



Regional Centre for Space Science and Technology Education in Asia and the Pacific (China)  
联合国附属空间科学与技术教育亚太区域中心 (中国)

# MASTA 2016

## Master Program on Space Technology Applications

### Space Law and Policy

#### Introduction

Space technology and its applications have been made a great advance in recent years, which is considered the one of the most fascinating technical achievements of the human race of the last four decades of the 20th century. The many practical benefits from space technology play a central role for international development efforts.

In order to translate the recommendations of the United Nations Program on Space Applications (UN-PSA) into an operational program, Beihang University has initiated the Master program on Space Technology Applications (MASTA) especially for applicants from Asia-Pacific region since 2006, and program has been held five times successfully till now.

MASTA is an elaborately designed and intensive Master program for students who are interested in exploring the mysterious universe. It focuses on both knowledge acquisition and operational training, and is an application-oriented program. It provides a powerful platform for scholars and professionals to obtain more opportunities for communicating and experiencing the space technology practice in China.

MASTA is designed to give participants a competitive edge by:

- ✧ Broadening their knowledge on space-related issues and activities and encouraging participants to use acquired knowledge and skills through practical, hands-on experience
- ✧ Developing the skills necessary for working effectively with colleagues from a diverse range of disciplines and cultures
- ✧ Placing the participants at the frontier of the industry through contact with space professionals
- ✧ Compiled with international conventions
- ✧ Modularized curricula design
- ✧ Flexible study modes

**The total duration of study will be 9+6 months in general.**

## **Introduction to RCSSTEAP (China)**

The Regional Centre for Space Science and Technology Education in Asia and the Pacific (China) (affiliated to the United Nations) (RCSSTEAP in short) was established On November 17, 2014 in China. The Campus of the Centre is located at the main campus of Beihang University in Beijing.

The Centre is established as an education and training entity supported by the Committee on the Peaceful Uses of Outer Space (COPUOS). It is established to contribute to the implementation of “Space Applications Program” promoted by COPUOS, and to the enhancement of the education and training level and application capacity of space science and technology in Member States of the Center through capacity building, information communication and education and training.

For the purpose of facilitating the UN Space Application Programme and meeting the demands of the Asia-Pacific countries regarding space science and technology education, the Centre offers degree and non-degree programs and provides academic training and technology consulting in the field of space technology applications.

The main education and training fields of the Centre include remote sensing and geographic information systems, satellite communications, global navigation satellite system, micro-satellite technology, space law and policy, etc.

The Centre has established extensive cooperation with industries. A variety of internships and hands on opportunities could be provided to the participants.

The Centre has an international and highly efficient academic and administrative staff team. Excellent facilities for living, education and training and logistics service can be provided.

Up to now, the Centre has 10 member countries including Argentina, Algeria, Bangladesh, Bolivia, Brazil, China, Indonesia, Pakistan, Peru, and Venezuela.

## **Application Qualifications**

- ✧ The age limit of applicants is forty years by the deadline of application, but applicants those are below thirty-five years will be given higher preferences for selections;
- ✧ Should have some professional experiences of working in space technology industry or research institutes;
- ✧ Should have Bachelor Degree of relevant discipline or the diploma equivalent to Bachelor Degree;
- ✧ Should have research background in relevant areas;
- ✧ Should have good command of English and the ability to take courses in English;

Note: Please notice as a special requirement that selected applicants should come to study at BUAA with their Private Passports only (not official/service/other types of passport).

## Scholarship and Financial Support

### 1. The CSC scholarship will cover the following items:

- ✧ Tuition fee for 9 months core course study at the University;
- ✧ Tuition fee for 1 year advanced research project;
- ✧ Free accommodation during study at the University (not including water and electricity, etc. costs.);
- ✧ Living allowance during stay at the University (3000 RMB/per month or according to standard by CSC);
- ✧ Insurance fee only for accidents and hospitalization treatments, according to the standard of CSC;
- ✧ The international round-trip air ticket costs are not covered.

### 2. Beijing Municipal/Beihang Scholarship will only cover tuition fee.

## Application Procedures and Required Materials

Applicants should log onto the website <http://laihua.csc.edu.cn> and make **Registration** at first by giving his/her User name, Password, Email etc. Then User name and Password will be sent to them via **e-mail addresses provided**, and after getting it, applicants should fill out the **ONLINE** Application Form of China Scholarship Council (CSC). And from the system, please get a serial number online and print it out according to requirements, and submit all required materials mentioned below from item No. 1-8. Please notice that a specialty should be chosen as **"Space Technology Applications"**, a research direction as **"Space Law and Policy"** and language of instructions should be chosen as **"English"**. Please also notice that the "Agency No." of Beihang University is **10006**.

