

**Course List and Graduation Requirements for International Programs,  
Automotive Engineering Program - School of Engineering (for Undergraduates Enrolled in October 2024)**  
(Major : Mechanical and Aerospace Engineering)

Laboratory in Chemistry		Course	Term	Credits					Minimum Requirement		
				No of Credits	Compulsory	Compulsory Elective	Elective				
Common Basic Courses		Introduction to Skills for Academic Success	Introduction to Skills for Academic Success	G- I	1	1			1		
		First Year Seminar	First Year Seminar	G- I	2	2			2		
		Language and Culture	Japanese	Japanese	Fall, Spring	8	8			8	
			Japanese/Second Foreign Languages/English	Japanese/Second Foreign Languages/English	Fall, Spring	6	6			6	
		Health and Sports Science	Health and Sports Science: Lecture	Exercise and Sports A	Exercise and Sports A	G- I	1			2	
				Exercise and Sports B	Exercise and Sports B	G- II	1			1	
				Introduction to Data Science (Lecture)	Introduction to Data Science (Lecture)	G- II	1	1			1
		Data Science	Data Science Exercise B	Introduction to Data Science (Lecture)	Introduction to Data Science (Lecture)	G- II	1	1			1
				Data Science Exercise B	Data Science Exercise B	G- II	1	1			1
		<i>Partial Sum</i>								<b>21</b>	
Liberal Arts and Sciences Courses	Liberal Arts Courses	Global Liberal Arts	International Society in the Age of Globalization ★	International Society in the Age of Globalization ★	Fall	2			2		
			Exploration of Japan: From the Outside looking Inside	Exploration of Japan: From the Outside looking Inside	Spring	2			2		
			Go in Japanese Culture	Go in Japanese Culture	Fall	2			2		
			Studium Generale A	Studium Generale A	Fall	2			2		
			Studium Generale B	Studium Generale B	Spring	2			2		
			Special Mathematics Lecture	Special Mathematics Lecture	Fall, Spring	-			-		
			Introduction to Intercultural Competence	Introduction to Intercultural Competence	Fall	2			2		
			Immigration in Japan	Immigration in Japan	G- III	2			2		
			Content courses taught in Japanese (JMI Courses)	Content courses taught in Japanese (JMI Courses)	-	-			-		
			Contemporary Liberal Arts (CLA)	Humanities and Social Sciences	Introduction to Cultural Studies ★	Introduction to Cultural Studies ★	Spring	2			2
	Introduction to Political Studies ★	Introduction to Political Studies ★			G- III	2			2		
	Introduction to Economics ★	Introduction to Economics ★			G- IV	2			2		
	Art and Culture ★	Art and Culture ★			Spring	2			2		
	Introduction to Career Development Theory	Introduction to Career Development Theory			Fall	2			2		
	Interdisciplinary/Integration of Arts and Sciences	Gender Studies		Gender Studies	G- III	2			2		
		Disaster Prevention and Mitigation		Disaster Prevention and Mitigation	G- III	2			2		
		Biotechnology		Biotechnology	Fall	2			2		
		Problem/Project Based Learning Seminar		Problem/Project Based Learning Seminar	G- VI	2			2		
		Summer Camp for General Academic Skills		Summer Camp for General Academic Skills	G- VI	2			2		
	Basic Courses for Specialized Fields (Basic Courses in Natural Sciences)		Calculus I	Calculus I	G- I	2	2			10	
Calculus II			Calculus II	G- II	2	2					
Linear Algebra I			Linear Algebra I	G- I	2	2					
Linear Algebra II			Linear Algebra II	G- II	2	2					
Complex Analysis			Complex Analysis	G- III	2	2			8		
Fundamentals of Physics I			Fundamentals of Physics I	G- I	2	2					
Fundamentals of Physics II			Fundamentals of Physics II	G- II	2	2					
Fundamentals of Physics III			Fundamentals of Physics III	G- II	2	2					
Laboratory in Physics			Laboratory in Physics	G- III	2	2					
Fundamentals of Chemistry I			Fundamentals of Chemistry I	G- I	2	2					
Fundamentals of Chemistry II	Fundamentals of Chemistry II	G- II	2	2			4				
<i>Partial Sum</i>								<b>22</b>			
<b>Sum for Liberal Arts and Sciences Courses</b>								<b>47</b>			
Courses in Specialized Fields	Basic Specialized Courses	Compulsory Courses ①	Computer Software I	Computer Software I	G- I	2	2			34.5	
			Mathematics I and Tutorial	Mathematics I and Tutorial	G- III	4	4				
			Mathematics II and Tutorial	Mathematics II and Tutorial	G- III	4	4				
			Analytical Dynamics and Tutorial	Analytical Dynamics and Tutorial	G- III	2.5	2.5				
			Electrical Circuits Engineering	Electrical Circuits Engineering	G- III	2	2				
			Mechanics of Materials and Tutorial	Mechanics of Materials and Tutorial	G- III	3	3				
