

Gakushuin University and Space BD Begin Class on “Space Utilization Theory” as University-Wide Common Course, the First for a University in Japan

Incubating future leaders for society through the curriculum to consider opportunities for business creation and sustainable use of space by leveraging the International Space Station

Tokyo—Gakushuin University and Space BD, a leading Japanese space startup, launched a university-wide common course on the topic of “Space Utilization Theory” in April 2023 at the university, available to all students in all academic departments and years. In March 2022, Gakushuin University and Space BD concluded an industry-academia partnership agreement and has developed a curriculum to incubate future leaders for society through providing practical learning opportunities to deepen knowledge in both humanities-sciences-integrated education and research offered by the university and Space BD’s business operations. Space BD is involved in the joint development of the curriculum as well as the planning and implementation of classes, and will mainly provide learning opportunities for business creation by leveraging the International Space Station. This is the first university curriculum development in Japan through industry-academia collaboration between a university and a space startup.

■ Space Utilization Theory (Subheading: Space Business Creation and Peaceful Utilization of Space)

This course is designed to establish a new framework for the peaceful and sustainable utilization of all celestial bodies and outer space, including the Earth, through a fusion of the humanities and sciences, aiming to achieve the SDGs and beyond. Gakushuin University has decided to offer the Space Utilization Theory as a university-wide common course because it believes that space utilization must be studied not only from scientific and technological viewpoints but also from all other perspectives in this age of increasingly active use of space by private companies.

The 15 classes of this course will cover a variety of topics relevant to the utilization of space. In addition to lectures by faculty members, leading experts in this field will be invited as guest speakers to provide learning opportunities beyond academic research.

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Goals of “Space Utilization Theory”

- Inspire interest in space utilization and space business
- Inspire interest in the peaceful utilization of space

Incubate future leaders with knowledge of space business and space utilization

Create the foundation for establishing rules for peaceful utilization of space

Propose ideas for space business

Aim to develop a new course method designed jointly with Space BD

<Contact>

Space BD Inc. Public Relations (Haruna Iizuka)
Mail: pr@space-bd.com Tel: +81-3-6264-7177

- Availability: For first- through fourth-year undergraduate students

Class No.	Content
1	Guidance & goals of learning space utilization theory
2	Space flight experience: difference between Earth and space environments
3	Space culture (Space travel/space utilization marketing)
4	Remote sensing and archeology
5	Ancient Chinese history from the perspective of space
6	Space law
7	Security issues in space
8	Considering human settlement in other planets
9	Space-related startups
10	Technological development through industry-academia partnership
11	Space startup class 1: Satellite development
12	Space startup class 2: Satellite data usage
13	Space startup class 3: Advancement of technology related to space development
14	General discussion (Conference on new ideas for space utilization)
15	Confirmation of understanding

- Syllabus: [https://gport.univ.gakushuin.ac.jp/campusweb_gk/slbssbdr.do?value\(risyunen\)=2023&value\(semekikn\)=1&value\(kougicd\)=U853401001&value\(crclumcd\)=2442017000](https://gport.univ.gakushuin.ac.jp/campusweb_gk/slbssbdr.do?value(risyunen)=2023&value(semekikn)=1&value(kougicd)=U853401001&value(crclumcd)=2442017000)

▼Gakushuin University and Space BD Initiative Introductory Video
<https://youtu.be/EE-ai-FwZqA>

■ Comment from Masahito Watanabe, Professor, Department of Physics at Gakushuin University



Space business in the private sector is gaining steam around the world, and companies and individuals in sectors not directly related to space are now entering the field of space utilization. This course will provide an opportunity for students to learn the current situation and understand how to solve problems or come up with ideas in this uncharted domain for their own sake. As we have various issues involved in the full-fledged utilization of space in the future, which must be tackled through a fusion of humanities and sciences, we have decided to make this a university-wide common course. We hope that these classes will be a catalyst for students to play an active role in the field of space utilization in the future.

■ Comment from Kenichi Kawamoto, Director, Space BD Inc.



We believe that taking on the unknown challenge of space incorporates many elements necessary for surviving in today's global society. In this "Space Utilization Theory" course with Gakushuin University, classes will cover not only space technology but topics that integrate the humanities and sciences, with an approach aiming at business creation for the sustainable utilization of space in the future. Through this initiative, we will seek to increase the number of students who take on the challenge of space and further contribute to the realization of our vision of creating a hopeful and spiritually rich society full of vitality and challenges by working toward the creation of a major space industry.

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■About Gakushuin University

Gakushuin University is comprised of the Faculties of Law, Economics, Letters, Science, and International Social Sciences. “Space Utilization Theory” has been adopted as part of the mid-to-long-term “Gakushuin University Grand Design 2039” project that commenced in 2022.

A special extracurricular “Space Venture Overview” class was given in December 2021 as part of the president-approved program aimed at “developing a people-centered society through advanced research based on the integration of arts and sciences”. In the past years, the university also engaged in a diverse range of space-related education and research, including the establishment of the “Space Resources Utilization Project Aimed at a Sustainable Earth Environment” as part of the program to study and try to achieve Gakushuin’s unique SDGs through the integration of arts and sciences.

■ About Space BD

We at Space BD are a one-stop provider of solutions for those in the space utilization field. Not only can we deliver payloads to space by a variety of methods and facilitate the use of International Space Station assets, but we can also assist with everything from business plans to hands-on technical operations. As of February 2023, Space BD’s performance record marked over 70 satellite projects and over 300 orders.