Introduction to Mechanical and Aerospace Engineering		30	2	○	○	○	○	○	○	○	
En	Introduction of Engineering Chemistry		30	2	○	○	○	○	○	○	○	
En	Exercises in Mathematics and Physics I	●	2	30	1	○	☆	☆	☆	☆	☆	
En	Exercises in Mathematics and Physics II	●	3	30	1	○	☆	☆	☆	☆	☆	
En	Practice of Information Processing	●	4	30	1	○	☆	☆	☆	☆	☆	
En	Team-based Engineering for Invention	■	4・6	...	1~2	○	○	○	○	○	○	
M	Mathematics I	●	3	30	2	○	○	○	○	○	○	[Semi-elective ①]
M	Mathematics II	●	3	30	2	○	○	○	○	○	○	
M	Numerical Analysis	●	3	30	2	○	○	○	○	○	○	
M	Mechanics	●	3	30	2	○	○	○	○	○	○	
M	Exercises in Computer-Aided Problem Solving	●	3	30	2	○	○	○	○	○	○	
M	Mechanics of Materials I	●	4	30	2	○	○	○	○	○	○	[Semi-elective ②]
M	Fluid Mechanics I	●	4	30	2	○	○	○	○	○	○	
M	Mechanics of Materials II	●	4	30	2	○	○	○	○	○	○	[Semi-elective ③]
M	Quantum Mechanics I	●	4	30	2	○	○	○	○	○	○	
M	Mechanical Vibrations I	●	4	30	2	○	○	○	○	○	○	
M	Thermodynamics I	●	4	30	2	○	○	○	○	○	○	[Semi-elective ④ and Required]
M	Materials Science I	●	4	30	2	○	○	○	○	○	○	
M	Mechanical and Aerospace Engineering Seminar I	■	4	45	2		☆	☆	☆	☆	☆	
M	Science Technology and Industry in Japan (Supplemental 1)	●	4		1							
M	Mechanical Vibrations II	●	4→5	30	2	○	○	○	○	○	○	
M	Fundamentals of Control Engineering		4	30	2	○						
M	Physical Chemistry of Interface		4	30	2	○						
M	Introduction to Quantum Science and Energy Systems		4	30	2	○						
M	Introduction to Energy and Environmental Technology		4	30	2	○						
M	Computer Seminar I	●	4-5	30	1		☆	☆	☆	☆	☆	
M	Control Engineering I	●	5→4	30	2	○	○	○	○	○	○	[Semi-elective ③]
M	Electromagnetics I	●	5	30	2	○	○	○	○	○	○	[Semi-elective ④]
M	Materials Science II	●	5	30	2	○	○	○	○	○	○	
M	Design and Drawing I	●	5	30	1		☆	☆	☆	☆	☆	
M	Manufacturing Engineering and Technology I	●	5	30	2	○	○	○	○	○	○	[Semi-elective ⑤ and Required]
M	Fundamentals of Information Science I	●	5	30	2	○	○	○	○	○	○	
M	Electrical and Electronic Circuit I	●	5	30	2	○	○	○	○	○	○	
M	Manufacturing Engineering and Technology II	●	5	30	2	○	○	○	○	○	○	
M	Fundamentals of Information Science II	●	5	30	2	○	○	○	○	○	○	
M	Control Engineering II	●	5	30	2	○	○	○	○	○	○	
M	Fluid Mechanics II	●	5	30	2	○	○	○	○	○	○	
M	Theory of Elasticity	●	5	30	2	○	○	○	○	○	○	
M	Environmental Earth Science		5	30	2	○						

