



西北工业大学
NORTHWESTERN POLYTECHNICAL UNIVERSITY

Northwestern Polytechnical University (NPU) -APSCO PhD Program 2018 (English Medium)

About NPU

Located in the historic city of Xi'an, the cradle of Chinese civilization, and terminus of the ancient Silk Road, Northwestern Polytechnical University (NPU) is the only multidisciplinary and research-oriented in China that is simultaneously developing education and research programs in the fields of aeronautics, astronautics, and marine technology engineering. NPU was one of the first universities to enter into the 211 Project in 1995 and the 985 Project in 2001. NPU will continue to pioneer new pathways into the future in the process of building a world first-class university and world first-class disciplines.



Available Disciplines & Research Fields

School	Disciplines	Research Field
Astronautics	081105 Navigation, Guidance and Control	<ol style="list-style-type: none"> 1. Guidance and Control System of Flight Vehicles 2. Flight Control and Simulation Technique 3. Advanced Control Theories and Their Application
	082500 Aeronautical and Astronautical Science and Technology	<ol style="list-style-type: none"> 1. Propulsion System Design 2. Combustion and Flow in Engine 3. Heat and Mass Transfer, Thermo-Structure 4. Testing and fault Diagnosis of Propulsion System 5. Conceptual Design of Flight Vehicle 6. Structural Design of Flight Vehicle 7. Flight Dynamics and Control of Flight Vehicle 8. Aerospace Flight Vehicle System and Technology 9. Flight Vehicle System Engineering and Technology
Power and Energy	082503 Aeronautical and Astronautical Science and Technology	<ol style="list-style-type: none"> 1. Propulsion System Design 2. Thermodynamics of Propulsion System 3. Thermodynamics of Turbo Machinery 4. Combustion and Flow of Propulsion System 5. Strength, Vibration and Reliability 6. Aero Propulsion System Control 7. Measurement, Thermal Engineering Information Processing, Condition Monitoring and Fault Diagnosis

Introduction to the School of Astronautics

School of Astronautics was founded in 1958, based on Department of Aerospace Engineering and is one of the earliest to focus on the astronautical technology in China. In December 1988, Department of Aerospace Engineering was developed into School of Aerospace Engineering, and in July 2003 it was officially renamed as School of Astronautics. After 50 years' development, the School of Astronautics has formed a high-level team led by academicians and well-known experts. By May 2013, there are 124 full-time staff, including: 31 professors, 35 associate professors, 28 doctoral supervisors, 6 administrative staff and 10 experimental technicians. 104 teachers hold a doctor's degree, accounting for 84% of the total number. There are 2 members of the Chinese Academy of Engineering.

Currently, school of astronautics is composed of 5 departments, 1 research institution, 2 National Key Laboratory, 2 Provincial Key Laboratory and Engineering Research Center. There are 3 Post-doctoral Research Center: Aeronautical and Astronautical Science and Technology, Control Theory and Control Engineering, Armament Science and Technology. It provides 4 bachelor degree programs: Flight Vehicle Design and Engineering; Detection, Guidance and Control; Flight Vehicle Propulsion Engineering and aerospace engineering. Currently, there are 1500 students studying in the school, 800 of which are undergraduates.

Following the spirit of NPU, which is "firm basic knowledge, industries and serious work, plain and guileless style, creative and brave innovation", School of Astronautics has made remarkable achievement in training students and had high social reputation. It has cultivated more than 6000 senior talents specialized in aeronautics and astronautics, 2 of which are China's Top Ten Outstanding Youth.

Aiming at applying basic research into practice and meeting needs of national strategy, School of Astronautics undertook many research tasks and a number of important research results have been achieved, including development of more than 20 types of space vehicles, carrier rocket and satellites. The school was cited by Manned Space Engineering Office for its remarkable contributions to China's first manned flight test. School of Astronautics has become an influential institute in training excellent students and doing scientific research.

The School of Astronautics undertook many research programs, including "National Science Fund", "National 973 Plan", "National 863 Plan" and "Major National Science and Technology Project", and then numerous research achievements followed. Our predominant strength in areas such as Aircraft Overall Optimization Design, Flight Simulation, Solid-propellant Rocket Engine, the Rocket Combination Punching Power, the New Aircraft Control is repeatedly confirmed by the perfect collaborations with the industry and institution. Historically, four important exploring projects are hosted and more than twenty types of air vehicles, launch vehicle and satellites are developed by us, demonstrating our innovative solutions to real-world problems, and our growing investment in excellence. Particularly, the contributions in China's first manned flight test are so notable that the School of Astronautics was awarded by Manned Space Engineering Office of China.

