

School of Fundamental Science and Engineering

Waseda University

Parents' Day November 2025

Table of contents







- 1. Curriculum and features of the School of Fundamental Science and Engineering
- 2. Graduate school and career paths
- 3. A place for proactive learning
- 4. The English-based program
- 5. Study abroad, globalization and diversity
- 6. Scholarships
- 7. Departments in the School of Fundamental Science and Engineering

Footnote

- 1-3: Mainly for Japanese-based undergraduate program
 - 4: Mainly for English-based undergraduate program
- 5-7: For both Japanese- and English-based programs





Curriculum and Features of the School of Fundamental Science and Engineering

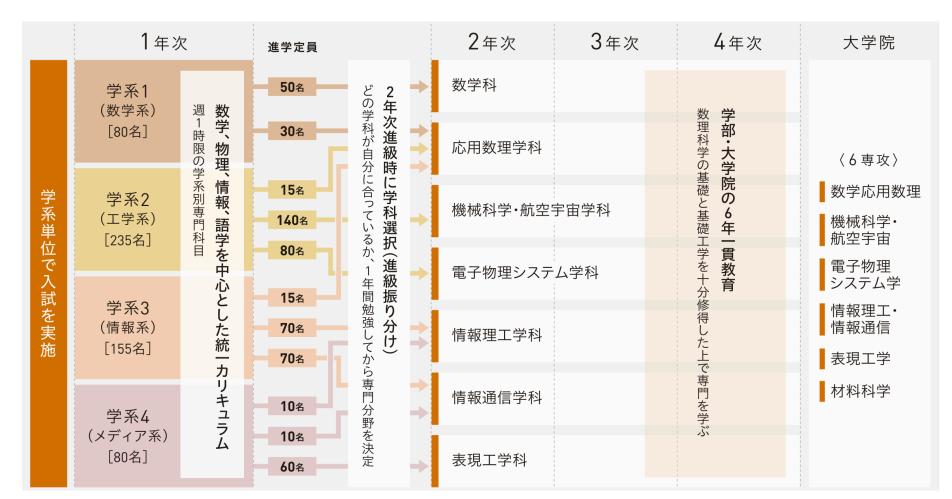
Curriculum of the school of FSE



- ◆ The School of Fundamental Science and Engineering (FSE) aims to let students learn a broad range of science and engineering skills and a high level of knowledge necessary for key industries and advanced research, while emphasizing the fundamentals of science and engineering.
- ◆ In the first year, students belong to one of four academic systems (1, 2, 3, and 4). When they advance to the second year, they are divided into seven departments (Mathematics, Applied Mathematics, Applied Mechanics and Aerospace Engineering, Electronic and Physical Systems, Computer Science and Engineering, Communications and Computer Engineering, and Intermedia Art and Science) based on their preferences.
- ◆ This allows first-year students to concentrate on learning the fundamentals of science and engineering and to gain exposure to a wide range of specialized areas.

Curriculum of the school of FSE





Curriculum of the school of FSE



The three-division system was reorganized into four, with Division II split into Engineering (Division 2) and Information (Division 3). The total number of students and the quotas of each division remain unchanged.

Before AY2024

	学系 I (数学系) 80 名	学系 II (工学系) 350 名	学系 III (メディア系) 120 名
各学系から進級でき る学科と人数の内訳	数学科(50 名) 応用数理学科(30 名)	応用数理学科(30名) 機械科学・航空宇宙学科(140名) 電子物理システム学科(80名) 情報理工学科(50名) 情報通信学科(50名)	情報理工学科(30名) 情報通信学科(30名) 表現工学科(60名)
一般選抜での 募集人数	45 名	210 名	65 名

From AY2025

	学系1(数学系)	学系 2 (工学系)	学系3(情報系)	学系 4(メティア系)
	80 名	235 名	155 名	80 名
各学系から進級でき る学科と人数の内訳	数学科(50名) 応用数理学科(30名)	応用数理学科(15名) 機械科学・航空宇宙学科(140名) 電子物理システム学科(80名)	応用数理学科(15名) 情報理工学科(70名) 情報通信学科(70名)	情報理工学科(10名) 情報通信学科(10名) 表現工学科(60名)
一般選抜での 募集人数	45 名	140 名	90 名	45 名

Features of the school of FSE



- Enrollment by academic systems
- First-year basic undergraduate education
- Selecting a department at the time of promotion to the second year (per system)
- **◆ Emphasis on basic education**All departments of the School of FSE are responsible for the first-year basic education.
- Elimination of mismatch in selecting a department
 Accurate and sufficient information
 + individual's interest and aptitude
- ◆ Formation of an interdisciplinary network of friends
 First year students advance to seven different departments

Minors in our education system



- ◆ The School of Fundamental Science and Engineering (FSE) has introduced a system of minors so that the students can actively study subjects other than those in their own departments in the second year and beyond. Students can acquire a wide range of specialized knowledge by taking a minor, which can also be applicable to the studies in their majors.
- Students who take the minor may enter the graduate school of their departments as well as the graduate school designated by the minor through the entrance exam with recommendation. Note that the consent between both your department and the graduate school you are entering is required.

