

APPLICATION GUIDE

International  
Energy Science  
Course

MASTER'S & DOCTORAL PROGRAM  
Academic Year 2026  
Admission Cycle II – October intake



Graduate School of Energy Science  
Kyoto University

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Please note that this is a guide for admission in 2026 and should not be used for applications for admission in subsequent years. Applicants for 2027 should contact the GSES Administration Office after October 2026 to obtain a revised guide and forms.

# INTRODUCTION

## PROGRAM OVERVIEW

PROGRAM: International Energy Science Course

DEGREE TITLE: Master of Energy Science, Doctor of Energy Science

STANDARD COURSE DURATION: 2 years full time for a Master's, 3 years full time for a doctorate.

LANGUAGE OF INSTRUCTION: English

The International Energy Science Course is offered by one of Japan's most prestigious universities. It is specially tailored for international students and those who have been educated outside Japan. A Master's degree is awarded to those who have obtained at least 45 credits, received academic supervision from a faculty member, and successfully defended their Master's thesis in an oral examination. The Doctoral program provides international students and researchers who have a Master's degree an opportunity to further their studies toward a doctoral degree at Kyoto. A doctoral degree is awarded to those who have conducted original academic research under the scholarly supervision of faculty members and who have successfully defended their doctoral dissertation in an oral examination with a minimum of 4 credits from lectures/seminars.

## DEPARTMENTS PROVIDING THE PROGRAM

Students are enrolled in one of the following four departments\* within the Graduate School of Energy Science, depending on their field of interest.

\* Admission to the DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY is limited to the Doctoral program.

### DEPARTMENT OF SOCIO-ENVIRONMENTAL ENERGY SCIENCE

SES leads research on the effective use of energy and resources and analysis of energy systems in order to build a sustainable social system within the global environment. Core subjects include: introduction to non-carbon energy; engineering in social systems; energy economics; bioenergy; energy environmental impacts; system safety; and energy policy.

### DEPARTMENT OF FUNDAMENTAL ENERGY SCIENCE

FES offers fundamental science education and research to contribute to cleaner energy solutions. Core subjects include: chemistry in energy systems; plasma physics; fusion science; and laser-matter interaction.

### DEPARTMENT OF ENERGY CONVERSION SCIENCE

ECS conducts education and research on generation, conversion, control and the utilization of various kinds of energy to establish efficient and clean energy systems. Core subjects include: combustion engineering; materials science; fusion and microwave technologies; and plasma physics.

### DEPARTMENT OF ENERGY SCIENCE AND TECHNOLOGY

EST conducts education and research on the development of more efficient utilization of direct and indirect energy supplies based on disciplines such as resources, metallurgical, mechanical and electrical engineering. With the aim to establish environmentally friendly process technologies. Core subjects include: materials science; mineral processing; and physics.

Please refer to the website <http://www.energy.kyoto-u.ac.jp/en/admission/admission-information//> for the prospectus of the Graduate School of Energy Science or for outlines of the respective departments.

## ADMISSION CYCLES

The IESC Master's degree program commences in October only, while the doctoral program has two application cycles per year – Cycle I for April enrollment and Cycle II for October enrolment. It is important to apply to the appropriate cycle according to your intended enrollment date. Offers of admission cannot be deferred to another admission cycle.

<i>Cycles</i>	<i>Degree</i>	<i>Application deadline</i>	<i>Decision notification</i>	<i>Enrollment</i>	<i>Scheduled degree completion</i>
Cycle I	Doctoral	June 16, 2025	September 5, 2025	April 1, 2026	March 2029
Cycle II	<b>Master's Doctoral</b>	<b>December 25, 2025</b>	<b>March 25, 2026</b>	<b>October 1, 2026</b>	<b>Master's: September 2028 Doctoral: September 2029</b>

# MASTER'S PROGRAM

## M-II 1. ENROLLMENT CAPACITY

The application process is quite competitive, with approximately 10 students per academic year for the three departments (Department of Socio-Environmental Energy Science, Department of Fundamental Energy Science, and Department of Energy Conversion Science) for the CY II.

## M-II 2. ENROLLMENT DATE

October 1, 2026

## M-II 3. ELIGIBILITY REQUIREMENTS OF APPLICANTS

The eligibility of applicants, as set forth in the General Rules of Kyoto University, is checked prior to the selection process.

Applicants must meet both of the following qualifications:

- (1) a. Have graduated, or are expected to graduate from a recognized higher education institution outside of Japan with a good bachelor's or higher degree by the official date of enrolment\*, or alternatively,  
b. Have graduated, or are expected to graduate from a university in Japan by the official date of enrolment\* as an overseas student with a legal status of residence (valid Japan visa).
- (2) Have a competitive proficiency in academic English.

