



Master Program on Space Technology Applications (MASTA)

— *focused on* **Global Navigation Satellite Systems (GNSS)**

What's MASTA

Space technology and its applications have been advancing rapidly in recent years, the achievements of which are regarded as one of the most important contributions to the human beings during the last four decades of the 20th century.

By introducing the *Education Curricula of Centres for Space Science and Technology Education* issued by the Office for Outer Space Affairs of the United Nations (UNOOSA), Beihang University initiated the Master program on Space Technology Applications (MASTA) especially for participants in Asia-Pacific region since 2006.

MASTA is an intensive Master program elaborately designed for the participants who have the basic experience in research, engineering, or administration institutions related to space technology applications. It is an application-oriented program which focuses on both academic knowledge and operational skills. It offers opportunities of learning more about the latest advances in Chinese space technology research and practice for scholars and professionals by setting up a powerful educational platform.

Main features of MASTA

- ✓ Standard duration in accordance with UN-affiliated regional centre: 9 months of course study + 6~12 months of project research
- ✓ Modularized curricula: module of fundamental courses + module of specialized courses + pilot project
- ✓ Flexibly tailor-made courses according to specific requirements
- ✓ Thesis topics focused on the resolution of the problems faced by the countries where the participants come from
- ✓ Diverse participating scholars from universities, research institutes, government agencies, and industry worldwide
- ✓ Practice in Chinese institutions related to space technology applications

Introduction to 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 60 years of development, BUAA has grown into a university of science and technology with aerospace features, covering disciplines of science, engineering, liberal arts, law, economics, management, and education. There are currently more than 26,000 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 57 subjects.

The campus of BUAA is adjacent to the Zhongguancun High-Tech Park of Beijing and is known for its beautiful environment and convenient transportation. Various facilities are available at campus to ease your life, including student dormitories, canteens, supermarket, bank, post office, gymnasium, stadium, etc.

Qualifications for Application

- ✓ The applicants are required no older than forty by the time of application deadline, while those below the age of thirty-five are more preferred
- ✓ The applicants should have experiences of working in the institutions or organizations related to space technology applications
- ✓ The applicants have to hold the Bachelor Degree of relevant discipline or the diploma equivalent to Bachelor Degree
- ✓ The applicants with research background in the relevant areas are considered with high priority
- ✓ The applicants must have good command of English and the ability to take courses in English

Important Note: *participants are REQUIRED to hold Private Passports only (official, service, or any other types of passports are not allowed) to study at Beihang University.*

Scholarship

China Scholarship Council (CSC) fully offers Chinese Government Scholarship for this program, covering

- tuition fee for 9 months course study at Beihang University;
- tuition fee for up to 1 year advanced research project for thesis;
- free accommodation during study at Beihang University (excluding the costs of water, electricity, and repairing);
- living allowance during stay at Beihang University of RMB1700 yuan per month (alterable with the updating regulation from CSC);
- insurance fee for only accidents and hospitalization treatments, according to the standard of CSC.

Application Procedures and Required Materials

Applicants should first log onto the website <http://laihua.csc.edu.cn> and register, then fill out the **ONLINE Application Form for Chinese Government Scholarship** by following the system instructions. Please notice that the specialty should be chosen as “Space Technology Applications”, and research direction as “Global Navigation Satellite System (GNSS)”, the language of instructions should be chosen as “English”. Please also notice that the “Agency No.” of Beihang University is 10006. After submitting the completed Application Form online, the system will generate a serial number

automatically. Print out the Application Form.

Finally, Applicants should submit the printed Application Form along with other required materials mentioned below to Beihang University by MAIL.

- A Health Certificate, which bears seal/stamp of clinic or hospital, should be completed by a medical doctor after proper physical examinations. The Health Certificate Form can be downloaded at <http://is.buaa.edu.cn/English/MASTAIIndexEng.aspx> by clicking the link: [Foreigner Physical Examination Form](#).
- Duplicated copies of a notarized diploma or certificate and notarized school-certificate transcripts of complete academic records.
- Two letters of recommendation from scholars or experts at or above the level of associate professors in sealed envelopes.
- 500-word essay about the participant's motivation for applying MASTA Program.
- Checklist for the submitted application documents which includes: (i). Duly filled and signed *Application Form for Chinese Government Scholarship*, (ii). Properly endorsed Health Certificate, (iii). Notarized Degree/Diploma certificate, transcripts of completed academic records, (iv). Two Letters of Recommendation (in sealed envelop); (v). 500-word Essay etc.