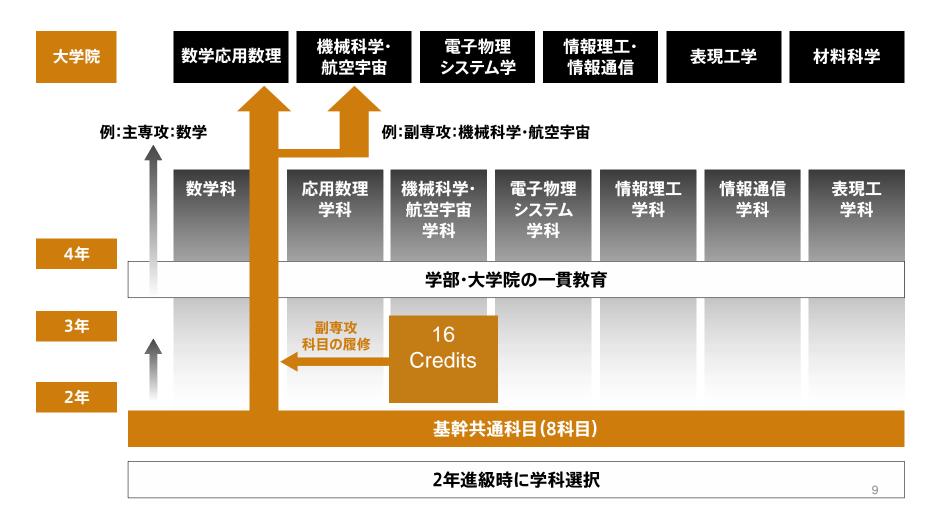
For more information, please refer to the following URL

https://www.fse.sci.waseda.ac.jp/s-major/

Minors in our education system



- A variation of "learning" that expands your possibilities
- Fostering an interdisciplinary perspective



Common courses in the school of FSE



- Common courses were introduced in the School of FSE in 2012 to further enrich basic education such as mathematics.
- Students can build a solid foundation for science and engineering studies by taking common courses. This is the foundation for students to understand specialized subjects from a more fundamental point of view and to become active engineers and researchers in the future.
- Common courses are elective courses for students in the school of FSE (2nd year or above). The eight common courses and the selectable courses for students in each department are shown in the table on the next page.

Common courses in the school of FSE



Course Names	Math	Appl. Math	Mech. Aero.	Elect. Phys.	Comp. Sci.	Comm. Comp.	Int. Art Sci.
Fourier Analysis			0	0	0	0	0
Differential Equations				0	0	0	0
Vector Analysis				0	0	0	0
Complex Analysis					0	0	0
Applied Linear Algebra	0	0	0	0	0	0	0
Electromagnetism			0		0	0	0
Quantum Mechanics	0	0	0		0	0	0

Course status will be announced at the beginning of every academic year.

Example of timetable in FSE



1st-year student, System 2

		月	火	水	木	金	±
年生	1		Communication Strategies 1		基礎物理学A	基礎の数学	
(学系2)	2		数学B2 (微分積分)	工学系の モデリングA*	C プログラミング 入門		
2	3	理工学基礎		独語初級IA	Academic Lecture Comprehension 1	数学B2 (微分積分)	
	4	実験1A	数学A2		独語初級IB		
	5		(線形代数)	メディア処理 技術概論	ドイツ語文化 入門	経済制度論A	
	6						

1st Period: 8:50 - 10:30, 2nd Period: 10:40 - 12:20, 3rd Period: 13:10 - 14:50, 4th Period: 15:05 - 16:45, 5th Period: 17:00 - 18:40, 6th Period: 18:55 - 20:35

Example of timetable in FSE



3rd-year student, Department of Applied Mathematics

	月	火	水	木	金	±
1						
2			情報理論			
3	微分方程式と 数理モデル*	数学基礎論A	応用数理実験		ビジネスと 確率の数理	
4		応用数理演習C	心用奴垤大碶		数値計算A*	
5	測度論	確率統計 概論A★			離散数学入門	
6						

1st Period: 8:50 - 10:30, 2nd Period: 10:40 - 12:20, 3rd Period: 13:10 - 14:50, 4th Period: 15:05 - 16:45, 5th Period: 17:00 - 18:40, 6th Period: 18:55 - 20:35





Graduate School and Career paths

Admission to master's program on recommendation and pre-emptive graduate courses



- Deepen your studies and improve your abilities as a researcher or engineer.
- Every year, approx. 60%-70% of undergraduate graduates proceed to the master's program.
- Curriculum based on the six-year integrated education system from undergraduate to graduate levels.
- Good career paths.

