

## Educational Program

### Space Engineering International Course (SEIC) Requirements 2024

#### 【Master's Program / Degree requirements】

Subject category		SEIC / Degree requirements	
Liberal Arts Subjects Group	(B)Advanced Liberal Arts Subjects	Compulsory	<i>Space Environment Testing Workshop</i> 1 credit <i>Space Systems PBL I・II</i> 2 credits
	(C)Advanced Language Subjects		
	* (D)Practical Training Subjects	Compulsory elective	<i>Japanese for Beginners</i> or <i>English XA</i> 1 credit
Specialized Subjects Group	(G)Special Seminar Subjects	Compulsory	<i>Thesis Research for Degree</i> 2 credits <i>Special Laboratory Work</i> 1 credit
	(E)Mathematical information Subjects  (F)Specialized Subjects	Compulsory elective	<i>Advanced Embedded Systems</i> 2 credits Vision and Image Recognition 2 credits
		Elective	30 credits minimum from SEIC subject table including all the Compulsory subjects and 14 credits minimum from Major course subjects.
		Compulsory elective	Sub-Major Module S1 + S2 = 6 credits minimum (S1, S2: 2credits minimum each)
Required credits (total amount)		30 credits minimum	

\* Master's students can earn upto 2 credits from (C)Advanced Language Subjects, and upto 4 credits from (D)Practical Training Subjects. The credits earned excess of these limits shall not be counted as Degree requirements, but they will be written on the transcript.

Total required credits for Master Degree: 30 credits minimum from Master's Program SEIC Subjects  
Including 14 credits minimum from Major Course Subjects,  
6 credits minimum from Sub-Major Module,  
and Compulsory and Compulsory elective Subjects.

#### 【Doctoral Program / Degree requirements】

Subect category	SEIC / Degree requirements		
(A)Interdisciplinary Seminars (B)Advanced Liberal Arts Subjects (C)Advanced Language Subjects (E)Mathematical information Subjects (F)Specialized Subjects	6 credits minimum from Doctoral Program SEIC subjects  > Credits previously have been earned during the Master's program are ineligible. > Students who enrolled to SEIC from Doctoral Program are required to take <i>Japanese for Beginners or English X</i> . 1 credit		
* (D)Practical Training Subjects	Compulsory elective	<i>Internship (Overseas type)</i>	2 credits
		<i>Internship (Company type)</i>	
		<i>Field Research Project</i>	
		<i>Special Studies</i>	
(G)Special Seminar Subjects	Compulsory	<i>Project Research I (Specialty-deepening type)</i>	1 credit
		<i>Project Research II (Specialty-broadening type)</i>	1 credit
Required credits (total amount)			10 credits minimum

\* Doctoral students can earn upto 1 credit from (C)Advanced Language Subjects, and upto 2 credits from (D)Practical Training Subjects. The credits earned excess of these limits shall not be counted as Degree requirements, but they will be written on the transcript.

Total required credits for Doctoral Degree: 10 credits minimum from Doctoral Program SEIC Subjects  
Including Compulsory and Compulsory elective Subjects.

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### NOTE:

- Elective subject
- (☆) Compulsory elective subject
- (★) Compulsory subject
- Major Course Subject: Master's students must take minimum 14 credits from your own major course subjects.

\* As for the gray cell subjects, no registration required via LiveCampus. Students should take those subjects based on their supervisor's advice. After finishing the course, the lecturer or the supervisor will submit an evaluation report to Graduate School Section.

### (A) Interdisciplinary Seminars (融合科目)

(A) Interdisciplinary Seminars (融合科目)									
Subject title	Lecturer	Credit	Term 1st and 2nd Academic Year				Doctoral Program SEIC subjects	Master's Program SEIC Subjects	Note
			1st Semester		2nd Semester				
			1Q	2Q	3Q	4Q			
Interdisciplinary Seminar of Engineering A 工学融合科目A	Primary supervisor	1	✓				○		
Interdisciplinary Seminar of Engineering B 工学融合科目B	Primary supervisor	1	✓				○		

### (B) Advanced Liberal Arts Subjects (上級教養科目)

N/A

### (C) Advanced Language Subjects (上級語学科目)

(C) Advanced Language Subjects (上級語学科目)									
Subject title	Lecturer	Credit	Term 1st and 2nd Academic Year				Doctoral Program SEIC subjects	Master's Program SEIC Subjects	Note
			1st Semester		2nd Semester				
			1Q	2Q	3Q	4Q			
English XA 英語XA	WATANABE Hiroaki	1	✓				○(☆)	○(☆)	Compulsory elective (Students must take either one of them)
Japanese for Beginners 日本語入門	YAMAJI Naoko	1			✓		○(☆)	○(☆)	

1. English XA is for Japanese students only.

2. Students must take English XA or Japanese for Beginners when they enroll in SEIC Master's Program or Doctoral Program. Depending on students' Japanese level, they may take Japanese I or Japanese II instead.