*\*PLEASE SEE M-II 2*

## M-II 4. RECOMMENDED ENGLISH LANGUAGE TEST SCORE

Applicants must provide appropriate evidence of their English language proficiency. Recommended scores are 80 or higher for TOEFL iBT, and 6.0 or higher for IELTS.

Those from an English-speaking country whose native language is English may be exempt from providing their proof of English language proficiency. Applicants must first contact to the GSES office and follow their instructions.

## M-II 5. ADMISSION SELECTION PROCESS AND INTERVIEW

Applicants are selected for admission to the IESC through a two-stage process. The process is as follows:

### 1) First Screening Stage (documents)

The initial screening stage will be predicated upon the evaluation of the submitted documentation. The results of this evaluation will be posted on the GSES website on February 27, 2026. Those who successfully pass the First Screening Stage will be invited to the subsequent stage of the selection process.

### 2) Second Screening Stage (interview)

The second stage of the selection process will take the form of an online interview. The final admission decision will be determined by a comprehensive evaluation of performance across both stages of screening, alongside the availability of student places within the field of proposed study in the department. The results of admissions will be communicated to applicants by email on March 25, 2026.

## M-II 6. LABORATORIES/RESEARCH GROUPS

Applicants should indicate on Form A which laboratories/research groups they are interested in for their research project. On acceptance, they will be assigned to one of these groups and will receive academic supervision for their research and thesis. Please note that not all laboratories have the capacity to accept new Master's students.

Although this degree program does not require specific bachelor's degrees (BSc, BEng, BA, etc.) for admission, some research groups expect students who will receive their academic supervision to have undergraduate-level knowledge and experience in certain academic areas. Please see the *Appendix* for the availability of student positions and their preferred/required existing knowledge.

## M-II 7. OFFICIAL SCORE REPORT OF TOEFL iBT/TOEFL iBT Home Edition OR IELTS.

Applicants are required to submit their official score report of TOEFL iBT (Including Home Edition) or IELTS Academic Module. The test must have been taken within the last 24 months prior to the date of application deadline.

It is also essential that the test scores, sent directly from a testing agent such as ETS or the British Council, are received by us at "The Administration Office, Graduate School of Energy Science, Kyoto University before the application deadline. (i)

TOEFL Institution Code: 9501 KYOTO UNIVERSITY, Department Code: 69 PHYSICAL SCIENCES – ENGINEERING, OTHER
For an IELTS score holder, the address to send is below.  Kyoto University Student Affairs Section, Administration Office Graduate School of Energy Science, Yoshida-Honmachi, Sakyo-ku, Kyoto city, JAPAN 606-8501,

Note: (i) Applicants should take the test as early as possible to ensure that we receive the score report before the application deadline. It may take up to eight weeks for us to receive scores from a testing agent.

## M-II 8. AAO APPLICATION PROCESS

BEFORE submitting your application documents online, please read the URL below and complete the AAO process. The Graduate School of Energy Science requests that those who have graduated or expect to graduate from universities outside of Japan go through the "AAO process".

[Admissions guide for graduates of overseas universities | KYOTO UNIVERSITY \(kyoto-u.ac.jp\)](#)  
[AAO application procedure \(kyoto-u.ac.jp\)](#)

## M-II 9. DOCUMENTS REQUIRED FOR SCREENING

The designated forms can be downloaded from the website:

<http://www.energy.kyoto-u.ac.jp/en/admission/admission-documentation/>

1	<b>Form A:</b> Application	<ul style="list-style-type: none"> <li>- With a passport-style photo taken within the last 3 months must be pasted into the space provided on the application form.</li> <li>- Please do not use a modified photo.</li> </ul>
2	<b>Form B:</b> Personal history	Educational and professional background
3	<b>Form C:</b> Reference (2)	<ul style="list-style-type: none"> <li>- A designated form, Form C, must be used.</li> <li>- Submit two Forms by emailing us directly through a referee's official email address before the application deadline. intl@energy.kyoto-u.ac.jp</li> <li>- Referees must be individuals such as academic supervisors or tutors who are well acquainted with the applicant's academic ability and personality.</li> <li>- At the time of enrollment, successful applicants must submit the original forms in a sealed envelope, signed over the envelope seal.</li> </ul>
4	<b>Graduation certificate</b>	<ul style="list-style-type: none"> <li>- Only originals or officially certified copies are accepted.</li> <li>- Current students should submit a certificate detailing their expected graduation date, and their most recent official academic transcripts.</li> </ul>
5	<b>University academic transcripts</b>	<ul style="list-style-type: none"> <li>- English translation must be provided for documents written in any language other than English.</li> <li>- At the time of enrollment, successful applicants must submit all original certificates and transcripts.</li> </ul>
6	<b>Summary of the graduation thesis/ project</b>	<ul style="list-style-type: none"> <li>- Written in English <u>(1-2 pages, 400 - 500 words) on A4-size paper.</u></li> <li>- Please ensure that your document stays within the word limit. Content that exceeds the word limit will not be evaluated.</li> <li>- Where no thesis was required, provide a summary of a final year project that required research and analytical skills.</li> <li>- Undergraduate students in their final year may submit a summary of their major academic assignment or project to date, rather than a summary of thesis that has not yet been completed.</li> </ul>
7	<b>Statement of purpose</b>	<ul style="list-style-type: none"> <li>- Submit a document describing your motivation and reasons for applying to the Graduate School of Energy Science <u>on A4-size paper in English (1-2 pages, 400 - 500 words).</u> Please ensure that your document says within the word limit. Content that exceeds the word limit will not be evaluated.</li> </ul>
8	<b>Official score report of TOEFL including Home Edition or IELTS</b>	<ul style="list-style-type: none"> <li>- Submit a copy of your official score report.</li> <li>- <b>Please read the M-II 7 carefully</b> to ensure that we can receive an original score report sent from a testing agent before the application deadline.</li> </ul>
9	<b>Photocopy of passport</b>	Submit a photocopy of the applicant's valid passport showing the photo page.
10	Official copy of residence certificate	<ul style="list-style-type: none"> <li>- Residents of Japan should submit a photocopy of their resident card (front and back).</li> <li>- Residence certificates are issued at the city/ward office of the registered domicile.</li> </ul>
11	<b>Disclaimer</b>	Please read carefully and sign a form.

M-II 10. APPLICATION FEE

10,000 JPY\*

*\*PLEASE SEE G2*

M-II 11. APPLICATION DEADLINES AND TIMETABLE

Application deadline:	December 25, 2025 17.00 (UTC+9)
Application fee payment:	January 26 – February 2, 2026
Results notification of first screening stage	February 27, 2026
Interview period:	March 3 - 6, 2026
Announcement of final results:	March 25, 2026
Enrolment procedures:	May 11 - June 12, 2026



# DOCTORAL PROGRAM

## D-II 1. ENROLLMENT CAPACITY

10 students per academic year for the four departments for both cycles.

## D-II 2. ENROLLMENT DATE

October 1, 2026

## D-II 3. ELIGIBILITY REQUIREMENTS OF APPLICANTS

The eligibility of applicants, as set forth in the General Rules of Kyoto University, is checked prior to selection process.

Applicants must meet both of the following qualifications:

- (1) a. Have obtained, or are expected to obtain a Master's degree (or equivalent) from a recognized higher education institution outside of Japan by the official date of enrollment\*, or alternatively,  
b. Have obtained, or are expected to obtain a Master's degree (or equivalent) from a university in Japan as an overseas student with a legal status of residence (valid Japan visa).
- (2) Have a competitive proficiency in academic English.

*\*PLEASE SEE D-II 2*

## D-II 4. RECOMMENDED ENGLISH LANGUAGE TEST SCORE

Applicants must provide appropriate evidence of their English proficiency. Recommended scores of 80 or higher for TOEFL iBT and 6.0 or higher for IELTS.

Those from an English-speaking country whose native language is English may be exempt from providing their proof of English language proficiency. Applicants must first contact to the GSES office and follow their instructions.

## D-II 5. ADMISSION SELECTION PROCESS

Applicants are subject to screening on the basis of their application documents and an online interview, as well as the availability of the field of proposed study in the department. Applicants will be contacted directly with details of the interview.

## D-II 6. ACADEMIC SUPERVISOR

Applicants should specify a faculty member under whose supervision they would like to conduct their research. Before proceeding with the application, applicants MUST contact a prospective academic supervisor in one of the four departments to discuss their application and potential research topic.

## D-II 7. OFFICIAL SCORE REPORT OF TOEFL iBT/TOEFL iBT Home Edition OR IELTS.

Applicants are required to submit their official score report of TOEFL iBT (Including Home Edition) or IELTS Academic Module. The test must have been taken within the last 24 months prior to the date of application deadline.

It is also essential that the test scores, sent directly from a testing agent, such as ETS or the British Council, are received by us at "The Administration Office, Graduate School of Energy Science, Kyoto University" before the application deadline. (i)

TOEFL Institution Code: 9501 KYOTO UNIVERSITY, Department Code: 69 PHYSICAL SCIENCES – ENGINEERING, OTHER
For an IELTS score holder, the address to send is below.  Kyoto University Student Affairs Section, Administration Office Graduate School of Energy Science, Yoshida-Honmachi, Sakyo-ku, Kyoto city, JAPAN 606-8501,

Note: (i) Applicants should take the test as early as possible to ensure that we receive score report before the application deadline. It may take up to eight weeks for us to receive scores from a testing agent.

