



**Bachelor Program of
Flight Vehicle Design and Engineering
(in English)**

飞行器设计与工程专业本科教学计划（英文授课）

2012-2014 年实际运行计划（2012 级）

School of Aeronautical Science and Engineering

Beihang University, Beijing, China

北京航空航天大学航空科学与工程学院

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Bachelor Program of Aeronautical Science and Engineering

[Introduction to School of Aeronautical Science and Engineering]:

As aeronautics and astronautics is the symbols of a country's advanced technology, School of Aeronautic Science and Engineering (SASE) is one of the best departments and with the feature of aeronautic and astronautic in Beihang University. With strong faculty, there are 58 professors(51 doctoral tutors), 48 vice professors, 70% of the staff are teachers, 83% of young teachers are with doctoral degree, more than 50 teachers have the experience of research on doctoral degree and post-doctoral degree. The school has 4 units as subordinate departments, which are: Aircraft Department, Research Institute of Fluid Mechanics, Research Institute of Solid Mechanics, Department of Human-Aircraft and Environment Engineering, involving 4 first class disciplines and 7 second class disciplines. Of all the first class disciplines, the Aeronautic and Astronautic Science and Technology ranks the first in the whole nation, while Mechanics ranks the second and Traffic Transportation ranks the third. The school has 8 doctor stations, 7 master stations and 3 post-doctor moving stations. Mechanics, Aeronautic and Astronautic Science and Technology, and Traffic Transportation Engineering are first class doctor stations. Fluid Mechanics, Solid Mechanics, Aircraft Design, Human-Aircraft and Environment Engineering, and Engineering Mechanics are national key disciplines. The school also has Beijing Mechanics Educational Demonstrating Center, Aeronautic Innovation and Practice Base, Airplanes Display Room, Solid Mechanics Educational Experimental Center, Flying Control and Simulation Lab, Environmental Simulation and Imitation Lab. Furthermore, the national famous aeronautic education and popular science base -- Beijing Aeronautic Museum, is also built in the school. Today, the school has developed into a national top-ranking aeronautic school, which is also an important base for cultivating aeronautic and astronautic talent people with high qualities, as well as a science research base for solving important and key technologies in the aeronautic and astronautic field.

Education Curriculum:

the 1st Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A09A101I	工科高等数学#(1) Advanced Mathematics for Engineering (1)	90	6.0	Compulsory	NSC	Examination
B25D111I	中国概况 Introduction to China	16	1.0	Compulsory	HC	Examination
B25D116I	汉语 (1) Chinese (1)	64	3.0	Compulsory	HC	Examination
C05D101I	航空航天概论 B Introduction to Aeronautics and Astronautics B	26	2.0	Compulsory	ETC	Examination
C06D101I	计算机文化基础 University Computer Foundation	44	2.0	Compulsory	ETC	Examination
C32D101I	工程认识 Engineering Experience and Cognition	20	0.5	Compulsory	ETC	Test
E07B103I	工程图学 B Engineering Graphics B	64	4.0	Compulsory	FMC	Examination

the 2nd Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A09A102I	工科高等数学 (2) Advanced Mathematics (2)	86	5.0	Compulsory	NSC	Examination
A09A103I	工科高等代数 Advanced Algebra	112	6.0	Compulsory	NSC	Examination
A19A101I	工科大学物理 (1) University Physics for Engineering (1)	64	4.0	Compulsory	NSC	Examination

B25D117I	汉语#(2) Chinese (2)	64	3.0	Compulsory	HC	Examination
C25D121I	C 语言程序设计 C Programming Language	48	2.5	Compulsory	ETC	Examination
G32A201I	机械工程技术训练 A Mechanical Technology Practice A	140	3.5	Compulsory	PC	Test

the 3rd Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A09B204I	概率统计 A Probability Statistics A	64	4.0	Compulsory	NSC	Examination
A19A202I	工科大学物理 (2) University Physics for Engineering (2)	64	4.0	Compulsory	NSC	Examination
A19A103I	基础物理实验 B (1)# Fundamental Physics Experiments B (1)	28	1.5	Compulsory	NSC	Examination
E02B231I	电路分析 Circuit Analysis	64	4.0	Compulsory	FMC	Examination
E05B203I	材料力学 A(1) Mechanics of Materials A(1)	40	2.5	Compulsory	FMC	Examination
E05B201I	理论力学 A(1)# Theoretical Mechanics A(1)	64	4.0	Compulsory	FMC	Examination

the 4th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
A19A104I	基础物理实验 B (2)# Fundamental Physics Experiments B (2)	24	1.5	Compulsory	NSC	Examination
E05B204I	材料力学 A(2) Mechanics of Materials A(2)	58	3.5	Compulsory	FMC	Examination
E05B202I	理论力学 A(2) Theoretical Mechanics A(2)	26	1.5	Compulsory	FMC	Examination
E07B203I	机械原理 Theory to Machines and Mechanism	54	2.5	Compulsory	FMC	Examination
E05C241I	空气动力学 (1) Aerodynamics I	54	3.0	Compulsory	FMC	Examination
E07B211I	工程材料学 The Science of Engineering Materials	34	2.0	Compulsory	FMC	Examination
G32A204I	电子工程技术训练 Electronic Technology Practice	80	2.0	Compulsory	PC	Test
F05D231I	数理方程 Equations of Mathematical Physics	32	2.0	Elective	MC	Examination

the 5th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E05C341I	空气动力学(2) Aerodynamics II	42	2.5	Compulsory	FMC	Examination
E07B304I	机械设计 Mechanical Design	64	3.0	Compulsory	FMC	Examination
F05D312I	直升机总体设计 Helicopter General Design	24	1.5	Compulsory	MC	Examination
F05D341I	计算流体力学 Computational Fluid Dynamics	36	2.0	Compulsory	MC	Examination
F05D413I	气动弹性设计 Aero-elastic Design	16	1.0	Compulsory	MC	Examination

the 6th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E07D309I	机械设计课程设计 A Practice of Mechanical Design A	160	4.0	Compulsory	FMC	Examination
E05C322I	自动控制原理 B Automatic Control Theory (B)	48	3.0	Compulsory	FMC	Examination
F05D331I	计算方法 Computational Method	32	2.0	Compulsory	MC	Examination
E05C311I	飞行结构设计 Design Aircraft Structure Design	48	3.0	Compulsory	FMC	Examination
F05D888I	直升机飞行力学 Helicopter Flight Dynamics	36	2.0	Compulsory	MC	Examination
F05D336I	实验流体力学 Experimental Fluid Mechanics	32	2.0	Compulsory	MC	Examination
F05D441I	高超音速空气动力学基础 Fundamentals of Hypersonic Aerodynamics	32	2.0	Compulsory	MC	Examination

 the 7th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E05C352I	传热学 Heat Transfer	56	3.5	Compulsory	FMC	Examination
E05D3310	弹性力学 Mechanics of Elasticity	32	2.0	Elective (in Chinese)	FMC	Examination

 the 8th Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
G05D4010	毕业设计 Graduation Thesis	16wks	8.0	Compulsory	PC	Test

Explanation of course type:

NSC: Natural Science Courses (自然科学类课程)

ETC: Engineering Technology Courses (工程技术类课程)

MC: Major Courses (专业课程)

HC: Humanities Courses (人文社科类课程)

FMC: Fundamental Major Courses (学科与专业基础课程)

PC: Practice Courses (实践类课程)