Recommendation criteria for master's programs

Selection will be made by each student's academic performance based on a criteria of each department.

Pre-emptive graduate courses

	専攻名	先取り履修の 認定上限単位数
	数学応用数理	10 単位
	機械科学・航空宇宙	4 単位
 基幹理工学研究科	電子物理システム学	10 単位
茶针坯工子训九件 	情報理工・情報通信	10 単位
	表現工学	10 単位
	材料科学	4 単位

Doctoral Programs



- Be a world-class researcher or engineer.
- The number of students from Asia and Europe has been increasing in recent years.
- We have a recommendation admission system and various entrance examination systems.

Examples of financial support for doctoral students

- Japan Society for the Promotion of Science (JSPS), Young Researcher (DC1, DC2)
- Waseda's research associate system
- University scholarship for young researchers in doctoral programs (award)
- Japan Student Services Organization (JASSO) Scholarship
- Waseda University Open Innovation Ecosystem Program for Pioneering Research (W-SPRING)

Ph.D. degree conferral in September



Career paths for undergraduates (Graduates of March 2022)

	Number of graduates	Number of career paths reported	Higher education	Employed	Preparation for license exams, etc.	Others
FSE	565	556	394	149	7	6
CSE	609	601	399	181	5	16
ASE	525	516	405	104	3	4
Total	8,676	8,645	1,841	5,927	212	475

Career paths for masters (Graduates of March 2022)

	Number of graduates	Number of career paths reported	Higher education	Employed	Preparation for license exams, etc.	Others
FSE	372	364	23	313	2	25
CSE	442	426	27	363	0	29
ASE	406	401	42	341	3	13
Total	3,006	2,947	246	2,001	181	426

Employment of graduates

- Iron, Steel & Machinery: Nippon Steel Corporation, IHI, Mitsubishi Heavy Industries, Kawasaki Heavy Industries, Ltd., JFE Steel, etc.
- Electrical equipment: NEC Corporation, Hitachi, Ltd., Mitsubishi Electric, Sony, Panasonic, Fujitsu, Sharp, Oki Electric Industry, Hitachi Kokusai Electric, Pioneer, Canon, Rohm, Kyocera, Fujikura, Sumitomo Electric Industries, Furukawa Electric, Murata Manufacturing, etc.
- Transportation Equipment: Toyota Motor Corporation, Nissan Motor Corporation, Honda Motor Corporation, Mazda Motor Corporation, Isuzu Motors, Hino Motors, Bridgestone, Denso, etc.
- Precision and other industries: Olympus, Shimadzu, Fuji Xerox, Fujifilm, Dai Nippon Printing, Toppan Printing, Yamaha, Nintendo, etc.
- > Transportation: East Japan Railway Company, Central Japan Railway Company, ANA, JAL, etc.
- Computer & Communication: NTT, NTT Communications, NTT DOCOMO, NTT DATA, and NTT Comware, KDDI, CSK, Nomura Research Institute, IBM Japan, NHK(Japan Broadcasting Corporation), Japan Radio, Google, Yahoo!, Rakuten, etc.
- Electricity and Gas: Tokyo Electric Power, Kansai Electric Power, Tokyo Gas, etc.
- Others: AGC, Accenture, Ministry of Internal Affairs and Communications, Ministry of Economy, Trade and Industry, Japan Patent Office, Ministry of Health, Labour and Welfare, AIST, universities, newspapers, trading companies, banks, securities companies, etc.





A Place for Proactive Learning

Thorough follow-up: Q&A desk



For Undergraduate Students Struggling with Mathematics

Have you ever felt like:

- You can no longer understand the content of the lectures,
- The mathematical terms used in the lectures make no sense to you,
- There's so much to memorize that you don't know where to start?

Many students, regardless of their major, face difficulties with university-level mathematics.

At the Mathematics Q&A, we primarily support undergraduate students of the Faculty of Science and Engineering.

Assistant professors, research assistants, and graduate students from the Department of Mathematics and the Department of Applied Mathematics provide assistance to help you understand the material.

The subjects we mainly cover include:

Basic Mathematics, Mathematics A1, 2 (Linear Algebra), Mathematics B1, 2 (Calculus), and other B1 group subjects.

We may also be able to assist with other mathematics-related queries.

Before giving up on the lectures, please feel free to come and seek advice.

Thorough follow-up: Q&A desk



Math Q&A

In AY 2025, students can choose from the following options as a way of asking.

- Emails
- Zoom
- face-to-face

Also, physics Q&A, and computer science Q&A are ready!