## D-II 8. AAO APPLICATION PROCESS

BEFORE submitting your application documents online, please read the URL below and complete the AAO process. The Graduate School of Energy Science requests that those who have graduated or expect to graduate from universities outside of Japan go through the "AAO process".

[Admissions guide for graduates of overseas universities | KYOTO UNIVERSITY \(kyoto-u.ac.jp\)](#)  
[AAO application procedure \(kyoto-u.ac.jp\)](#)

## D-II 9. DOCUMENTS REQUIRED FOR SCREENING

The designated forms can be downloaded from the website:

<http://www.energy.kyoto-u.ac.jp/en/admission/admission-documentation/>

1	<b>Form A: Application</b>	<ul style="list-style-type: none"> <li>- With a passport-style photo taken within the last 3 months must be pasted into the box provided on the application form.</li> <li>- Please do not use a modified photo.</li> </ul>
2	<b>Form B: Personal history</b>	Educational and professional background
3	<b>Form C: References (2)</b>	<ul style="list-style-type: none"> <li>- A designated form, Form C, must be used.</li> <li>- Submit two Forms by emailing us directly through a referee's official email address before the application deadline. intl@energy.kyoto-u.ac.jp</li> <li>- Referees must be individuals such as academic supervisors or tutors who are well acquainted with the applicant's academic ability and personality.</li> <li>- At the time of enrollment, successful applicants must submit the original Forms in a sealed envelope, signed over the envelope seal.</li> </ul>
4	<b>Degree certificates</b>	<ul style="list-style-type: none"> <li>- Required for both undergraduate/bachelor's and postgraduate/Master's.</li> <li>- Only originals or officially certified copies are accepted.</li> </ul>
5	<b>University academic transcripts</b>	<ul style="list-style-type: none"> <li>- Current students should submit a certificate detailing their expected graduation date and their most recent official academic transcripts.</li> <li>- Documents written in a language other than English must be accompanied by an English translation.</li> <li>- At the time of enrollment, successful applicants must submit all original certificates and transcripts.</li> </ul>
6	<b>Summary of Master's thesis</b>	<ul style="list-style-type: none"> <li>- Written in English (1-2 pages, 400 - 500 words) on A4-size paper. Please ensure that your document stays within the word limit. Content that exceeds the word limit will not be evaluated.</li> <li>- Where no thesis was required for your Master's, provide a summary of a final year project that required research and analytical skills.</li> </ul>
7	<b>Research proposal</b>	<ul style="list-style-type: none"> <li>- Submit a research proposal for your doctoral degree on A4-size paper in English (2-4 pages, 1000 - 1500 words). Please ensure that your document stays within the word limit. Content that exceeds the word limit will not be evaluated.</li> <li>- <u>Applicants must discuss their research proposal with their prospective supervisor at Kyoto University before submission.</u></li> </ul>
8	<b>Official score report of TOEFL including Home Edition or IELTS</b>	<ul style="list-style-type: none"> <li>- Submit a copy of your official EFL test score report.</li> <li>- Please read the D-II 7 carefully to ensure that we can receive an original score report sent directly from a testing agent before the application deadline.</li> </ul>
9	<b>Photocopy of passport</b>	Submit a photocopy of the applicant's valid passport showing the photo page.
10	<b>Official copy of certificate of residence</b>	<ul style="list-style-type: none"> <li>- Residents of Japan should submit a photocopy of their resident card (front and back).</li> <li>- Residence certificates are issued at the city/ward office of the registered domicile.</li> </ul>
11	<b>Disclaimer</b>	Please read carefully and sign a form.

D-II 10. APPLICATION FEE

10,000 JPY\*

**\*PLEASE SEE G2**

D-II 11. APPLICATION DEADLINES AND TIMETABLE

Contact to a prospective supervisor: Any time before application  
Application deadline: December 25, 2025 17.00 (UTC+9)  
Application fee payment: January 26 – February 2, 2026  
Interview period: March 3 -6, 2026  
Announcement of final results: March 25, 2026  
Enrolment procedures: May 11 - June 12, 2026

# GENERAL INSTRUCTIONS

## G1. METHOD OF APPLICATION

Applications are only accepted via the online submission system. Applications are NOT accepted in person at the GSES office.

The online submission system can be accessed via the website.

<http://www.energy.kyoto-u.ac.jp/en/admission/admission-information/>

## G2. APPLICATION FEE

Applicants must pay the application fee in full during the designated payment period. The application fee is non-refundable.

Please email a scanned proof of payment from the completed application page in PDF/JPEG format to the administration office (intl@energy.kyoto-u.ac.jp) when the payment has been made.

Applicants will be contacted by email regarding the application fee payment after their application documents are received.