Those who took the subject while in Master's Program, and move up to Doctoral Program cannot take the subject again.

### (D) Practical Training Subjects (実践実習科目)

Subject title	Lecturer	Credit	Term 1st and 2nd Academic Year				Doctoral Program SEIC subjects	Master's Program		Note
			1st Semester		2nd Semester			SEIC Subjects	Sub-Major Module	
			1Q	2Q	3Q	4Q				
Space Environment Testing Workshop 宇宙環境試験ワークショップ	CHO Mengu	1		✓			○	○(★)	S2	Compulsory for Master's students  For Doctoral students: see the note 2.
Space Systems PBL I 宇宙システムPBL I	CHO Mengu	1			✓		/	○(★)	S2	
Space Systems PBL II 宇宙システムPBL II	CHO Mengu	1				✓	/	○(★)	S2	
Advanced International Collaborative Learning 大学院国際協働演習	Please consult with your supervisor	1	✓				/	○		* 1
Advanced Overseas Study I 大学院海外研修 I		1	✓				/	○		
Advanced Overseas Study II 大学院海外研修 II		2	✓				/	○		
Advanced Overseas Internship I 大学院海外インターンシップ実習		1	✓				/	○		
Advanced Overseas Internship II 大学院海外インターンシップ実習		2	✓				/	○		
Advanced Domestic Internship I 大学院国内インターンシップ実習		1	✓				/	○		
Advanced Domestic Internship II 大学院国内インターンシップ実習		2	✓				/	○		
Practical experience in companies or organizations I 学外実習 I		1	✓				/	○		
Practical experience in companies or organizations II 学外実習 II		2	✓				/	○		
Lectures arranged by external organizations I 学外演習 I		1	✓				/	○		
Lectures arranged by external organizations II 学外演習 II		2	✓				/	○		

Internship (Overseas type) インターンシップ(国際派遣型)	Please consult with your supervisor	2	✓	○(★)				Compulsory elective for Doctoral students
Internship (Company type) インターンシップ(企業派遣型)		2	✓	○(★)				
Field Research Project 学外研修		2	✓	○(★)				
Special Studies 特別演習		2	✓	○(★)				

1. Master's students can earn only 1 credit from the \*1 subjects to be counted as Degree requirements. If you earn more credits, they are not counted as Degree requirements, but they will be written on your transcript.
2. Doctoral students can take Space Environment Testing Workshop, but the credit cannot be counted as Degree requirements. It will be written on your transcript though. Doctoral students should consult with their supervisor before registering for the subject.

(E) Mathematical information subject (数理情報科目)・・・ Please see the attached sheet.

(F) Specialized Subjects (専門科目)・・・ Please see the attached sheet.

(G) Special Seminar Subjects (特別演習科目)

Subject title	Lecturer	Credit	Term				Doctoral Program SEIC subjects	Master's Program SEIC Subjects	Note
			1st and 2nd Academic Year						
			1st Semester		2nd Semester				
			1Q	2Q	3Q	4Q			
Thesis Research for Degree 工学講究	Primary supervisor	2	✓					○(★)	Compulsory for Master's students
Special Laboratory Work 工学特別実験	Primary supervisor	1	✓					○(★)	Compulsory for Master's students
Project Research I (Specialty-deepening type) プロジェクト研究Ⅰ(専門深化型)	Primary supervisor	1	✓				○(★)		Compulsory for Doctoral students
Project Research II (Specialty-broadening type) プロジェクト研究Ⅱ(専門拡張型)	Vice supervisor	1	✓				○(★)		Compulsory for Doctoral students
Project Research III (Specialty-broadening type) プロジェクト研究Ⅲ(専門拡張型)	Vice supervisor	1	✓				○		
Project Research IV (Specialty-broadening type) プロジェクト研究Ⅳ(専門拡張型)	Vice supervisor	1	✓				○		

## Space Engineering International Course (SEIC) Curriculum 2024

Please refer to “SEIC requirements 2024” and consult with your supervisor for choosing subjects you take.