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						Mechanical Systems	Finemechanics	Robotics	Aerospace Engineering	Mechanical / Biomedical Engineering	International Mechanical and Aerospace Engineering Course		
M	Multidisciplinary Internship (Supplemental 1)	●	5		1								
M	Introduction to Aerospace Engineering	●	5	30	2	○	○	○	○	○	○	○	○
M	Quantum Mechanics II		5	30	2	○							
M	Radiological Engineering		5	30	2	○							
M	Electromagnetics II		5	30	2	○							
M	Kinetics in Reactions		5	30	2	○							
M	Transform Phenomena		5	30	2	○							
M	Mechanical and Aerospace Engineering Seminar II	■	5-6	30	1		☆	☆	☆	☆	☆	☆	☆
M	Computational Mechanics	●	6	30	2	○	○	○	○	○	○	○	○
M	Machine Design I	●	6	30	2	○	○	○	○	○	○	○	○
M	Robotics I	●	6	30	2	○	○	○	○	○	○	○	○
M	Robotics II	●	6	30	2	○	○	○	○	○	○	○	○
M	Measurement and Instrumentation I	●	6	30	2	○	○	○	○	○	○	○	○
M	Measurement and Instrumentation II	●	6	30	2	○	○	○	○	○	○	○	○
M	Laboratory Experiment II	■	6	30	1		☆	☆	☆	☆	☆	☆	☆
M	Nuclear Energy Physics		6	30	2	○							
M	Global Energy Policy		6	30	1	○							
M	Radiochemistry		6	30	2	○							
M	Neutron Transport I		6	30	2	○							
M	Environmental Biology		6	30	2	○							
M	Geomechanics		6	30	2	○							
M	Mathematical Fluid Dynamis		6	30	2								
M	Fundamental of Measurement and Instrumentation		6	30	2								
M	Environmental Materials Science		6	30	2	○							
M	Thermodynamics II	●	7	30	2	○	○	○	○	○	○	○	○
M	Electrical and Electronic Circuit II	●	7	30	2	○	○	○	○	○	○	○	○
M	Heat Transfer	●	7	30	2	○	○	○	○	○	○	○	○
M	Space Engineering	●	7	30	2	○	○	○	○	○	○	○	○
M	Biomechanical Engineering	●	7	30	2	○	○	○	○	○	○	○	○
M	Laboratory Experiment I	■	7	30	1		☆	☆	☆	☆	☆	☆	☆
M	Production Process Practice	■	7	30	1		☆	☆	☆	☆	☆	☆	☆
M	Computer Seminar II	●	7	30	1	○	○	○	○	○	○	○	○
M	Energy Conversion System Engineering	●	7	30	2	○	○	○	○	○	○	○	○
M	Design and Drawing II	■	7	30	1		☆	☆	☆	☆	☆	☆	☆
M	Tribology	●	7	30	2	○	○	○	○	○	○	○	○
M	Combustion Engineering	●	7	30	2	○	○	○	○	○	○	○	○
M	Energy and Resources		7	30	2	○							
En	Introduction to Electronic Engineering		7	30	2	○	○	○	○	○	○	○	○
En	Introduction to Materials Science		7	30	2	○	○	○	○	○	○	○	○
En	Introduction to Environmental Engineering		7	30	2	○	○	○	○	○	○	○	○

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En	Introduction to Intellectual Property Right		7	15	1	○	○	○	○	○	○	[Semi-elective ⑤]
En	Introduction to Biomedical Engineering		7	30	2	○	○	○	○	○	○	
En	Engineering Ethics		7	15	1	○	○	○	○	○	○	
En	English in Techanology II		7	30	2	○	○	○	○	○	○	
M	Radiation Protection and Safety Engineering		7	30	2	○						
M	Fuels and Materials of Nuclear Energy Systems		7	30	2	○						
M	Introduction to Nuclear Regulation		7	30	2	○						
M	Geoenvironmental Chemistry		7	30	2	○						
M	Reservoir Engineering		7	30	2	○						
M	Material Science for Energy		7	30	2	○						
M	Heat and Mass Transfer	●	8	30	2	○	○	○	○	○	○	
M	Strength and Fracture Materials	●	8	30	2	○	○	○	○	○	○	
M	Computational Fluid Dynamics	●	8	30	2	○	○	○	○	○	○	
M	Compressible Fluid Dynamics	●	8	30	2	○	○	○	○	○	○	
M	Machine Design II	●	8	30	2	○	○	○	○	○	○	
M	Aircraft Design	●	8	30	2	○	○	○	○	○	○	
M	Nuclear Chemical & Environment Engineering		8	30	2	○						
M	Special Lecture of Energy and Environmental											
M	Plant Visit (Supplemental 2)					☆	☆	☆	☆	☆	○	
M	Industrial Practice										○	
M	Special Seminar and Practice					○	○	○	○	○	○	
M	Special Lectures I (Supplemental 3)					○	○	○	○	○	○	
M	Special Lectures II					○	○	○	○	○	○	
En	English in Technology I			30	1		○	○	○	○	○	
En	Overseas Study I ~ IV											
En	Institute of Engineering Education Special Lectures					○	○	○	○	○	○	
M	Graduation Thesis	●	6 7 8 9		6		☆	☆	☆	☆	☆	

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

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

\*3. Obtain 12 credits or more Semi-elective ① and ②  
Obtain 10 credits or more Semi-elective ② and ③  
Obtain 12 credits or more Semi-elective ③ and ④  
Obtain 16 credits or more Semi-elective ⑤