*Application fee amount: 10,000 JPY*

Payment instructions: Go to the website below and follow the payment instructions.

<https://www3.univ-jp.com/kyoto-u/en/>

### **For Applicants Residing Outside Japan**

Make a payment by credit card (VISA/ MasterCard/ JCB/ AMERICAN EXPRESS/Diners Club INTERNATIONAL). It is acceptable to use a credit card in a name other than that of the applicant (e.g., the applicant's parents).

### **For Applicants Residing in Japan**

Make a payment at a designated convenience store, at a financial institution's ATM (Pay-easy), or online with one of the above credit cards or through designated internet banking. It is acceptable to use a credit card or a bank account in a name other than that of the applicant (e.g., the applicant's parents).

## G3. ENROLLMENT PROCEDURES, ADMISSION FEE AND TUITION

### *ENROLLMENT PROCEDURES*

The "Guide to Enrollment" is emailed to successful applicants no later than May.

Those who accept the admission offer and wish to enroll in the course must pay the admission fee before the deadline specified in the enrollment guide and obtain a College Student Visa before the start of the program. If a student nominates a third party as their agent to make a transaction for fee payment, please notify the office.

Those who are currently employed must resign or take leave from their current institution/ organization before enrolling in the International Energy Science Course. Similarly, those studying at other graduate schools must take leave or terminate their graduate study before joining the course.

## ADMISSION FEE AND TUITION

Admission fee\*: 282,000 JPY (subject to change on admission)

Tuition per annum\*: 535,800 JPY (267,900JPY per semester; subject to change during the course of study)

\*MEXT scholarship recipients will have admission fee and tuition waived for the designated period of the scholarship.

## G4. GENERAL NOTES

- a. Applicants should inform the Administration Office immediately if they wish to withdraw their application.
- b. Under no circumstances can changes be made to submitted documents.
- c. Personal information such as name, gender, date of birth, contact address, etc. provided in the application documents will be used only for purposes related to: (a) admission examinations; (b) admission procedures; and (c) preparations for acceptance of the student.
- d. In cases where the applicants are physically disabled and require special arrangements, please contact the Student Affairs Section, Graduate School of Energy Science, Kyoto University.
- e. Graduates of universities from outside of Japan who wish to enroll in a Kyoto University Graduate School as a research, master's or doctoral student are required to contact the Admissions Assistance Office (AAO) for a preliminary review before submitting application documents. Please refer to the following URL for details:

<https://www.kyoto-u.ac.jp/en/education-campus/education-and-admissions/graduate-degree-programs/how-to-apply/for-graduates-of-overseas-universities>

- f. In order to maintain the peace and security of Japan and the international community, Kyoto University conducts Security Export Control in accordance with the "Foreign Exchange and Foreign Trade Act". International applicants who fall under any of the conditions specified in these regulations may not be able to enroll in their desired course or program. Please refer to the following URL for details:

<https://www.kyoto-u.ac.jp/ja/research/rule/export>

## G5. CONTACT

Student Affairs Section, Administration Office  
Graduate School of Energy Science, Kyoto University  
Yoshida-Honmachi, Sakyo-ku, Kyoto 606-8501 JAPAN  
Email: [intl@energy.kyoto-u.ac.jp](mailto:intl@energy.kyoto-u.ac.jp)

IESC website: <http://www.energy.kyoto-u.ac.jp/en/admission/admission-information/>