			Thermodynamics and Tutorial	Thermodynamics and Tutorial	G- III	2.5	2.5				
			Kinematics of Machines	Kinematics of Machines	G- III	2	2				
			Metallic and Ceramic Materials	Metallic and Ceramic Materials	G- IV	2	2				
			Fluid Mechanics I and Tutorial	Fluid Mechanics I and Tutorial	G- IV	2.5	2.5				
	Elective Courses ②		Vibration Engineering and Tutorial	Vibration Engineering and Tutorial	G- IV	3	3				
			Control Engineering and Tutorial	Control Engineering and Tutorial	G- V	3	3				
			Material Processing	Material Processing	G- V	2	2				
			Fundamental Physics Tutorial I a	Fundamental Physics Tutorial I a	G- I	1			1		
			Fundamental Physics Tutorial I b	Fundamental Physics Tutorial I b	G- I	1			1		
			Fundamental Physics Tutorial II	Fundamental Physics Tutorial II	G- II	1			1		
			Electronic Circuits	Electronic Circuits	G- IV	2			2		
			Solid Mechanics	Solid Mechanics	G- IV	2			2		
			Automobile Chemical Systems I	Automobile Chemical Systems I	G- V	2			2		
			Scientific Measurements	Scientific Measurements	G- V	2			2		
Compulsory Courses ③		Introduction to Automotive Engineering	Introduction to Automotive Engineering	G- I	2	2			21		
		Vehicle Structures	Vehicle Structures	G- IV	2	2					
		Design Practice I	Design Practice I	G- IV	1	1					
		Automobile Engineering Laboratory I	Automobile Engineering Laboratory I	G- V	2	2					
		Design Practice II	Design Practice II	G- V	1	1					
		Automobile Engineering Laboratory II	Automobile Engineering Laboratory II	G- VI	2	2					
		Design Practice III	Design Practice III	G- VI	1	1					
		Graduation Research A	Graduation Research A	G- VII	5	5					
		Graduation Research B	Graduation Research B	G- VIII	5	5					
		Elective Courses ④		Mathematics Tutorial I a	Mathematics Tutorial I a	G- I	1				1
Mathematics Tutorial I b	Mathematics Tutorial I b			G- I	1			1			
Mathematics Tutorial II a	Mathematics Tutorial II a			G- II	1			1			
Mathematics Tutorial II b	Mathematics Tutorial II b			G- II	1			1			
Computer Software II	Computer Software II			G- IV	2			2			
Analytical Chemistry	Analytical Chemistry			G- V	2			2			
Urban Environment and Transportation System	Urban Environment and Transportation System			G- V	2			2			
Power Electronics	Power Electronics			G- V	2			2			
Numerical Analysis	Numerical Analysis			G- V	2			2			
Heat Transfer Engineering	Heat Transfer Engineering			G- VI	2			2			
Fluid Mechanics II	Fluid Mechanics II			G- V	2			2			
Tours in Industrial Plants A	Tours in Industrial Plants A			G- IV	0.5			0.5			
Tours in Industrial Plants B	Tours in Industrial Plants B			G- V	0.5			0.5			
Training in Industrial Plants	Training in Industrial Plants			G- VI	1			1			
Automobile Chemical Systems II	Automobile Chemical Systems II			G- VI	2			2			
Organic Materials	Organic Materials			G- VII	2			2			
Environment and Recycling	Environment and Recycling			G- VI	2			2			
Intelligent Transportation Systems	Intelligent Transportation Systems			G- VI	2			2			
Electronic Devices in Automobiles	Electronic Devices in Automobiles			G- VI	2			2			
Vehicle Engines and New Propulsion Systems	Vehicle Engines and New Propulsion Systems			G- V	2			2			
Vehicle Dynamics and Control	Vehicle Dynamics and Control	G- VI	2			2					
Vehicle Safety	Vehicle Safety	G- VII	2			2					
Vehicle Design	Vehicle Design	G- VII	2			2					
Related Specialized Courses	Elective Courses ⑤	Scientific and Technical Japanese	Scientific and Technical Japanese	G- VI	2			2			
		Business Japanese	Business Japanese	G- VII	2			2			
		Outline of Engineering III	Outline of Engineering III	G- VII	2			2			
		View of Advanced Electrical, Electronic and Information Engineer	View of Advanced Electrical, Electronic and Information Engineer	G- VII	2			2			
		Introduction to Civil Engineering and Architecture	Introduction to Civil Engineering and Architecture	G- VII	2			2			
		International Lectures on Advanced Technology and Trends in Automobile Engineering U1	International Lectures on Advanced Technology and Trends in Automobile Engineering U1	G- VI	1			1			
International Lectures on Advanced Technology and Trends in Automobile Engineering U3	International Lectures on Advanced Technology and Trends in Automobile Engineering U3	G- VI	3			3					
<b>Sum for Courses in Specialized Fields</b>					55.5	0	33	88.5			
<b>Total Sum</b>								<b>135.5</b>			