Laboratories:

National Key Laboratory of Combustion, Thermal Structure and Flow Field

National Key Laboratory of Space Flight Dynamics

Microsatellite Engineering Laboratory of Shaanxi Province

Electric Servo Systems Engineering Research Center of Shaanxi Province

Introduction to the School of Power and Energy

School of Power and Energy commits itself to high level scientific research and talents cultivation in aircraft engine and alternative energy, with distinctive features in aeronautics, astronautics, and marine technology.

History

It was founded in October 1952 as the Department of Aircraft Engine of Huadong Aeronautics College which originated from Department of Aeronautical Engineering of Shanghai Jiao Tong University, Nanjing University (National Central University) and Zhejiang University respectively. The College changed its name to Xi'an Aeronautics College four years later when moved to Xi'an. In October 1957 Huadong Aeronautics College merged with Northwest Polytechnic Institute and later in 1970 acquired the Department of Aeronautics of Harbin Engineering College, thus finally became Northwestern Polytechnical University (NPU) and the then Department of Aircraft Engine upgraded to the present School of Power and Energy.

Faculty/Staff

The School has 108 faculty/staff members including 85 faculty members, in which 29 are full professors (1 academican of Chinese Academy of Engineering, 26 PhD supervisors) and 33 associate professors. We have 12 experts for state project 863\973, key state science and technology projects and General Armament Department (GAD), 1 elected in Shaanxi provincial 100-Talent Program and 4 for Ministry of Education New Century Excellent Talents Program.

Four departments and one research institute affiliate in the School, namely, the Department of Aeronautics Propulsion, the Department of Aeronautical Fluid Machinery, the Department of Engineering Thermophysics, the Department of Power Control and Test and Institute of Monitoring and Control for Rotating Machinery and Wind Turbines NPU&TU Berlin. The School offers 3 post-doctoral programs, 2 doctoral programs, 9 postgraduate programs and 3 undergraduate programs. Propulsion Theory and Engineering of Aeronautics and Astronautics marks as the national key discipline and is one of the earliest programs to offer doctoral and master degrees in China. Flight Vehicle Power Engineering as well as Automation rank as the national featured disciplines respectively. Thermal Energy and Power Engineering is regarded as the key major by State Commission of Science and Technology for National Defense Industry.

Research Lab

The School boasts of several key labs including State Key Science Laboratory of Cascade of Airfoil Aerodynamics, National Defense Key Laboratory of New Concept Jet Propulsion Technology, Aerospace Power and Technology Center, Shaanxi Provincial Center of Fault Diagnosis and Monitoring for Rotating Machinery, State Professional Laboratory of Thermal Engineering Information Processing, Innovation and Experiment Center for Postgraduates, Energy Conservation and Emissions Reduction Center for Undergraduates as well as other 9 professional labs.

International Cooperation

The School has established scientific and research cooperation with four eminent aircraft engine producers

in the world, including United Technologies Cooperation (UTC), GE, Rolls-Royce, Central Institute of Aviation Motors (CIAM, Russia) and various joint research institutes were set up soon afterwards, namely, Institute of Monitoring and Control for Rotating Machinery and Wind Turbines NPU&TU Berlin, in Heat Transfer and aerodynamics Lab between Rolls Royce and NPU ,Airworthiness Research Center with CIAM, etc. Annual exchanges of students and visiting scholars are conducted every year for talents cultivation and academic communication.

Students/Graduates

At present, the School has 1202 students including 837 undergraduates, 270 master degree candidates and 95 PhD candidates. It is one of the earliest schools of university in China to award doctoral and master degrees and the first ever aero engine doctor in China graduated from here. Up till now, the School has cultivated 186 doctorates and over 2000 master degrees, some of whom have become academic leaders, famous experts, government and Party leaders at all levels and others have been elites in scientific institutions, enterprises, public institutions and armed forces. Graduates played a vital role in economic development and national defense and can be found in just about every profession: aerospace, civil aviation, armed forces, machinery companies, electronics corporations and some big names such as Petro China and Sinopec in major cities like Beijing, Shanghai, Chengdu, Xi'an, Shenzhen and Shenyang, etc.

