

Details for KiboCUBE Academy (Season 2)

1. Overview

[KiboCUBE](#) is the long-standing cooperation between the [United Nations Office for Outer Space Affairs \(UNOOSA\)](#) and [Japan Aerospace Exploration Agency \(JAXA\)](#) that offers developing countries with the opportunity to deploy a Cube Satellite (CubeSat) from the International Space Station Japanese Experiment Module “Kibo”. The selected teams are required to develop, operate and utilize their CubeSats.

Through [KiboCUBE Academy Season 1](#), conducted from January-February 2021, UNOOSA and JAXA along with the support of the [University Space Engineering Consortium \(UNISEC\) Global](#) conducted a webinar series of 4 days, for future KiboCUBE applicants to be able to gain technical knowledge on how to design, develop and test their CubeSat, how to operate it once it is in space, and how to utilize the data that they acquire from their CubeSats to develop useful applications on Earth. It also supported on building a better plan for the project. From Fall 2021, KiboCUBE Academy Season 2 will be opened for all.

The 7th round of KiboCUBE is currently open for applications until 31 December 2021. Teams who plan to apply to the 7th round of KiboCUBE are strongly recommended to take part in the following activities of KiboCUBE Season 2. See the [KiboCUBE Rounds page](#) for the documents needed for the 7th round application.

2. Details of KiboCUBE Academy Season 2

KiboCUBE Academy Season 2 will consist of three parts, 1) On Demand Pre-Recorded Lectures, 2) Live Sessions, and 3) Technical Consultations.

1) On Demand Pre-Recorded Lectures

The 1 hour lectures will offer basic knowledge of the lifecycle of satellite development. They are pre-recorded videos that will be uploaded on the UNOOSA website and UNOOSA YouTube. There is no registration needed to watch these videos.

No.	Content	Release Date
1	Introduction to Small Satellite Missions and Utilization	November 2021
2	CubeSats for Capacity Building	
3	Overview of Project Management of Satellite Development	
4	Systems Engineering for Micro/Nano/Pico-Satellites	
5	Introduction of J-SSOD and Safety Review Process	
6	CubeSat Design for Safety Requirements	
7	Introduction to CubeSat Technologies	
8	Subsystem Lecture for CubeSat (Power Control System)	
9	Subsystem Lecture for CubeSat (Communication System)	
10	Subsystem Lecture for CubeSat (Command and Data Handling System)	
11	Subsystem Lecture for CubeSat (Structure System)	
12	Subsystem Lecture for CubeSat (Mechanism System)	
13	Subsystem Lecture for CubeSat (Thermal Control System)	
14	Subsystem Lecture for CubeSat (Attitude Control System)	
15	Introduction to CubeSat Environmental Testing	
16	Orbital Mechanics for Microsatellites	May 2022

17	Introduction to Satellite Operation and Ground Systems	
18	Introduction to Nano-Satellite Payload Systems	
19	Introduction to CubeSat Related Regulations	
20	Introduction to Space Debris Problem and Countermeasures	
21	Lessons Learned from CubeSat Missions	

2) Live Sessions

The live sessions are interactive webinars that will be taught by professors from Japanese universities that are part of UNISEC Global. There will be a Q and A session where participants can directly interact with the professors. Please make sure to register through the link below to participate.

Platform: zoom

Registration Link: <https://forms.office.com/r/hwRcjU7m9w>

#	Date	Title	Contents of Lectures
1	Thursday 4 November 13:00- 15:00 CET	CubeSat Technologies	1-1. CubeSat Technologies 1-2. System Integration of CubeSats 1-3. Q&A
2	Thursday 18 November 13:00- 15:00 CET	Launch and Operation of CubeSats and Related Regulations	2-1-1. Launch and Operation of CubeSats 2-1-2. CubeSat Related Regulations 2-2. CubeSat Operation 2-3. Q&A
3	Thursday 2 December 12:00- 14:00 CET	Introduction of CubeSat Projects and Online Tour of Environmental Test Facility	3-1. Introduction of CubeSat Projects "BIRDS" 3-2. Online Tour of CubeSat Environmental Test Facility 3-3. Q&A

3) Technical Consultations

UNOOSA, JAXA and UNISEC will provide technical consultation sessions to teams who are interested in applying to the 7th round. These sessions will offer virtual meeting slots for teams to directly ask specific technical questions about their CubeSat to the professionals at JAXA/UNISEC and for UNOOSA/JAXA/UNISEC to provide advice on how to build a better mission and application form. The consultations are scheduled to be held in late November.

The interested teams will need to apply to the process below to be allocated a consultation slot. Due to the restricted amount of resources, not all who apply will be given a slot. The selection will be done by UNOOSA and JAXA according to the level of the information provided in the documents below. Priority will be given to applicants of previous rounds and from non-space faring countries.

Necessary documents:

a) Application Form:

- Download the [CubeSat Mission Application Template](#).



- Fill in 5.1.1 Main Specifications, 5.2.1 System Block Diagram, and 7. Schedule as much as possible, so that UNOOSA/JAXA/UNISEC can understand the overall plan of your CubeSat
 - For other sections of the template, include as much information as possible, especially on the items that you would like to get consultation on.
- b) Expression of Interest (Annex 1 of this document)
This document is to certify that the CubeSat that will be consulted is for KiboCUBE. Please have the document signed by the Project Coordinator.
- c) Question Sheet (Annex 2 of this document)
Please list all the questions that you would like to ask in this document. Include which part of the application form it is referring to.

Deadline Extended: [7 November 2021 23:59CET](#)

Please send all documents to unoosa-access-to-space@un.org

UNOOSA and JAXA look forward to your participation in the KiboCUBE Academy activities!

Annex 1

Expression of Interest
KiboCUBE Academy Season 2
Technical Consultation

By signing this form, I confirm that our organization(s) is/are considering to apply for the 7th round of KiboCUBE. Once selected, we will coordinate with the United Nations Office of Outer Space Affairs (UNOOSA) and Japan Aerospace Exploration Agency (JAXA) to take part in the technical consultation session.

Issued by the Project Coordinator (PC):

Name of PC in print

Signature of PC

Place

Date (dd-mm-yyyy)

Annex 2

Question Sheet

Name of Organization:

Name of Point of Contact (PC):

Email address of PC:

Have you read the "[JEM Payload Accommodation Handbook](#)"? Yes / No

	Section in Application Form	Question
	Ex) 5.2.3.2 Electrical Interface	<ul style="list-style-type: none"> - Please add rows for more questions and number them. There is no maximum number of questions that can be asked. - Please make sure that your questions are clear and detailed. <p>Ex) In our satellite, we have selected a component of XX, designed it as XX, and expect it to work as XX. On the other hand, we are concerned about interference with XX, and would like to discuss a good way to avoid it.</p>
1		
2		
3		
4		
5		
...		