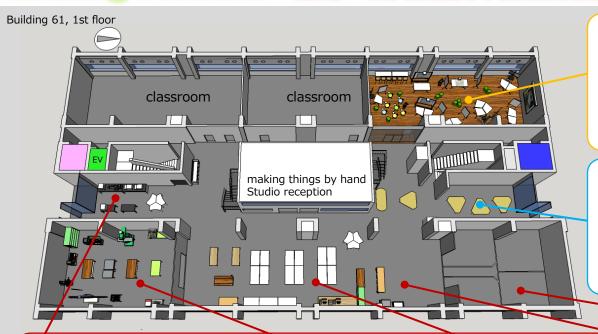
A scene from Math Q&A

For more information, please refer to the following URL

NISHIWASEDA Kyosoukan

A place for students to learn on their own

Learning Commons" and "WASEDA Monozukuri Kobo



Learning Commons

It promotes interaction between students and Exposure to diverse perspectives, generating new ideas.



Job Search Room (and Lounge)

Although it was originally intended as a place to browse employment-related materials, it can be used as a lounge. Vending machines are also available.



Creative Design Area

There is a full range of hot digital fabrication environments such as 3D printers, 3D scanners and embroidery sewing machines.







3D printer





embroidery machine

Machine Tool Room

Full-scale resin, wood and metal processing is available. Classes are held periodically.







workspace

A place for small crafts and work. We also have a wide range of analog tools such as soldering irons, saws and scissors.









Plane

Ceramic art

You can mold clay and make pottery. Please contact the staff if you are interested.







Ultrasonic Cutter electric wheel electric kilr





Group Activities In order to achieve great

things, it is important to

perspectives with your

Rental space available. more information, please

try out different

colleagues.

contact our staff.

WASEDA Monozukuri Kobo, a Manufacturing Studio

By giving some shape to new ideas and repeating the process of trial and error, we are able to reach for deeper, richer ideas and creativity

COMPUTER ROOM



Computer rooms are in

http://www.waseda.jp/navi/room/

Nishi-Waseda Campus and also in other campuses

63号館3階 情報フロアマップ / Third Floor Map at Building 63



For the latest information on classrooms where PC rooms can be used in conjunction with BYOD, please refer to: https://info.mse.waseda.ac.jp/pcroom/pcroom_map/

Waseda University Seminar House







- ◆ Five seminar houses
 Karuizawa, Sugadaira
 Izukawana, Kamogawa, Honjo
- Department orientations are held in seminar houses.
- Seminar camps by laboratories, etc.





The English-Based Program



The new English-based program started in the AY 2018.

- There are two majors and five minors in the School of Fundamental Science and Engineering.
- The entire curriculum is in English, and those who completed the course can receive a degree.



Major in Mathematical Sciences

Express, connect, and create - Mathematical sciences is the door to the future



Major in Computer Science and Communications Engineering

Incubating CSCE talents to contribute to society



Major in Mathematical Sciences

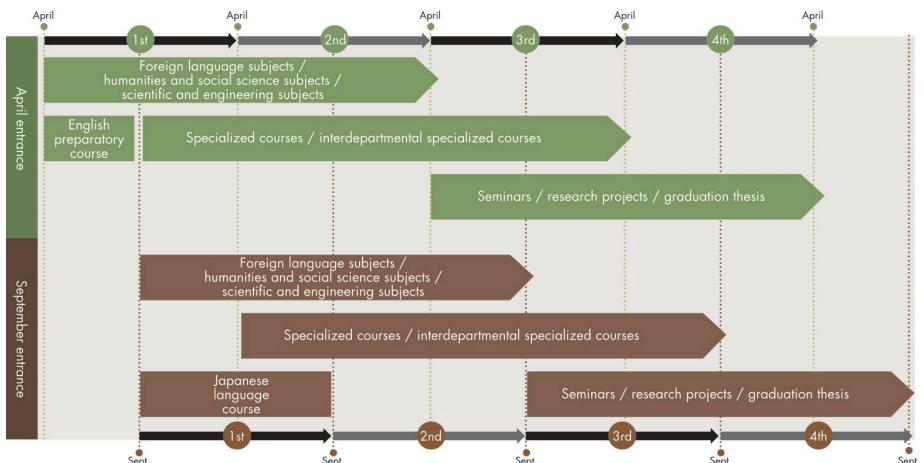
We provide a broad curriculum, ranging from fundamental to applied mathematics. The aim is to equip students with knowledge not only of mathematics but also its connections to scientific and engineering fields, and to provide students with the mathematical skills needed to make a contribution to society. The course places particular focus on three topics that are essential in modern society: nonlinear mathematics, computational mathematics and statistical mathematics.

Major in Computer Science and Communications Engineering

This major has been designed to equip students with advanced knowledge in an integrated field consisting of Computer Science and Computer and Communications Engineering. Computer Science concerns the theoretical fundamentals of computing, information, and communication, while Computer and Communications Engineering concerns the engineering applications of data and content processing and analysis on computers, communication devices, and computer network systems.



 Students entered in September (mainly from overseas) and those entered in April (mainly from Japan) will study together.





