**Department of Advanced Energy and**
**Department of Complexity Science and Engineering**
**Graduate School of Frontier Sciences, The University of Tokyo**
**FY2026 Master Course and Doctor Course**

# Guide to Nuclear Fusion Research Education Program


**Contact**

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**Program Website**

https://www.k.u-tokyo.ac.jp/fusion-pro/

## [1] About the Program

Fusion energy is the ultimate energy source for human beings, which has abundant natural resources and is environmentally friendly. In the field of fusion energy development, we have entered a new development stage for burning plasma experiments, since the ITER project, which is an international thermonuclear experimental reactor project, has been started with international collaboration. In particular, Japan has achieved world-class results in the field of nuclear fusion centered on the ITER project. In order for Japan to continue to play a leading role in fusion development, it is essential to continuously nurture excellent human resources who can play an active role internationally.

In order to respond to such demands on human resources, The University of Tokyo decided to open the "Nuclear Fusion Research Education Program" in 2008, based on the profound intellectual stock toward interdisciplinary fusion and the state-of-the-art equipment for practical education and research of the Graduate School of Frontier Sciences. This program is implemented by a curriculum system that straddles the Department of Advanced Energy and the Department of Complexity Science and Engineering of the Graduate School of Frontier Sciences. The main two components of the program are a "Curriculum for Integrated Education" that allows you to comprehensively and systematically study a wide range of basic science, and the advanced and exciting "Practical Research and Education Curriculum" based on cutting-edge research projects. In the interdisciplinary education curriculum, you can study a wide range of fields such as plasma science and technology, fusion engineering, and the environmental and social sciences from an interdisciplinary and bird's-eye view. In the practical research and education curriculum, we will provide pioneering and innovative research and education by actively utilizing advanced plasma experimental equipment and directly participating in cutting-edge research projects.

## ［2］List of academic supervisors

### ■Department of Advanced Energy

Plasma Applied Engineering

Professor Ryo Ono

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Plasma Physics and Fusion Engineering

Professor Michiaki Inomoto

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Plasma Material Interaction and Nano Material

Professor Shin Kajita

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Plasma Physics and Plasma Science

Associate Professor
Haruhiko Saitoh

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Plasma Physics and Fusion Engineering

Associate Professor
Hiroshi Tanabe

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### ■Department of Complexity Science and Engineering

Plasma Physics, Nuclear Fusion, and Tokamak

Professor Akira Ejiri

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Plasma Physics, Nuclear Fusion, and Tokamak

Professor Kouji Shinohara

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Plasma Physics, Nuclear Fusion, and Tokamak

Associate Professor
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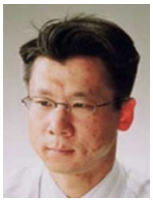
■**Department of Advanced Energy, Cooperative Laboratories**

National Institute for Fusion Science (NIFS), National Institutes of Natural Sciences (NINS)



**Plasma Physics, Nuclear Fusion**

**Visiting Professor**
**Masahiro Kobayashi**

**mail:**
**kobayashi.masahiro@nifs.ac.jp**
**tel: +81-(0)572-58-2169**

**Plasma Physics and Numerical Simulation**

**Visiting Associate Professor**
**Shunsuke Usami**

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**usami.shunsuke@nifs.ac.jp**
**tel: +81-(0)572-58-2356**

**Plasma Physics, Fusion Science, and Advanced Instrument Development**

**Visiting Associate Professor**
**Masaki Nishiura**

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**tel: +81-(0)572-58-2184**

**Theoretical Plasma Physic, Mathematical Physics, Fluids**

**Visiting Associate Professor**
**Naoki Sato**

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**tel: +81-(0)572-58-2569**
**To Join in October 2025**

■**Department of Complexity Science and Engineering, Cooperative Laboratories**

National Institute for Fusion Science (NIFS), National Institutes of Natural Sciences (NINS)

**Plasma Physics and Computer Simulation**

**Visiting Professor**
**Yasushi Todo**

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**tel: +81-(0)572-58-2002**

## ［3］Important Information on Entrance Examination

**(Common to Master and Doctor Courses)**

An academic supervisorof the Nuclear Fusion Research Education Program is a member of either the Department of Advanced Energy or the Department of Complexity Science and Engineering.