Research Achievements

The School has taken various research programs including state project 973/863, NSFC projects, national defense research, Large Aircraft, Hypersonic Vehicle and other state key science and technology projects, some of them have obtained phased results. The School led or participated in design and production of major models for General Armament Department, AVIC, AVIC Commercial Aircraft Engine Co, Ltd. With annual research funds over 55 million RMB, the School published more than 1000 articles in archived journals domestically and abroad, in which 600 were indexed by SCI/EI. The School has obtained 10 national and provincial science and technology awards, including 1 Second Prize for National Science and Technology Progress Award, 1 first prize for National Defense Technology Awards; 54 patents in application and the authorized invention patents reach to 30; over 20 high level academic monograph have been published. School of Power and Energy has made positive contributions to the aerospace industry and the modernization drive of our national defense.

PhD Cultivation

Regulations on Cultivating Overseas Students in Doctor's Program of Northwestern Polytechnical University are formulated in accordance with conferring doctor's degree on overseas students in Regulations of the People's Republic of China on Academic Degrees, Interim Measures for Implementation of the Regulations of the People's Republic of China on Academic Degrees and norms of relevant documents carried out by the Academic Degree Committee of the State Council and Ministry of Education and in combination with practical situations of NPU.

These regulations are the main foundation for formulating and implementing the doctor's program for overseas students. They are also the fundamental principles for those students' recruitment and their doctor's degree conferment.

We offer two types of doctor's program for those overseas students--- cultivated in English and in Chinese respectively. Those Disciplines that are authorized to confer doctor's degree in NPU shall recruit applied overseas students and cultivate them in Chinese. As for English-cultivated disciplines, after being approved by the Graduate School of NPU, shall also recruit overseas students applying for doctor's degree and cultivate them in English.

These regulations are the general requirements for cultivating overseas students in doctor's program. Each separate discipline shall formulate its own cultivating program for overseas students. Once approved, the program shall be put into enforcement strictly. If there are any changes, alterations shall be made according to the original approval procedures.

The research fields and curriculum for the overseas students in doctor's program shall be formulated in accordance with their different requirements. The provisions of cultivating objectives, cultivating plans, duration of study, cultivating process, publishing papers and requirements for scientific achievements are as follows:

A. Cultivating Objectives

- a. to enable overseas students to have a comprehensive understanding of China, including its politics, economy, history as well as culture and to enable them to have basic capability to understand and communicate with others in Chinese.
- b. to equip overseas students with all-round basic theories and systematic and professional knowledge in disciplines concerned, and with skills to do scientific research independently so as to make creative contributions in science and technology.
- c. to benefit students' physical and mental health, and to provide them with good academic ethics and spirits and to cultivate their scientific and practical learning attitude and working style.

B. Research Field

Research fields for overseas students in cultivating plans of doctor's program should be listed explicitly.

The research fields are the basis of recruiting and cultivating the overseas students. The research fields are

required to be in the third-level academic areas in disciplines. Mentors and other teachers in disciplines concerned are required to have done much research work and their programs are still continuing supported by stable subjects and funds in relevant fields. The research fields must reflect cutting edge of disciplines concerned, and follow advanced scientific development at home or abroad.

Those emerging research fields in the interdisciplinary or marginal disciplines can be incorporated into the doctor's program based on relevant disciplines. The corresponding doctor's program should be formulated after new disciplines' approval and establishment.

C. Cultivating Plan

Cultivating overseas students in doctor's program is based on the mentor responsibility system which adopts a mentor as the first responsible one or a mentor-based responsibility of the instructing team. The instructing team, composed of 3-5 associate professors and professional teachers (including mentors), shall be nominated by mentors and then approved by relevant schools with mentors playing a leading role in the overseas graduates' cultivating according to research fields and contents of subjects. The instructing team shall assist mentors to instruct in courses, research work and dissertation. Schools and the Branch of Degree Committee shall guide and inspect the program of cultivating the overseas students' pursuing doctor's degree.