## APPENDIX I: IESC LABORATORY CODE AND KEYWORDS

Code	Laboratory name	Research keywords
<b>S-1</b>	Energy Social Engineering (Engineering for Social Systems)	Social Engineering, Recycle, Eco-Materials, Eco-Education, Effective Use of Energy and Resource
<b>S-2</b>	Energy Economics	Energy Studies, Energy Economics, Systems Design, Microscopic and Macroscopic Viewpoints, Sustainability, Energy-X-Nexus, Resources
<b>S-3</b>	Energy Ecosystems (Biomass Energy)	Biomass Energy, Biochemicals, Pyrolysis, Gasification, Supercritical Fluid, Low-temperature Plasma, Organic Chemistry of Biomass
<b>S-4</b>	Energy and Information (Human Machine Interface)	Human Interface, Augmented Reality, Intellectual Productivity, Pro-Environmental Behavior
<b>S-5</b>	Energy and Environment (Energy Environmental Impact)	Atmospheric Environment, Aerosol, Hazardous Atmospheric Pollutants, Environmental Dynamics, Environmental Impact Assessment, Environmental Remediation
<b>S-6</b>	Energy Policy (KURNS)	Energy Policy, Nuclear Energy, Energy Security, Nuclear Security, Non-proliferation, Energy Best-Mix,
<b>S-7</b>	Societal Energy Education (KURNS)	Materials Infomatics, Materials Science, Nuclear Fuels, Thermoelectric Materials, Social Energy Education, Disaster Science, Hazard Evaluation, Earthquake Disaster Prevention Strategy
<b>K-1</b>	Energy Chemistry	Energy chemistry, Electrochemistry, Fluorine chemistry, Molten salt, Ionic liquid, Na secondary battery, Li secondary battery
<b>K-2</b>	Quantum Energy Processes (Materials Chemistry and Physics)	Organic Molecular Materials, Inorganic Semiconductors, Photochemistry, Solid State Physics, Photophysics, Chirality, Colloid Science
<b>K-3</b>	Functional and Solid State Chemistry	Inorganic materials chemistry, Solid state chemistry, Electrochemistry, Secondary batteries, Fuel cells, Biomaterials, Bioceramics
<b>K-4</b>	Plasma and Fusion Science	Magnetically Confined Fusion Plasma, Laser-Driven High Energy Density Plasma, Space Plasma, Nonlinear Physics, Large-Scale Simulation
<b>K-5</b>	Electromagnetic Energy	Fusion Energy, Data Analyses of Plasma Experiments, System control, Theory and Numerical Simulation
<b>K-6</b>	Plasma Physics	Microwave spherical torus experiment, Plasma wave physics, Equilibrium, Stability and transport, Plasma diagnostics
<b>K-7</b>	High-Temperature Plasma Physics (IAE)	Heliotron J, Control of High Temperature Plasma, Plasma Heating, Plasma Diagnostics, Boundary Plasma Physics and Elementary Processes
<b>K-8</b>	Energy Optical Properties (IAE)	Nanoscience, Nanotechnology, Solid State Physics, Solar Cell, Quantum Electronics, Data Driven Science
<b>K-9</b>	Interfacial Energy Processes (IAE)	Electrochemistry, Molten Salts, Ionic Liquids, CO <sub>2</sub> Conversion, Silicon Solar Cell, Li Secondary Battery, Na Secondary Battery, K Secondary Battery
<b>K-10</b>	Energy Nano Engineering (IAE)	Nanoscience, Nanomaterials, Organic Synthesis, Solar Energy
<b>K-11</b>	Biofunctional Chemistry (IAE)	Artificial Photosynthesis, Protein Engineering, Synthetic Biology, Chemical Biology, Bioenergy
<b>K-12</b>	Bioenergy (IAE)	Biomass, Bioethanol, Environment-friendly, NMR, AIDS, Cancer
<b>K-13</b>	Fundamental Neutron Science (KURNS)	Nuclear Reactor Experiment and Analysis, Criticality Safety, Development of Radiation Detection System
<b>K-14</b>	Heat Transport System (KURNS)	Energy Conversion, Thermal-hydraulics, Multiphase Flow, Neutron Radiography, Computational Fluid Dynamics, Reactor Physics, Nuclear Data
<b>H-1</b>	Thermal Energy Conversion	Plasma Assisted Ignition, Laser Diagnostics and Image Analysis, Heat transfer in the small scale space craft, Pollutant Emission Control, Alternative Fuels
<b>H-2</b>	Conversion Systems	Conversion System, Thermo-Fluid Science, Laser Image Diagnostics, Power Engineering, Computational Fluid Dynamics, Internal Combustion Engine, Alternative Fuels
<b>H-3</b>	Materials Design for Energy Systems	Nano-/micro-materials, Strength of Materials, Fatigue, Multiphysics, Metamaterials, Fracture mechanics
<b>H-4</b>	Design for Functional Systems	Mechanics of Functional Materials, Nonlinear continuum mechanics, Elastoplasticity, Nondestructive Evaluation by Ultrasonics, Electromagnetic Methods, and Thermography
<b>H-5</b>	Advanced Energy Conversion (IAE)	Plasma Science and Technology, Fusion Technology, Fusion Energy Conversion, Fusion Application, Fusion Energy System Design, Socio-Economic Evaluation of Energy System, Social and Environmental Sustainability Evaluation, Material Science and Engineering for Energy Conversion
<b>H-6</b>	Plasma Energy Conversion (IAE)	Plasma Physics, Fusion Science, Heating and Current Drive, Plasma Diagnostics, Microwave Technology, High power neutral beam technology
<b>H-7</b>	Functional Energy Conversion Materials (IAE)	Energy System Maintenance, Nuclear Material Science, Radiation damage, Corrosion, Structural Integrity Analysis, Risk Analysis, System Safety