1. Application Form for Chinese Government Scholarship;
2. Highest Education Diploma (notarized photocopy or original one) or Certificate of Expected Graduation Date from the university studying currently;
3. Notarized Transcripts;
4. Study or Research Plan (no less than 500 words);
5. Two Recommendation Letters from Professors or Academic Experts;
6. Photocopy of Physical Examination Form and the Report on Blood Examination.  
[Attachment 1-FOREIGNER PHYSICAL EXAMINATION FORM.pdf](#)
7. Photocopy of First Page of Passport (the information page);
8. The List of Application Documents and Post Address confirmed.

Note: *All the documents should be in duplicate. And the language of documents should be in English or Chinese or attached with translations in English or Chinese. In order to speed up your application process, scanned copies can be emailed to the **Contact Person**: gyy@buaa.edu.cn so that we can get your information in advance. And **mail all the required documents to the Contact Person at RCSSTEAP(China)** by the already set deadline (**March 15, 2016**). RCSSTEAP (China) and BUAA will acknowledge the receipt of your application after evaluation. No application documents will be returned after submission.*

## Host Institution: Beihang University

Beihang University (BUAA), formerly known as Beijing University of Aeronautics and Astronautics, was founded in 1952 and is China's first university of aerospace technology. Since the 1950s, BUAA has excelled as one of the 16 key state universities in China. Through more than 50 years of development, BUAA has grown into a science and technology university with aerospace features, combining disciplines in science, engineering, liberal arts, law, economics, management and education. There are currently 28,000 students enrolled in BUAA, including over 12,000 postgraduate students. Doctoral programs are available in 49 fields, master programs in 144 fields and bachelor programs in 48 subjects.

The campus of BUAA is adjacent to the Zhongguancun High-Tech Park of Beijing and is known for its beautiful environment, convenient transportation and various facilities, some of which include an international student dormitory, gymnasiums, swimming pools and other sports facilities. The campus also has a bank, a post office, dining halls, and many other convenient services for the academic and daily lives of international students.

## Important Dates

- ✧ Applicants should mail the required applications documents **to the Contact Person at RCSSTEAP(China)** by **March 31, 2016**.
- ✧ The results of admission will be notified by **May 10, 2016**.
- ✧ The Admission Notice and related documents will be mailed to the successful applicants around **July 10, 2016**.
- ✧ The program will begin at the middle of **September 2016**.

## Contact Person & Methods

- ✧ Ms. Guo yuanyuan, Program director, RCSSTEAP(China)
- ✧ Mailing Address: East Wing of Library, No 37, Xueyuan Road, Haidian District, Beijing, China 100191, International School, Beihang University
- ✧ Phone: 86-10-82339734
- ✧ Fax: 86-10-82339734
- ✧ E-mail: gyy@buaa.edu.cn
- ✧ Website: <http://RCSSTEAP.buaa.edu.cn>



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联合国附属空间科学与技术教育亚太区域中心 ( 中国 )

## **Space Law and Policy**

### **Overview**

With the expansion of national space activities, space technology is developing rapidly. Today, space technology is being widely used in many fields, which not only greatly promote the development of national economies, but also deeply affect our daily lives. Over the past forty years, the United Nations supported and facilitated a number of activities under the Programme on Space Applications (UNPSA), including training courses, workshops, seminars, panels, meetings, fellowship programmes. By any standards, the accomplishments of UNPSA are extraordinary. The most important accomplishment of UNPSA is the establishment of six regional Centres for Space Science and Technology Education (Affiliated to the United Nations) in the world.

In February 2013, the Delegation of the Chinese Government made a proposal on establishing a New Regional Centre for Space Science and Technology Education (affiliated to the United Nations) to be hosted by Beihang University (BUAA) in China at the fiftieth session of Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS). The proposal gained the support of STSC and COPOUS. The inauguration ceremony of Regional Centre for Space Science and Technology Education in Asia and the Pacific (China) (affiliated to the United Nations) was held on November 17, 2014. The Chinese Government pays a high attention to the establishment of the New Centre and will give its full support to the futural development of the Centre. MIIT of China is the competent authority of the Regional Centre and Beihang University is the host institution.

Beihang University has extensive experience in space science, technology, application and related education. In order to respond to the proposal for UN Space Application Programme, Beihang International Space Education Center (BUAA-ISEC) was founded in 2004. In 2006, Master Programme on Space Technology Applications (MASTA) was offered. In 2013, Doctoral Programme on Space Technology Applications (DOCSTA) started. Over the past decade, Beihang University has trained hundreds of participants in the field of remote sensing, navigation, satellite communications and other space technology applications.