During the process of cultivating program, both theoretical study and scientific research shall be combined together. The program shall pay attention to cultivate the ability of doing scientific work creatively and independently, to teach them how to learn by themselves, how to analyze and solve practical problems. To participate in academic activities and to be engaged in research independently are encouraged and supported, and to select the research field of the thesis and to do exploring research are also welcomed. For those students who are lack of experience and expertise and interdisciplinary knowledge, mentors and schools shall create favorable environment for them to make up.

D. Types of Study and Duration

The doctor's program requires 4 years of full time study.

E. Curriculum Requirements

Overseas students in doctor's program should get at least 16 credits in courses concerned.

Curriculum requirements:

Curriculum	Course Content	Requirement	Credits
Compulsory Courses	Public Courses (Chinese Language, Brief Introduction of China)	Compulsory	8 credits
	Basic Theory Courses	Compulsory	≥ 2 credit
	Basic Specialized	Compulsory	2 ~ 4 credits

	Courses		
Elective Courses	Specialized Courses	Elective	≥ 4 credits

The curriculum plans for overseas students in doctor's program shall be completed within 20 days after enrollment, and the courses concerned shall be finished within one year after entrance.

The courses of basic theory, specialized basic courses and specialized courses for overseas students cultivated in Chinese shall be selected among the courses the same as in domestic academic doctor's cultivating program. And the overseas students shall attend the classes concerned together with domestic students of NPU.

The basic theory courses, basic specialized courses and specialized courses of overseas students cultivated in English shall be taught in English. And all these courses can be selected among the courses in the doctor's program of English-cultivated.

F. Cultivating Process

a. Course of Study

Course of study in the doctor's program is an important process in cultivating postgraduates, which shall meet relevant requirements for credits.

b. Scientific Research

During the process of conducting scientific research in the doctor's program, mentors and relevant schools shall create innovative and cooperative atmosphere, insist on the combination of theoretical knowledge and real practices and emphasize on cultivating students' capability in the aspects of research, creativity, teamwork and organizing. Mentors shall offer overseas students more scientific guidance on the application for the National Natural Science Foundation and the establishment of national scientific research projects.

c. Dissertation Proposal

The dissertation proposal of the doctor's program is a starting point for dissertation writing. Students shall read relevant books and write literature reviews under the guidance of their mentors. The proposal shall include significance of selected topic, research background, contents of research, expected objective, research methodology and premises of research etc.

Reviewing panels of doctor's program shall be established under the agreement among the relevant school, the Branch of Degree Committee and mentors. The panels shall consist of at least three senior professional technicians, one of them be the chairman of reviewing panels. The students are required to make a presentation on their dissertation proposal and then the reviewing panels evaluate the proposals strictly and make decisions.

The overseas students in the doctor's program who pass the assessment shall be permitted to continue their dissertation writing. For those who fail, they shall be given yellow card warning and make rectifications within a time limit, and then make presentations again. If they still fail, their doctor's degree shall be terminated or

they shall be cultivated in other reversed programs.

The dissertation proposal of doctor's program is designed to be finished in the second semester or at the beginning of the third semester. The requirements for dissertation proposal are decided by mentors and the Branch of Degree Committees. The whole process from the proposal to application for defense of dissertation shall be no less than two years.

d. Mid-term Assessment

The interim progress report of the dissertation writing of doctor's program shall be submitted and reported to the assessment team around one year after the approval of proposal. The content of the report shall include the following aspects: whether the dissertation writing is conducted in accordance with the previously expected contents and schedule of research or not; the completed research; academic research activities; current or potential problems and possible solutions, and further work of research. Materials such as submitted papers, published papers, patents and scientific research achievements shall be included in the reports.

In terms of the interim progress and the development of disciplines concerned, the overseas students in the doctor's program are allowed to make necessary adjustments about certain contents in their proposals (including title, contents, schedule planning, etc.). When they apply for the oral defense of dissertation of doctor's degree, the contents of the dissertation shall be basically consistent with the confirmed contents in the mid-term assessment.

