Admissions Information

The latest admissions information is available on our website.
TOEIC or TOEFL score is used for the evaluation of English proficiency. An undergraduate academic transcript is necessary.
There is an oral examination on topics in mathematics and physics.
More details of the examination can be found on the departmental website.

General Information for International Students

The International Student Center, University of Tsukuba has prepared a guidebook entitled "Enrollment Guidebook for International Students", which provides comprehensive information for international students who wish to apply to our university. The guidebook contains necessary information for application for different student categories, such as regular students, research students, credited auditors, etc. Please visit
http://www.intersc.tsukuba.ac.jp/

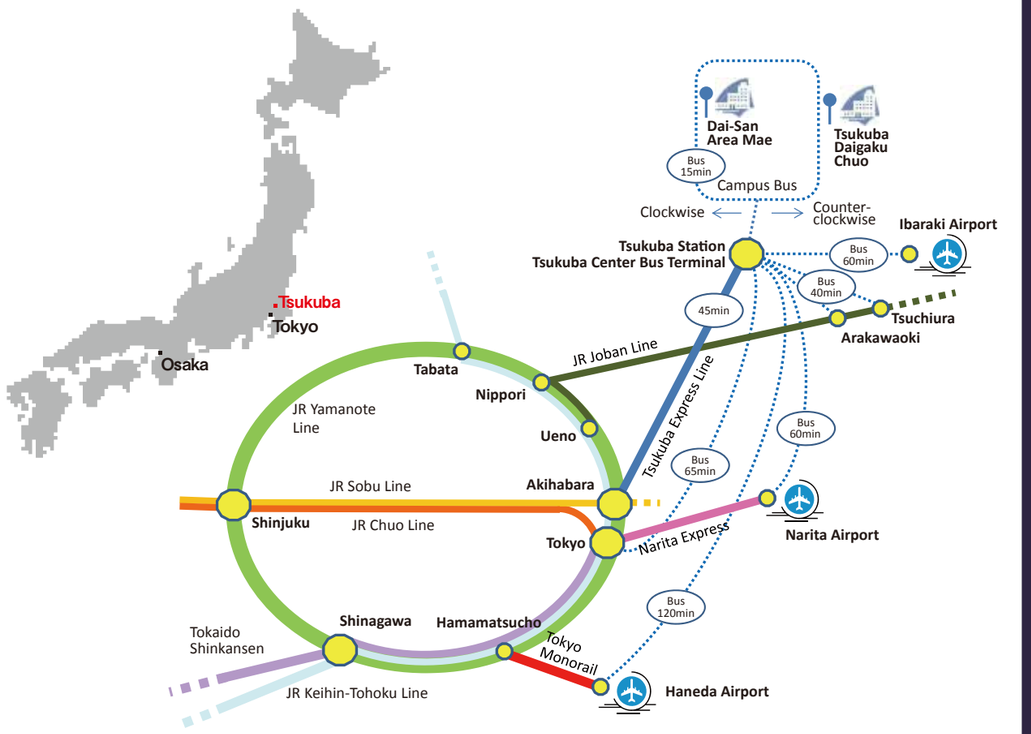
Location and Access

University of Tsukuba is located in the Tsukuba Science City, 60 km northeast of Tokyo. Tsukuba Science City has about 60 educational and research organizations including the University of Tsukuba, Tsukuba University of Technology, and Tsukuba Gakuin University, in 2,700 hectare-city area.

For information on Tsukuba City and Tsukuba Science City, please visit the following sites.
- Tsukuba City
  http://www.city.tsukuba.ibaraki.jp/
- Tsukuba Center for Institutes
  http://www.mext.go.jp/a_menu/kokusai/kouryucenter/english/

Cooperative Graduate School Program

We have links with a number of research institutes in Tsukuba Science City and Tokai village.
We employ researchers from Japan Aerospace Exploration Agency (JAXA), Advanced Industrial Science and Technology (AIST), Public Works Research Institute (PWRI), and Japan Atomic Energy Agency (JAEA) as professors and associate professors.
Our students have opportunity to have their work supervised by the researchers from leading edge research facilities.



Contact address

If you have questions, please feel free to contact us.

Department of Engineering Mechanics and Energy,
Graduate School of Systems and Information Engineering, University of Tsukuba
1-1-1 Tennodai, Tsukuba-city, 305-8573, Japan
Phone：+81-29-853-5059 (Department Office), FAX：+81-29-853-5207

Graduate School of Systems and Information Engineering, University of Tsukuba

Department of Engineering Mechanics and Energy

EME 2019 version

Become a Super-Engineer — Create an Exciting Future!

Department of Engineering Mechanics and Energy

Our faculty members are world leading researchers in a wide range of fields including aerospace, mechanical engineering, civil and architectural engineering, and energy.
Our unique environment and cutting-edge facilities support extensive research and multidisciplinary education for our students.