- ◆ Not only the departments of Mathematics, Applied Mathematics, Computer Science and Engineering, and Communications and Computer Engineering, which have majors, but also the departments of Applied Mechanics and Aerospace Engineering, Electronic and Physical Systems, and Intermedia Art and Science provide minor courses.
- Access to all laboratories in the School of FSE.
- Minor in Mathematical Sciences
- Minor in Applied Mechanics and Aerospace Engineering
- Minor in Physical Electronics
- Minor in Computer Science and Communications Engineering
- Minor in Intermedia Arts and Sciences

Starting from the 2023 AY, the minors in Applied Mechanics and Aerospace Engineering, Physical Electronics, and Intermedia Arts and Sciences have been discontinued for incoming students.



The degrees available in the two majors are as follows.

Major	Degree		
Adabbase Malanasa	Bachelor of Science		
Mathematical Sciences	Bachelor of Engineering		
Computer Science and Communications Engineering	Bachelor of Engineering		

- The Graduate School offers the following English-based programs
 - Pure and Applied Mathematics
 - Applied Mechanics and Aerospace Engineering
 - Electronic and Physical Systems
 - Computer Science and Communications Engineering
 - Intermedia Studies
 - Materials Science

For details of the graduate school, please refer

to the following URL

https://www.waseda.jp/fsci/en/admissions_gs/





Study Abroad, Globalization and Diversity

Study abroad programs



EX-R: Exchange Program

Study abroad program based on an exchange agreement.

Your credits may be approved for specialized subjects, and it makes easy to make a plan for graduation.

In principle, tuition is paid to Waseda university and tuition at the host university is waived.

CS-L: Language Oriented Program

The program is designed to participate in the curriculum set by the host university for Waseda University students.

Studying a theme-based curriculum with a focus on foreign languages. In principle, tuition for Waseda university is exempted, and program fees must be paid to the host institution.

Program for FSE students

- Exchange program for FSE students only (EX-R)
- Your credits may be approved for specialized subjects and it will help you make your study plan easier until graduation.

Spring Recruitment (example for 2025)

Location	Name of the University	program	Note
Australia (Sydney)	University of New South Wales UNSW THE UNIVERSITY OF NEW SOUTH WALES	Math Focused For FSE Students, EX- R, English	 Only students of School of Fundamental Science and Engineering (Department of Mathematics and Department of Applied Mathematics, 2nd-year or above at the time of application) are eligible to apply. Applicants must consult with the faculty member in charge of the program in advance and receive an explanation of the program's curriculum and credit approval after returning to their home country.
	The University of Sydney	Math Focused For FSE	
	THE UNIVERSITY OF SYDNEY	Students, EX- R, English	

Program for FSE students

- Exchange program for FSE students only (EX-R)
- Your credits may be approved for specialized subjects and it will help you make your study plan easier until graduation.

Fall recruitment (example for 2025)

	terrierre (example for		
Location	Name of the University	program	Note
United Kingdom (York)	University of York UNIVERSITY of York	Math Focused For FSE Students, EX-R, English	Only students of School of Fundamental Science and Engineering (Department of Mathematics and Department of Applied Mathematics, 2 nd -year or above at the time of application) are eligible to apply
The Netherlands (Enschede)	University of Twente UNIVERSITEIT TWENTE.	Math Focused For FSE Students, EX-R, English	 are eligible to apply. Applicants must consult with the faculty member in charge of the program in advance and receive an explanation of the program's curriculum and credit approval after returning to their home
Finland (Helsinki)	Aalto University Aalto University	Math Focused For FSE Students, EX-R, English	country.

Various backgrounds of admission



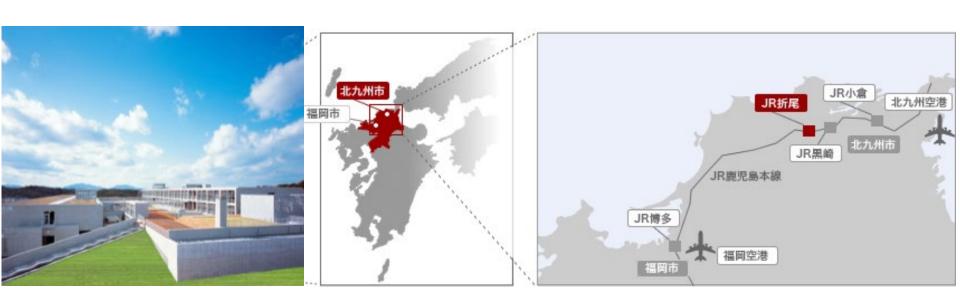
- **General entrance examination**
- **Recommendation from designated** schools
- **Affiliated schools:** Gakuin, Honjo, Sojitsu, Waseda senior high, Waseda-Shibuya, Setsuryo, Saga
- **Entrance examination for international students**
- Kitakyushu regional collaboration entrance exam on recommendation
- English-based programs (AO, designated schools, and special entrance exams)

Kitakyushu Regional Collaboration Program



https://www.waseda.jp/top/news/47859

Waseda University Graduate School of Information, Production and Systems (IPS) is an independent graduate school established in 2003 in Kitakyushu Science and Research Park as a base for Waseda University's Asian expansion.