Space law can be described as the body of law governing space-related activities. Space law addresses a variety of matters, such as, for example, the preservation of the space and Earth environment, liability for damages caused by space objects, the settlement of disputes, the rescue of astronauts, the sharing of information about potential dangers in outer space, the use of space-related technologies, and international cooperation. A number of fundamental principles guide the conduct of space activities, including the notion of space as the province of all

humankind, the freedom of exploration and use of outer space by all states without discrimination, and the principle of non-appropriation of outer space. In addition, space law also contains a series of legal systems, just as liability system and registration system, and so on. In order to regulate national space activities, some countries have promulgated domestic laws to regulate and guide their space activities.

Capacity-building, training and education in space law helps to promote international development and cooperation in space activities and provides the means for a deeper understanding of the interdependent roles of science, technology and law in this area.

In view of this, as a new major under space technology applications, space law plays an important role in space technology applications. Currently, some regional centres (affiliated to the United Nations), including RCSSTEAP, have started space law education. The International Training Program on Space Law and Policy was successfully held by RCSSTEAP from 17-25 September, 2015. Thus the RCSSTEAP is the first regional centre to host the short term training class on space law among six regional centres.

Based on this, the RCSSTEAP decided to add a new major titled " Space Law and Policy" under MASTA since 2016 so as to promote the educational and training activities of space law at the regional and global level.

## **Purposes and objectives**

The purpose and objectives of organizing the program include: (a) strengthening the space law education at the regional and global level. (b) developing the skills and knowledge of participants, through training program on space law and policy related to space technology application that can contribute to the exploration and peaceful uses of outer space and sustainable development in each country; (c) implementing the United Nations Programme on Space Application better, through the training program on space law and policy; (d) conducting an useful trial to use the Education Curriculum on Space Law prepared by UNOOSA. (e) providing information related to national space legislation and policy for the participants; (f) promoting the exchange, understanding and cooperation in the areas of space law education.

With the strong support of UNOOSA, Chinese Government, RCSSTEAP and APSCO, the Program will take advantage of global resources of space law and the advantages of the Regional Centre and its partner in the field of space science and space technology application, invite high level technical, policy and legal experts in related field from all over the world , and provide lectures, practice courses to ensure the participants to have a comprehensive understanding on the policy, law, management and technical knowledge related space applications and make them the high-end talents so that they can provide the necessary strategic, technical, policy and legal support for the development of space applications in their home countries.

## **Organizational work**

The program will be sponsored by RCSSTEAP, and will be co-organized by Beihang University Institute of Space Law, China Institute of Space Law, Great Wall Industrial Group Co., Ltd. and

Beijing Institute of Technology Institute of Space Law. The International Research Center of Beihang Law School will provide necessary assistance. As observers of the Regional Centre, UNOOSA and APSCO will give strong support in curriculum design, teacher recommendation and so on. MIIT, CNSA, MOE of China and the partners of the Regional Centre will also actively support the smooth progress of the program.

As China's first professional university in the field of aerospace, Beihang University paid great attention to the development of the discipline of space law. Early in 2000, Beihang Law School, Beihang Institute of Space Law (ISL), which is the first specialized research institution of space law, was established. The institute currently has more than 20 faculty members including 5 professors, 5 associate professors. Some famous scholars, including Prof. P. S Dempsey, Prof. S. Hobe, Prof. F.V.D. Dunk and Prof. J. I. Gabrynowicz have been invited as adjunct professors. ISL establishes close cooperation with authorities, academic organizations and aerospace companies. It has also established intimate relationship with the world famous institutes and universities. From its inception, ISL is actively engaged in teaching and researching issues in space law and policy. At present, it has offered space law for undergraduates (elective course) and monographic study of space law for graduates majored in international law (Compulsory course). Since 2009, the faculty members of ISL offered a course titled "Introduction to Space Law" for the participants of MASTA. As co-organizer, the ISL provided important support for lecturers and organizational works to the short term program on space law and policy, which was co-sponsored by RCSSTEAP and APSCO and held in Beihang University from 17-25 September, 2015,

Over the years, China Institute of Space Law (CISL), as one of members of IISL, have been committed to promoting the development of space law in China and actively participated in the international academic exchange activities in related fields. The CISL can assemble and mobilize the academic resources in China to give strong support for the master program on space policy and law. As a subsidiary of China Aerospace Science and Technology Group, the Great Wall Industrial Group Co., Ltd. established intimate relationship with domestic aerospace industry so that it can provide adequate technical support and serve as a practice base. The Beijing Institute of Technology Institute of Space Law can provide support of lectures, software and hardware.