Note: All the above mentioned materials should be provided in English or with a translation in English. In order to speed up your application process, scanned copies can also be emailed to masta@buaa.edu.cn so that we can get your information in advance. Beihang will acknowledge the receipt of your application, and the scholarship will be evaluated. All the application documents will not be returned after submission.

Important Date

- If you want to apply for the **Chinese Government Scholarship**, please mail the required application documents to Beihang University before **March 10, 2013**. The decision on admission will be publicized before **May 10, 2013**.
- If you have your own funding, you can submit your application in an alternative way by visiting our “study at Beihang” website <http://is.buaa.edu.cn> and applying online. The deadline for self-funded application can be extended to **June 10, 2013**.
- The *Admission Notice* and related documents will be mailed to the successful applicants around **July 10, 2013**.
- The program will begin at the middle of **September 2013**.

Doctoral Degree Program related to Space Technology and its' Applications (DOCSTA) is launched in 2013, please visit our website “study at Beihang” (<http://is.buaa.edu.cn>) or contact us for more details.

Contact Information

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- Website of Beihang University for International Students: <http://is.buaa.edu.cn>
- Website of China Scholarship Council: <http://laihua.csc.edu.cn>
- Address: International Student Affairs Office, International School, Beihang University
No. 37 Xueyuan Road, Haidian District, Beijing 100191, P.R. China

Training Program

1st stage: Core Courses Study in China: 9-month (Leading to postgraduate certificate of Beihang)	
Module I: 2 months for fundamental courses	Module II: 4 months for major courses
Module III: 3 months for pilot-project (practice)	
2nd stage: Advanced Research Project in Participant's Homeland: 6-12 month(Leading to Master degree of Engineering of China)	
I. Advanced Project	II. Thesis Preparation and Defense
III. Graduation and Granting Master Degree in China	

9-month Course Study Schedule

Module I Fundamental Courses

No.	Course Name	Class Hrs	Credits	Remark
PC1-1	Probability and Statistics	42	3	Select one
PC1-2	Numerical Analysis	48	3	
PC1-3	Linear Algebra	48	3	Elective
PC2-1	Computer Laboratory (1): Matlab Programme	32	3	Elective
PC2-2	Computer Laboratory (2): C and C++Programme	48	3	Elective
PC3-1	Space Environment, Orbit and Spacecraft Systems	48	3	Compulsory
PC3-2	Introduction to Space Law	18	1	Elective
PC4-1	Introduction to China and Chinese Language	54	3	Compulsory

Module II Major Courses

No.	Course Name	Class Hrs	Credits	Remark
MC2-1	GNSS Reference System	18	1	Compulsory
MC2-2	Principle of Global Navigation Satellite Systems	32	2	Compulsory
MC2-3	Navigation signal	18	1	Compulsory
MC2-4	GNSS Receiver Principles and Design	32	2	Compulsory
MC2-5	GNSS/INS Integration Navigation	32	2	Compulsory
MC2-6	Global Satellite Navigation System Applications	18	1	Compulsory
MC2-7	Satellite Navigation Data Processing	32	2	Compulsory
MC2-8	GNSS Experiment	18	1	Compulsory
MC2-9	GNSS New Technologies	18	1	Compulsory

Module III Team Pilot Projects *

No.	Item	Class Hrs	Credits	Remark
TP1-1	BeiDou signal quality monitoring and analysis (1)	12 Weeks	8	Select one
TP1-2	BeiDou signal quality monitoring and analysis (2)	12 Weeks	8	
TP1-3	GNSS/DR integration algorithm study and	12 Weeks	8	
TP1-4	Outdoor/Indoor positioning algorithm study based on WiFi/BeiDou	12 Weeks	8	

* Update by years

The participants can select to complete their thesis at home country or at Beihang University.