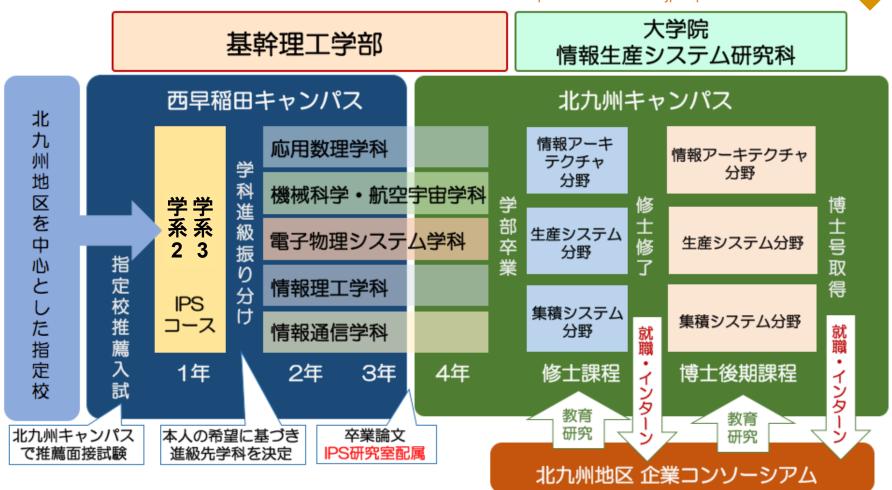


In IPS, we are working with three fields, which are information architecture, production systems, and integrated systems.

Kitakyushu Regional Collaboration Program



https://www.waseda.jp/top/news/47859



The School of Fundamental Science and Engineering and IPS jointly started the Kitakyushu Regional Collaborative Program (IPS course) from the academic year 2018.

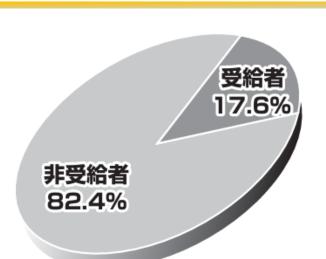




Scholarships

Rate of scholarship recipients (AY 2023)



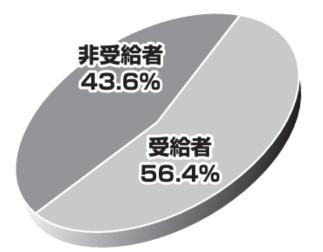


Undergraduates (University-wide)

受給者 25.7%

非受給者 74.3%

Master's Program (University-wide)



Doctoral Program (University-wide)

For more information,
see the following website of
Scholarships and Financial Assistance Section,
Waseda University

https://www.waseda.jp/inst/scholarship/

Scholarship Recipients (AY 2023)

School of FSE (Undergraduates)

Scholarships and Financial Assistance Section website Waseda University

https://www.waseda.jp/inst/scholarship/

学部	学年	日本学生支援機構			学内奨学金																
		第一種 奨学金	第二種 奨学金	給付 奨学金	大隈	小野	めざせ! 都の西北	校友会 給付	早稲田 大学 緊急	災害学費 減免	安部磯雄校友会	トップ アスリート・ スポーツ 奨励		私費 外国人 (授業料 減免)	DDプロ グラム 留学生 特別	渡日前 入試予約 採用給付	指定寄付	民間団体 奨学金	地方公共 団体 奨学金	合計	在学者数
基幹理工学	1年	35	33	21	2	6	12		1					4		3	2	31		150	
	2年	36	33	24	1	4	8						1	3		1	3	39		153	
	3年	31	47	18	3	3	8							2			1	29	3	145	
	4年等	40	50	27	2	5	22	1	1				1	5			2	28	1	185	
部	計	142	163	90	8	18	50	1	2	0	0	0	2	14	0	4	8	127	4	633	2,275

School of FSE (Graduates)

		日本学生	支援機構													
研究科	学年	第一種 奨学金	第二種 奨学金	大隈	小野	校友会 給付	早稲田 大学 緊急	災害学費 減免	小野 外国人	私費 外国人 (授業料 減免)	渡日前 入試予約 採用給付	指定寄付等	民間団体 奨学金	地方公共 団体 奨学金	合計	在学者数
	1年	64	0	1	11	1			1	9	2	5	25		119	
基幹理工学研究科	2年等	69	3	1	7	2	1		3	8	2	3	14		113	
	計	133	3	2	18	3	1	0	4	17	4	8	39	0	232	877