Broaden your horizons and strengthen your capabilities with our multidisciplinary education.

Our aim is to break down the conventional walls between engineering fields and teach the whole range of mechanics-based engineering technologies in a multidisciplinary fashion. Our special characteristic is the diversity of interests collected in one place and the intellectual stimulus that this offers.
Your studies will not be limited by the traditional boundaries between subjects.
Our environment encourages diverse ambitions and objectives.
You may find classmates with interest in...

- Designing spacecraft
- Flying airplanes
- Resolving future shortages of energy
- Improving water quality in rivers and lakes
- Designing earthquake-resistant buildings
- Contributing to space exploration
- Developing systems to protect against tsunamis

Education objective "Setting the goal to address one's purpose"

Our Master program allows students to acquire a broad knowledge of engineering and to understand problems in related fields, to be able get to the heart of a problem and propose a solution, and then communicate the solution effectively.
Completing our Doctoral program enables students to accomplish these aims at a higher level, and to be able to manage research projects and take a position of leadership in society.

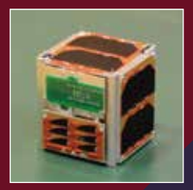
Primary energy sources—including fossil fuels such as coal, petroleum and natural gas, as well as nuclear power and natural energy—are used to operate the electrical devices, automobiles and suchlike that we depend on, and the form of the energy is changed until it eventually becomes heat. The energy-conversion technology which transforms one sort of energy into another is vitally important for effectively utilizing limited energy resources to establish a sustainable society. Our research group studies and develops environment-friendly energy-conversion technologies and networks.

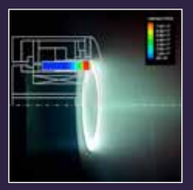
Energy and Environmentology (Representative : Professor Hideaki Monji)




Space Exploration Engineering
(Representative : Professor Makihito Nishioka)

Our research group studies the engineering theory and technology necessary for expanding the frontiers of space. Utilizing theories of combustion mechanism, improvement in performance of new materials, use of plasma, and physical phenomena at extremely low temperatures, we conduct applied research in advanced engineering technologies such as the development of next-generation aircraft and rocket engines, small-scale satellites, atmospheric re-entry craft, thermal control devices, planetary exploration rovers, experiments on board the ISS, and so on. This work is done with the collaboration of neighboring research institutes, such as JAXA and AIST. Our wide-ranging interests are always energetically seeking new interdisciplinary research fields such as preserving the Earth's environment, medical technology in space, and space art.



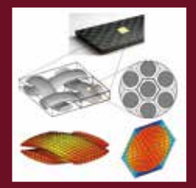
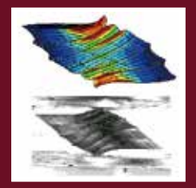
Message from the Chair

DREAMS AWAIT YOUR CHALLENGE

To potential students in Engineering Mechanics and Energy

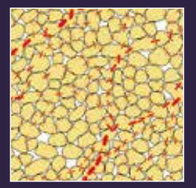
Prof. Takashi Matsushima, Chair, Department of Engineering Mechanics and Energy E-mail : tmatsu@kz.tsukuba.ac.jp

Our department provides interdisciplinary education and research covering a wide range of engineering and scientific fields. Our course of study helps students acquire a comprehensive picture of our highly specialized society from scientific and technological perspectives, and helps them find optimal solutions towards a sustainable world. Moreover, our faculty members offer state-of-the-art research topics such as the ones shown in this brochure, and students can develop in-depth expertise through their research project. Please visit our webpage for more details, and contact our faculty members related to your areas of interest if you are considering joining us. We look forward to seeing you on our lush green campus located in the midst of Tsukuba Science City!

Our research group studies durability evaluation technology and advanced simulation technology for structures and materials in mechanical engineering fields. We develop solutions on micro and macro scales using experimental, theoretical and numerical simulation methods. We have research programs on (1) high-temperature durability evaluation technology for polymer-type carbon-fiber reinforcement materials and homogenization analysis for thermal problems; (2) the destruction mechanism for bonded joints at leading edges and non-destructive evaluation methods using electromagnetism; (3) durability measurement and analysis methods for steel and elastomer materials in high-temperature power plants.

Multi-Scale Solid Materials Engineering
(Representative : Professor Masamichi Kawai)

Disaster Control (Representative : Professor Yuki Sakai)

The threats of earthquakes, tsunamis, fires, heavy rain and suchlike pose grave dangers to our lives and cause great damage. In addition to these sudden occurrences, serious damage may also be caused by the deterioration of materials, and long-term environmental disturbances. This group conducts research to develop advanced engineering technology to control disasters, and disaster-prevention systems, by understanding the effects of these disturbances on the ground, lifelines, buildings and bridges and by studying the causes of damage in detail.

For more details of the research topics of our faculty members, please visit our website → http://www.kz.tsukuba.ac.jp

Twitter URL → https://twitter.com/eme_esys