Similarly, the assessment team for the mid-term assessment is established under the agreement among the school, the Branch of Degree Committee and mentors. The team shall consist of at least three senior professional technicians (one of them as the chairman). The assessment team shall evaluate the interim progress report. The overseas students in the doctor's program who pass the assessment shall be permitted to continue their dissertation writing. For those who fail the assessment, they shall be given yellow card warning and need to modify it in stipulated time, and then report it again. If they still cannot pass the assessment, the doctor's degree shall be terminated or they shall be cultivated in other programs.

e. Dissertation Writing

Dissertation of Doctor's degree is a systematic and academic research result done by the students independently under the guidance of their mentors. The dissertation shall be academic and be finished by considerable efforts and reflect the students have already mastered the basic theoretical knowledge and systematic and specialized knowledge under the disciplines concerned, been equipped with the capability of making scientific research independently and generated creative products in science or in a special technology. As for the requirements of dissertation writing, please refer to The Regulations of Degree Dissertation Writing in Northwestern Polytechnical University.

The dissertation of overseas students cultivated in Chinese shall be written in Chinese and a corresponding abstract in English is required while cultivated in English shall be written in English and a corresponding abstract in Chinese is also required.

f. Preliminary and Formal Dissertation Defense

Before the overseas students apply for formal dissertation defense in the doctor's program, the preliminary defense shall be held by the Branch of Degree Committee according to the specific situations. The experts attending preliminary defense shall be organized by the Branch of Degree Committee and mentors. These experts are usually the professors in relevant disciplines. There shall be at least three professors attending the preliminary defense. After the preliminary defense, the experts shall make conclusions and decisions. For those who fail in the preliminary defense, they are required to modify their dissertation and make another oral defense in stipulated time. As for the application of dissertation defense, please refer to the regulations formulated by the University Degree Evaluation Committee.

The dissertation defense of the students cultivated in Chinese shall be done in Chinese while the cultivated in English shall be done in English.

G. Requirements for Paper Publishing and Research Achievements

The quantity and quality of the published papers for the overseas students in the doctor's program are one of the important standards in measuring the quality of Doctor's program cultivating and Doctor's degree conferment. The overseas students are encouraged to publish papers with high quality. As for the specific requirements for paper publishing, please refer to Regulations on Publishing Academic Papers during the Period of Graduate Studies in Northwestern Polytechnical University.

Scholarship and Financial Support

The applicants are welcome to apply for Chinese Government Scholarship (CSC) at Northwestern Polytechnical University. The full scholarship will cover the following items:

1. Exempt from registration fee, tuition fee, and accommodation fee;
2. Comprehensive Medical Insurance;
3. Monthly stipend is granted to the students at the following rates:
Doctoral degree candidate: 3,500 RMB/month

Eligibility

1. Applicants should be non-Chinese citizens, and healthy;
2. Applicants who apply for the Ph.D. scholarship should have their master's degree and be under 40;
3. Applicants should have good academic marks.
4. Applicants should have strong capacity in scientific research.

Application Deadline

Applicants should post all the required documents to the **Contact Person at APSCO**

by **March 30, 2018**.

Required Documents and Application Procedures

Application Documents

1. Application form for Chinese Government Scholarship.
2. Notarized highest diploma.
3. Academic transcripts.
4. Two letters of recommendation.
5. A study plan.
6. Notarized copies of research achievements.
7. Certificate of English proficiency.
8. A copy of valid passport.
9. Physical Examination form.
10. Others.

Application Procedures

1. Applicants should register and apply online on the following web page:

<http://www.campuschina.org/> (**TYPE B**, the agency No. for NPU is **10699**). Please provide the address, passport No. and contact No. correctly and in detail since we will send the admission notice through these messages.

2. After the online registration, applicants should print the auto-generated Application Form for Chinese

Government Scholarship and submit it to the International College in principle.

3. Notarized highest diploma or certificate. If the applicant is studying in university or working in company, he/she has to submit the studentship certificate (notifying graduation time) or working certificate produced by his/her university or company. If the certificate is not in English or Chinese, it has to be notarized in English or Chinese.
4. Transcripts or notarized transcripts if they are neither English nor Chinese.
5. A study plan in English or Chinese (not less than 1500 words for doctor's degree applicants).
6. Recommendation letters in English or Chinese by two professors or associate professors.
7. Certificate of English Proficiency: TOEFL, IELTS, or GRE. Certificate of English proficiency which is notarized by his/her university is accepted as well.
8. Physical Examination Form. Applicants should strictly follow the requirements of the Physical Examination Form. It will be invalid if there is page missing, or no photo or no seal on the perforation or no signature by the hospital or doctor in the form. The result of the examination will be valid for 6 months. Please arrange the time of your physical examination appropriately.

Contact Information

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