Departments in the School of Fundamental Science and Engineering

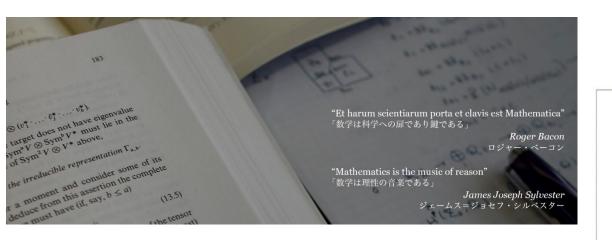
Department of Mathematics

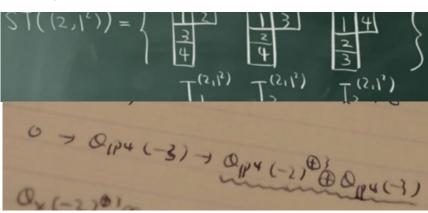
(System I)

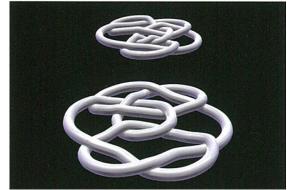
System 1 from AY 2025.



- Research on unsolved problems in pure mathematics and their applications
- Extensive faculty in the four departments of Algebra, Geometry, Analysis and Applied Mathematics
- Graduate School of Mathematics and Applied Mathematics







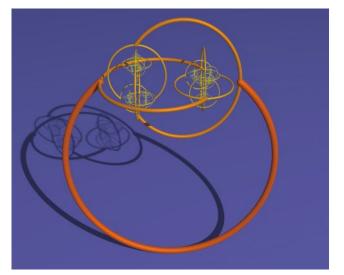
$$\zeta(2) = 1 + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \dots$$
$$= \iint_{1 > x_1 > x_2 > 0} \frac{dx_1 \wedge dx_2}{x_1(1 - x_2)} = \frac{\pi^2}{6}$$

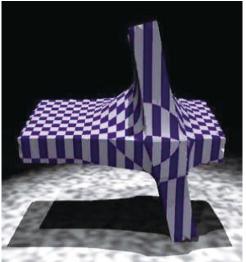
Department of Applied Mathematics (System 1, 2, 3)

FSE 基幹理工学部 Stod of fundamental Source and Enghering

- The three research fields of phenomena, statistics, and information, with mathematics at the core
- A wide variety of curricula including mathematics, natural science, engineering, and statistics
- Graduate School of Mathematics and Applied Mathematics





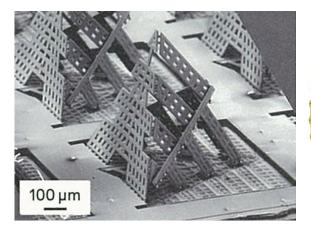




Department of Applied Mechanics and Aerospace Engineering (System 2)

FSE 基幹理工学部 School of Functional all Science and Engineering

- Emphasis on basic science, covering everything from materials, systems, environment, and energy to aeronautics and space
- Experiments, drawings, and exercises centered on mechanics of materials, fluid mechanics, thermodynamics, dynamics, and applied mathematics
- Graduate School of Applied Mechanics and Aerospace Engineering





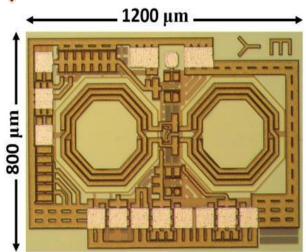


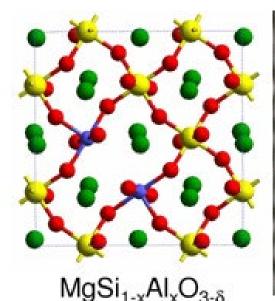


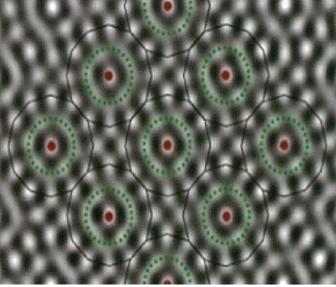
Department of Electronic and Physical Systems (System 2)

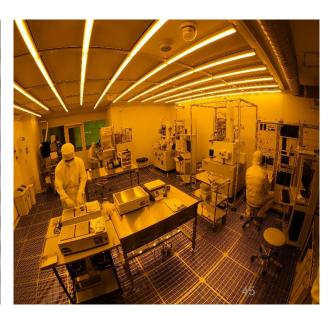
FSE 基幹理工学部 Shoot of Fundamental Soence and Engineeng

- Research targets at every level from nanodevices to macroscopic system design
- Professors covering a wide range of subjects such as atoms and molecules, materials, devices, circuits, chips, and communications
- Graduate School of Electronic and Physical Systems







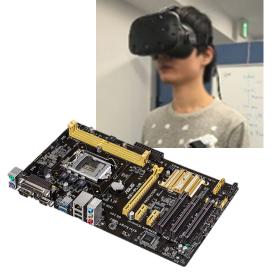


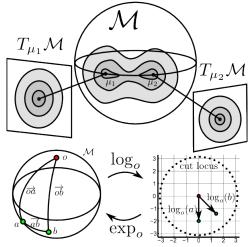
Department of Computer Science and Engineering (System 3, 4) s

System 3, 4 from AY 2025.