### (E) Mathematical information subject (数理情報科目)

☐ Major Course Subject

Subject title	Lecturer	Credit	Term 1st and 2nd Academic Year				Doctoral Program SEIC subjects	Master's Program										Note	
			1st Semester		2nd Semester			SEIC subjects	Architecture	Civil Engineering	Control Engineering	Mechanical Engineering	Space systems Engineering	Electrical Engineering	Electronic Engineering	Applied Chemistry	Material Science and Engineering		Sub-Major Module
			1Q	2Q	3Q	4Q													
Advanced Embedded Systems 組み込みシステム特論	ASAMI Kenichi	2		✓			○	○(☆)	□	□	□	□	□	□	□	□			Compulsory elective for Master's students
Vision and Image Recognition 視覚画像認識特論	HANAZAWA Akitoshi	2			✓		○	○(☆)				□	□		□				Compulsory elective for Master's students

### (F) Specialized Subjects (専門科目)

☐ Major Course Subject

Subject title	Lecturer	Credit	Term 1st and 2nd Academic Year				Doctoral Program SEIC subjects	Master's Program										Note	
			1st Semester		2nd Semester			SEIC subjects	Architecture	Civil Engineering	Control Engineering	Mechanical Engineering	Space systems Engineering	Electrical Engineering	Electronic Engineering	Applied Chemistry	Material Science and Engineering		Sub-Major Module
			1Q	2Q	3Q	4Q													
Advanced Mechanics of Materials 材料力学特論	YAMAGUCHI Eiki	2	✓				○	○	□	□			□			□	□		
Advanced Analysis of Structures 構造解析特論	CHEN Pei-Shan	2				✓	○	○	□	□									
Computational Fluid Dynamics 数値流体力学特論	TSUBOI Nobuyuki	2	✓				○	○				□	□						
High-speed Gas Dynamics 高速気体力学特論	TSUBOI Nobuyuki	2			✓		○	○				□	□			□			
Advanced Space Robotics 宇宙ロボティクス特論	NAGAOKA Kenji	2	✓				○	○			□	□	□						
Advanced Space Dynamics スペースダイナミクス特論	HIRAKI Koju	2			✓		○	○	□	□	□	□	□	□					
Introduction to Satellite Engineering 衛星工学入門	CHO Mengu	2				✓	○	○	□	□	□		□	□	□	□	□		
Satellite Power System I 衛星電力システム特論 I	IMAIZUMI Mitsuru HAMADA Yushi OKUMURA Teppei	1			✓		○	○					□	□	□			S1	
Satellite Power System II 衛星電力システム特論 II	CHO Mengu NAITOU Hitoshi KUSAWAKE Hiroaki	1				✓	○	○					□	□	□			S1	
Space Environment Testing 宇宙環境試験	CHO Mengu	2	✓				○	○	□	□	□		□	□	□		□	S1	
Space Systems Engineering I 宇宙システム工学 I	IWATA Takanori	1			✓		○	○	□	□	□	□	□						
Space Systems Engineering 宇宙システム工学 II	IWATA Takanori	1				✓	○	○	□	□	□	□	□						
Spacecraft Environment Interaction Engineering 宇宙環境技術特論	CHO Mengu AKAHOSHI Yasuhiro TOYODA Kasuhiro KIMOTO Yugo KOGA Kiyokazu TERAMOTO Mariko	2		✓			○	○			□		□	□	□	□	□	S1	
Energy Conversion and Plasma Physics エネルギー工学特論	TOYODA Kazuhiro	2			✓		○	○					□	□	□	□	□	S1	
Advanced Space Environment Science 宇宙環境科学特論	KITAMURA Kentaro	2		✓			○	○					□				□	S1	
Advanced Rocket Propulsion Engineering ロケット推進工学特論	KITAGAWA Koki	2		✓			○	○					□			□	□		
Solar System Planetary Physics and Environments 太陽系惑星環境特論	TERAMOTO Mariko	2				✓	○	○					□						

Comprehensive Subject of Practical Engineering A 実践工学総合科目A	Please consult with your supervisor.	1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering B 実践工学総合科目B		1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering C 実践工学総合科目C		1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering D 実践工学総合科目D		1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering E 実践工学総合科目E		2	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering F 実践工学総合科目F		2	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering G 実践工学総合科目G		2	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering (Space Systems Engineering) I 実践工学総合科目(宇宙) I		1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering (Space Systems Engineering) II 実践工学総合科目(宇宙) II		1	(✓)	(✓)	(✓)	(✓)	○	○										
Comprehensive Subject of Practical Engineering (Space Systems Engineering) III 実践工学総合科目(宇宙) III		2	(✓)	(✓)	(✓)	(✓)	○	○										

Irregular, special courses.  
It will be announced by email  
when it is provided.