\*Confirm the prerequisite for each subject with the syllabus.

★Some of the courses on this column are offered in every other year. Confirm the offering term with the "Liberal Arts and Sciences Class Timetable" of the said year.

\* Please note that the terms and courses in Liberal Arts Courses may change for various reasons.

For the latest information, make sure to check the timetables (Timetable A and Timetable B) of the relevant term.

**Graduation Requirements for International Programs,  
Automotive Engineering Program - School of Engineering (for Undergraduate)  
(Major : Mechanical and Aerospace Engineering)**

**1. Liberal Arts and Sciences Courses: A combined total of at least 47 credits must be acquired.**

(1) Common Basic Courses:

A total of at least 21 credits must be acquired, consisting of 1 credit of Introduction to Skills for Academic Success, 2 credits of First Year Seminar, 14 credits from "Language and Culture", at least 2 credits each of Lecture and Exercise for Health and Sports Science, and 1 credit each of Lecture and Exercise for Data Science.

(2) Liberal Arts Courses:

A total of 4 credits must be acquired, consisting of 2 credits from Contemporary Liberal Arts (Humanities and Social Science and Interdisciplinary/Integration of Arts and Sciences), and 2 credits from Global Liberal Arts Courses or Contemporary Liberal Arts (Humanities and Social Science and Interdisciplinary/Integration of Arts and Sciences) or Problem/Project Based Learning Seminar.

(3) Basic Courses for Specialized Fields(Basic Courses in Natural Sciences):

A total of at least 22 credits must be acquired, consisting a total of at least 10 credits from Calculus I, II, Linear Algebra I, II or Complex Analysis, a total of 8 credits from Fundamentals of Physics I, II, III and Laboratory in Physics, a total of 4 credits from Fundamentals of Chemistry I and II.

**2. Courses in Specialized Fields: A combined total of at least 88.5 course credits must be acquired from these course categories.**

(1) Compulsory Courses:

A total of 55.5 course credits must be acquired, consisting of a total of 34.5 credits from Compulsory Basic Specialized Courses ① and a total of 21 credits from Compulsory Specialized Courses ③.

(2) Elective Courses:

A total of at least 33 course credits must be acquired, consisting of a total of at least 6 course credits from Elective Basic Specialized Courses ②, a total of at least 22 course credits from Elective Specialized Courses ④, and a total of at least 5 course credits from Elective Related Specialized Courses ⑤.

**Advancement Requirements for International Programs,  
Automotive Engineering Program - School of Engineering (for Undergraduate)  
(Major : Mechanical and Aerospace Engineering)**

Assesment Year	Course Categories	Minimum Courses/ Credits Required	Requirements	Students unable to advance to the next year
At the End of the Second Grade	Common Basic Courses Liberal Arts Courses Basic Courses for Specialized Fields	40 credits	1.Common Basic Courses Must acquire a total of at least 12"Language and Culture"credits from Japanese, English or Second Foreign Language. *Please note that if you choose Second Foreign Languages for Compulsory Elective(Japanese/ English/ Second Foreign Languages) credits, you must obtain at least 4 credits in each language from German, French, Russian, Chinese, Spanish, or Korean for graduation.  2.Basic Courses in Natural Sciences Must acquire at least 18 credits from Basic Courses in Natural Sciences(*from the courses required for graduation above) .	1. Remain in the second year.  2. Must take no longer than 6 years to complete their second year.[Duration of enrollment (8 years)] minus [third to fourth years(2 years)]  3. Students unable to advance to the next year within the 6-year limit stated in 2. above will be expelled from the school.