- Research fields encompassing the various fields of information science and information engineering
- An educational system that allows students to acquire a good balance of leading-edge hardware, software, networks, and the technology to use them
- Graduate School of Computer Science and Communications Engineering





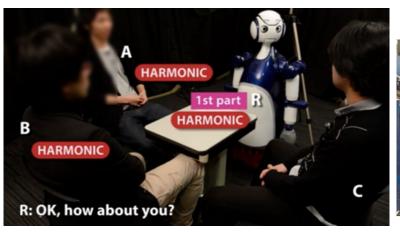


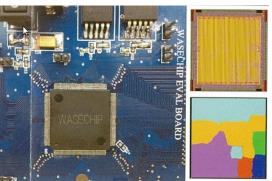


Department of Communications and Computer Engineering (System 3, 4)

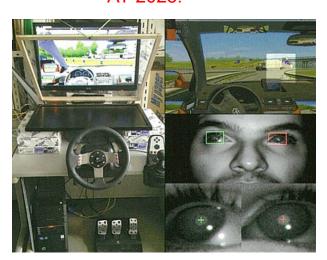
System 3, 4 from AY 2025.

- Focusing on information and communication networks, research covers everything from hardware to communication
- An education system with three main divisions: information systems, communication networks, and media and content.
- Graduate School of Computer Science and Communications Engineering







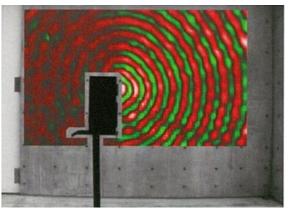


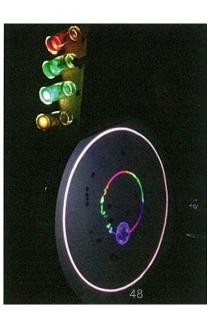
Department of Intermedia Art and Science (System 4)

FSE 基幹理工学部 Schod of Fundamental Science and Engineering

- Exploring new forms of expression that fuse science and technology with artistic expression, and creating intermedia
- An educational system based on the three pillars of intermedia arts, intermedia engineering and media management
- Graduate School of Intermedia Studies



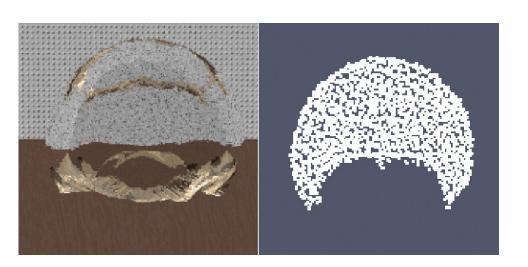


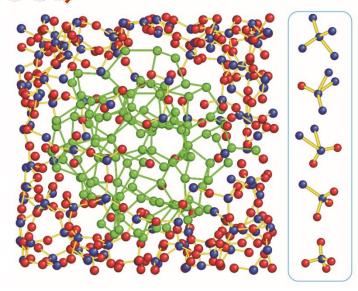


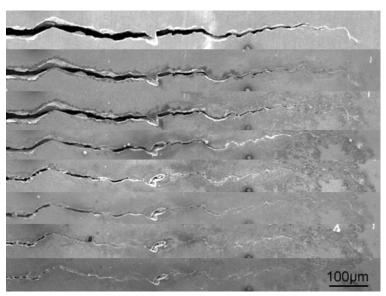
Department of Materials Science (Graduate School)

FSE 基幹理工学部 School of Fundamental Scenora and Engineering

- Opening up new horizons in materials science
- Integration of material, mathematical and mechanical sciences
- A research and education system consisting of four divisions: New Structural Materials, Basic Metals, Basic Materials, and Mathematical Materials Science.

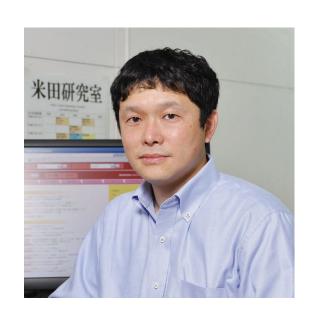






Message from the Dean of FSE





Prof. Gen Yoneda Ph.D. (Science)

While the entrance examination system that Japanese universities use is an effective gauge of academic ability, once you get out in the world, the diversity of life experiences that you have will become of dominant importance.

I hope that all of our students will take advantage of the great environment at Waseda to prepare for launching themselves into a world where study alone will not suffice.

School of FSE Website



http://www.fse.sci.waseda.ac.jp/en/



- ◆ Please visit the website of School of Fundamental Science and Engineering for the latest information. (Updated in August 2024)
- ◆ If you have any questions, please contact us at fse-web@list.waseda.jp.