<b>0-1</b>	Devices Physics	Crystal Alignment Techniques, Energy Materials, Thin Film Growth, Superconducting wires, Wide band-gap semiconductor
<b>0-2</b>	Process and Energy	Thin Film Growth, Solid-State Battery, Energy Materials and Device Processing, THz spectroscopy
<b>0-3</b>	Materials Process Science	Materials processing, Electrochemical processing, Functional materials, Thin films, Aluminum batteries
<b>0-4</b>	Thermochemistry	Thermochemistry, Crystal Growth, Metallurgy, Eco-friendly Processes, Energy Materials
<b>0-5</b>	Resources and Energy Systems	Energy-saving materials, Multi-scaling materials
<b>0-6</b>	Advanced Processing of Resources and Energy	Plasticity, Forming Simulation, Advanced Processing of Eco-materials, Material Modeling
<b>0-7</b>	Mineral Processing	Thermal Fluid Engineering, Resources Circulation, Mineral Processing, Rock engineering
<b>0-8</b>	Quantum Radiation Energy Science (IAE)	Mid-Infrared and THz Laser, Photophysics, Nuclear Safety and Security, Renewable Energy System/Policy/Implementation
<b>0-9</b>	Physics of Energy Materials (IAE)	Nanomaterials, Quantum Materials, Materials Science, Energy Functional Materials, Solar Energy Utilization, Thermal/Optical Engineering
<b>0-10</b>	Photon Energy Science (IAE)	Laser Application, Nanomaterials, Thin Film, Laser Processing, Hydrogen Energy, Spectroscopy

IAE (Institute of Advanced Energy, Uji), KURNS(Kyoto University,Institute for Integrated Radiation and Nuclear Science)



# LABORATORIES LIST FOR INTERNATIONAL ENERGY SCIENCE COURSE

## 2026 INTAKE

This table shows the availability of student positions for the Academic Year 2023, relevant academic background and potential fields of undergraduate study for applicants' reference. Please note that this is not an exhaustive list of research areas the faculty members cover and also that only laboratories recruiting students for AY2026 are shown on this table.

Department	Code	Research group name	Student position availability		Required background ◆ Relevant background ◇ Tertiary level, not exhaustive										NOTES BY RESEARCH GROUP  Remarks, other requirements and/or desirable knowledge etc.	
			Master's program (Oct)	Doctoral program (Apr/Oct)	CIVIL/ENVIRONMENTAL ENGINEERING	MECHANICAL ENGINEERING	ELECTRICAL ENG. & ELECTRONICS	MATERIALS SCIENCE	EARTH RESOURCES	INDUSTRIAL CHEMISTRY	NUCLEAR ENGINEERING	MATHEMATICS & INFORMATION	FORESTRY	WOOD SCIENCE & TECHNOLOGY		BIO-ENVIRONMENTAL SCIENCE
Socio-Environmental Energy Science	S-1	Energy Social Engineering (Engineering for Social Systems)	✓	✓	-	◇	-	◆	◆	◇	-	-	-	-	-	Also accepting students who are interested in and able to analyze social issues - requiring proficiency in statistics.
	S-2	Energy Economics	✓	✓	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	Energy-systems analysis and design; Energy and resource supply-demand systems; Decision-making and justice.
	S-3	Energy Ecosystems (Biomass Energy)	✓	✓	◇	-	-	◇	-	◇	-	-	◇	◇	◇	Undergraduate students in any natural science be accepted, preferentially in biomass-related fields. We study bioenergy and biochemicals from various biomass materials.
	S-4	Energy and Information (Human Machine Interface)	✓	✓	◇	-	◇	-	-	-	◇	◇	-	-	-	◇ Cognitive psychology ◇ Informatics ◇ Statistics
	S-5	Energy and Environment (Energy Environmental Impact)	✓	✓	◇	-	-	◇	◇	◇	-	-	-	-	◇	◆Environmental chemistry/physics
	S-6	Energy Policy <span style="border: 1px solid black; padding: 2px;">KURNS</span>	✓	✓	-	-	-	-	◇	-	◇	◇	-	-	-	Basic knowledge of energy policy and energy scenario study is preferred.
	S-7	Societal Energy Education <span style="border: 1px solid black; padding: 2px;">KURNS</span>	✓	✓	◇	◇	◇	◆	◇	-	◇	◇	-	-	-	
Only the research fields of natural science are included in the list above. Applicants in fields of social and human science are also accepted in the Department of Socio-environmental Energy Science. Applicants are recommended to refer to the brochure and webpage of the Graduate School of Energy Science for detailed information on the research topics in each laboratory.																
Fundamental Energy Science	K-1	Energy Chemistry	✓	✓	-	-	-	◆	-	◆	-	-	-	-	-	
	K-2	Quantum Energy Processes (Materials Chemistry and Physics)	✓	✓	-	-	◇	◆	-	◇	-	-	-	-	-	
	K-3	Functional and Solid State Chemistry	✓	✓	-	-	-	◇	-	◇	-	-	-	-	◇	
	K-4	Plasma and Fusion Science	✓	✓	-	-	◆	-	-	-	-	◆	-	-	-	It is preferable that students understand the basics of mechanics, electromagnetics, and statistical physics.
	K-5	Electromagnetic Energy	✓	✓	-	-	◆	-	-	-	-	◆	-	-	-	
	K-6	Plasma Physics	✓	✓	-	-	◇	-	-	-	-	◇	-	-	-	It is preferable that students understand the basics of mechanics, electromagnetism, and statistical physics.