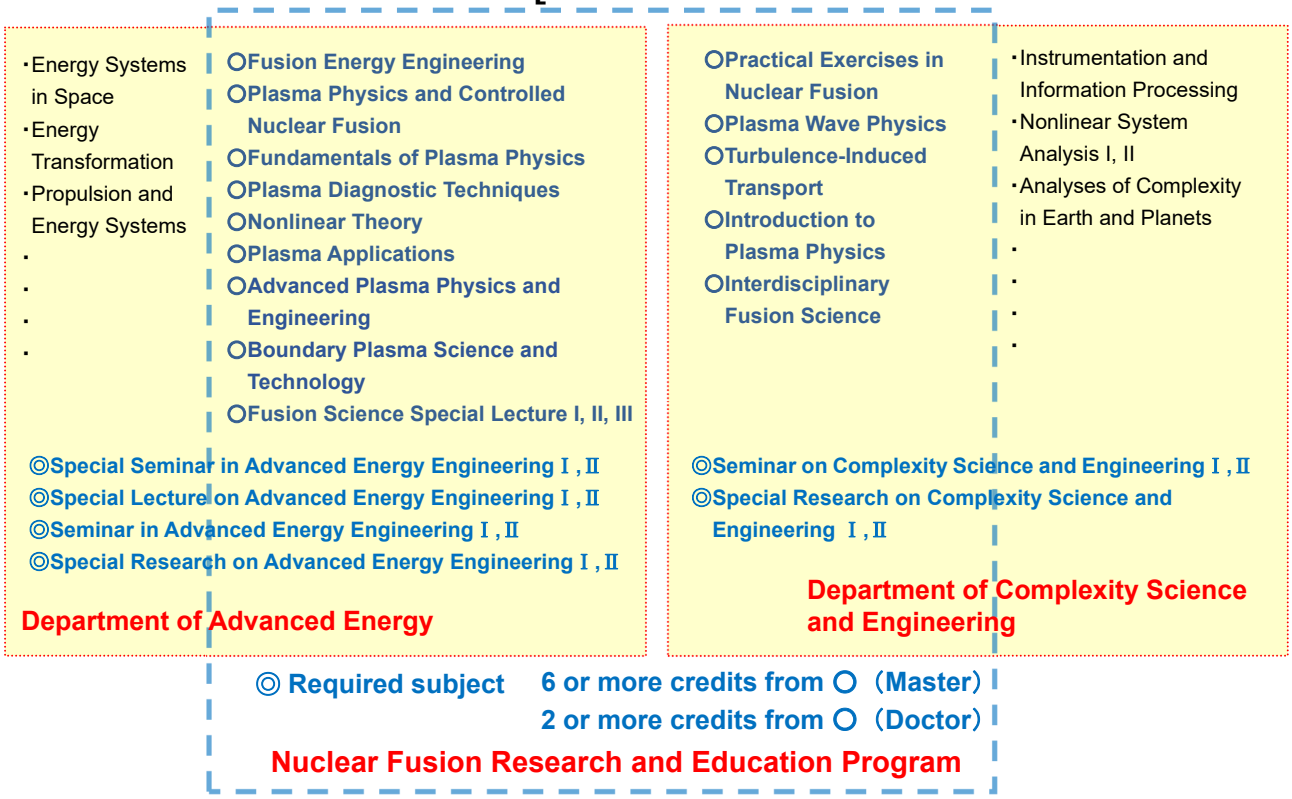
On application, select your potential supervisor from [2] List of academic supervisors, and submit the Inquiry Sheet attached to the guidebook (Department of Complexity Science and Engineering) or according to the instruction of the guidebook (Department of Advanced Energy). For example, if you wish the surpervision of a Professor of the Department of Advanced Energy, you need to submit the Inquiry Sheet for the Department of Advanced Energy, together with other required documents.

For the entrance examination, take the examination of the Department of your potential supervisor. For details of the entrance examination, refer to the Guidebook/Explanatory Leaflet of each of the departments. For example, if your potential supervisor is a profossor of the Department of Complexity Science and Engineering, refer to the Guidebook of the Department of Complexity Science and Engineering.

For the application period, examination schedule and orientation, please follow the guide of the department you selected.

After you pass the examination and enroll, you will be a student in the Department of Advanced Energy or Department of Complexity Science and Engineering, and will take the curriculum of the Nuclear Fusion Research Education Program, which allows you to focus on the subjects required for fusion research. Please make sure to apply for the program at the application for admission, because we basically do not accept application to this program after the entrance examination.

## [4] Curriculum




Students enrolled in the Nuclear Fusion Research Education Program are also students in either the Department of Advanced Energy or the Department of Complexity Science and Engineering, depending on the affiliation of the supervisor. The number of credits required to complete the course and the required courses are determined by each of the Department. Students of the program are expected to take courses including the subjects decited by the Program (marked with ○ in the above figure). Please note that students of the Program can earn the credits of curses of other Department as credits of their own Department.