## Training Program

<b>Phase I</b>			
<b>Course Study in China: 9 months (at Beihang University)</b>			
(Leading to Course completion Certificate of Beihang University)			
	<b>Module I</b>	<b>Module II</b>	<b>Module III</b>
Formulation of an Individual Training Plan	Common Platform Courses	<ul style="list-style-type: none"> <li>● Major courses</li> <li>● Academic Lectures</li> <li>● Professional visits</li> </ul>	Pilot Project

<b>Phase II</b> <b>Thesis Research: 6 months (in China or home country)</b> <b>(Leading to Master's Degree in Engineering )</b>				
Thesis Survey and Thesis Proposal	Midterm Assessment	Academic Activities	Thesis Research	Thesis Defense

## Course Description

Lectures are conducted in English. The thesis for project practice is required to be written in English. Courses are organized into three modules as given above.

## Educational Measures

- (a) Students and supervisors interact to confirm the supervisor and create the education program.
- (b) Platform courses are primarily instructed in lectures with self-study as a supplement.
- (c) Special courses are instructed as lectures, self-study, and seminars.
- (d) practical project research 8weekss ( either in China or in students' home country, 4 weeks for technical practice, 4 weeks for team report )

## Testing Method and Requirement

- (a) Examination of platform courses and special courses is performed in written form.
- (b) For pilot-project, students are required to write special practice reports and thesis topic reports, which should be evaluated by her/his supervisor.

## Project Thesis

After completion of the 9 months core-course study at Beihang University, each participant is expected to finish an Advanced Research Project (6 months) for Master's Thesis at Beihang University/in Homeland. Advanced Research Project is the essential part of the graduate student program. The topic of the project is chosen by the participant, in consultation with his/her sponsoring organization and approval by the supervisor. The topic should be relevant to a specific practical project in space technology.

The project thesis should have a topic that uses outer space for peaceful reasons as a precondition. It should also be accomplished to promote the ability of space application and cognition level in her/his home country. The evaluation will be mainly focused on the topic of the thesis, range of the writer's knowledge, value and prospect of the thesis, etc.



## **Award of Degree**

This program is carried out according to the regulations and requirements of Beihang University. Participants will be awarded with the Graduation Certificate of Beihang University and Master's Degree Certificate of the People's Republic of China when fulfilling the credits requirements and passing the thesis/dissertation defense.

## **Academic Facilities**

MASTA program students have suitable classrooms. The computer teaching classroom, which includes an extensive range of PCs and multi-media equipment, provides dedicated facilities for participants in learning space science and technology.

## **Faculty and Academic Staff**

We will widely invite high level technical, policy and legal experts in related field from all over the world to participate in teaching tasks and serve as supervisors. The experts will come from the related University and research institution, and the most famous space law research institution, including McGill University Institute of Air and Space Law, Cologne University Institute of Air and Space Law, Leiden University International Institute of Air and Space Law, and so on. All lecturers of the Program have rich teaching and research experience on Space Law, good English skills, familiar with technical knowledge in related fields, and combine their expertise to guide students to complete their dissertations.

## **Teaching Methods and Teaching Aids**

Modern methods of teaching and instruction will be used for imparting and training during the courses. Printed and digital (CD-ROM) course material of the lectures will be supplied. The teaching methods include class room lectures, video lectures, field work, group discussion and case studies. Team teaching is the main approach. This process gives participants opportunity to benefit from the experience of more than one lecturer.

## 9-month Course Study Schedule

No.	Item	Class Hrs	Credits	Remark
<b>Module I Platform Courses</b>				
PC1-1	Introduction to Space Technology Application	32	2	Compulsory
PC3-1	Space Environment, Orbit and Spacecraft Systems	48	3	Compulsory
PC3-2	Basic theory of law	18	1	Compulsory
PC3-3	Space Technology and Space Economy	18	1	Optional
PC4-1	Introduction to China and Chinese Language	54	3	Compulsory
<b>Module II Major Basic Courses &amp; Major Courses</b>				
MC2-1	Basic concepts of international law and space law	32	2	Compulsory
MC2-2	National Space Policy	16	1	Compulsory
MC2-3	National Space Legislation	32	2	Compulsory
MC2-4	Legal Issues related to RS&GIS	16	1	Compulsory
MC2-5	Legal Issues related to Satellite Communication	16	1	Compulsory
MC2-6	Legal Issues related to GNSS	16	1	Compulsory
MC2-7	Space commercialization and the development of Space Law	16	1	Compulsory
AL2-1	Policy and Legal Issues on Peaceful Use of Outer Space	4	1	Compulsory
AL2-2	Soft Law and new trend of Space Law	4		
AL2-3	UNPSA and related legal Issues	4		
AL2-4	Hot Topics on Space Technology Applications	4		
<b>Module III Team Pilot Projects</b>				
PP	Team Pilot Project	12 Weeks	8	Select one of them