IAE: Institute of Advanced Energy, Uji KURNS:Kyoto University,Institute for Integrated Radiation and Nuclear Science, Kumatori Laboratories are restricted in accepting students in the context of nuclear non-proliferation.

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Fundamental Energy Science	K-7	High-Temperature Plasma Physics IAE	✓	✓	-	◇	◇	-	-	-	◇	◇	-	-	-	Knowledge of basic physics is preferable.
	K-8	Energy Optical Properties IAE	✓	✓	-	-	◇	◇	-	◇	-	◇	-	-	-	Knowledge of quantum physics, electrical engineering and material science is preferable.
	K-9	Interfacial Energy Processes IAE	✓	✓	-	-	-	◆	-	◆	-	-	-	-	-	Knowledge of inorganic chemistry and electrochemistry is preferable.
	K-10	Energy Nano Engineering IAE	✓	✓	-	-	◆	◆	-	◆	-	-	-	-	-	
	K-11	Biofunctional Chemistry IAE	✓	✓	-	-	-	-	-	◇	-	-	-	-	◇	Knowledge of organic & inorganic chemistry and biochemistry is preferable.
	K-12	Bioenergy IAE	✓	✓	-	-	-	-	-	-	-	-	-	◇	-	◇Life Science ◇Biochemistry & Molecular Biology
	K-13	Fundamental Neutron Science KURNS	✓	✓	-	-	-	-	-	-	◆	-	-	-	-	Knowledge of reactor physics
	K-14	Heat Transport System KURNS	✓	✓	-	◇	-	-	-	-	◇	-	-	-	-	
Energy Conversion Science	H-1	Thermal Energy Conversion	✓	✓	-	◆	-	-	-	-	-	◇	-	-	-	
	H-2	Conversion Systems	✓	✓	-	◆	-	-	-	-	-	◇	-	-	-	Thermo-Fluid Dynamics, Combustion Engineering
	H-3	Materials Design for Energy Systems	✓	✓	-	◆	◇	◇	-	-	-	◇	-	-	-	Strength and Mechanics of Engineering Materials
	H-4	Design for Functional Systems	✓	✓	-	◆	◇	◇	-	-	-	◇	-	-	-	Nonlinear continuum mechanics
	H-5	Advanced Energy Conversion IAE	✓	✓	-	-	◇	◆	-	◇	◇	-	-	-	-	
	H-6	Plasma Energy Conversion IAE	✓	✓	-	-	◆	-	-	-	◇	◇	-	-	-	
	H-7	Functional Energy Conversion Materials IAE	✓	✓	-	◇	-	◆	-	-	◇	◇	-	-	-	Mechanics and Thermodynamics of Nuclear Materials

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Energy Science and Technology	0-1	Devices Physics		✓	-	-	◆	◆	-	◇	-	-	-	-	-	Basic knowledge of solid state physics, inorganic chemistry, and crystal engineering is preferable.
	0-2	Process and Energy		✓	-	◇	◆	◆	-	◇	-	-	-	-	-	
	0-3	Materials Process Science		✓	-	-	◇	◆	-	◇	-	-	-	-	-	
	0-4	Thermochemistry		✓	-	-	◇	◆	-	◇	-	-	-	-	-	
	0-5	Resources and Energy Systems		✓	-	-	-	◆	◇	-	-	-	-	-	-	
	0-6	Advanced Processing of Resources and Energy		✓	-	◆	-	◆	-	-	-	◇	-	-	-	
	0-7	Mineral Processing		✓	-	◇	-	◇	◆	◇	-	-	-	-	-	
	0-8	Quantum Radiation Energy Science <span style="border: 1px solid black; padding: 2px;">IAE</span>		✓	◇	◇	◇	◇	-	◇	◇	◇	-	-	◇	Accepting students who have interests in Renewable Energy Implementation
	0-9	Physics of Energy Materials <span style="border: 1px solid black; padding: 2px;">IAE</span>		✓	-	◇	◇	◆	◇	◇	-	-	-	-	-	Basic knowledge of solid state physics is preferable.
	0-10	Photon Energy Science <span style="border: 1px solid black; padding: 2px;">IAE</span>		✓	-	◇	◇	◆	-	◆	◇	-	-	-	-	Basic knowledge of quantum mechanics or optics is preferred but not necessarily required.