



**Bachelor Program of  
Civil Engineering  
( in English )**

土木工程专业本科教学计划（英文授课）

**2014**

Department of Civil Engineering  
Beihang University, Beijing, China  
北京航空航天大学土木工程系

April, 2014

## Bachelor Program of Civil Engineering

### [Introduction to Department of Civil Engineering]:

Established in 1999, the Department of Civil Engineering at Beihang University is committed to offering a broad range of high-quality educational programs and state-of-the-art research opportunities within the field. Our educational programs in both undergraduate and graduate level provide students a sound foundation in the fundamentals of science and engineering coupled with proficient technical expertise in specialized fields, preparing students for leadership in the profession of civil engineering. Our interdisciplinary research activities give students a variety of opportunities to work on problems beyond traditional areas of the field.

Currently there are 18 full-time faculty members in the Department of Civil Engineering dedicated to the education of more than 200 undergraduate students and 80 graduate students. All faculty members including 6 professors, 6 associate professors and 6 lecturers, earn the PhD degree from the most prestigious universities in China and oversea. 90% of our faculty members have research experience abroad in U.S., Europe and Japan. The department also has ten adjunct professors from other top universities and research institutions across the country, including a member of Chinese Academy of Engineering.

There are four fully-equipped laboratories in the Department of Civil Engineering facilitating the education and research need. Through the extensive training in the Structural Engineering Laboratory, Geotechnical Engineering Laboratory, Construction Materials Laboratory and Surveying Information Technology Laboratory, students earn hands-on experience in broad fields of specialization in civil engineering.

The interdisciplinary research in the Department of Civil Engineering attracts significant support from the governmental and provincial foundation and corporate collaboration funds. The faculties also remain active research collaborations with internationally renowned researchers in U.S., Europe and Japan. Our faculties are actively engaged in the following research areas: advanced structural analysis, constitutive theory of rock/soil materials and slope stability analysis, chemistry in rock materials, durability of cement-based materials, structural health monitoring of infrastructure, safety study and durability of airport pavement, structural modeling and numerical simulations, smart materials in civil engineering and advanced geomatics technologies.

### Education Curriculum:

the 1<sup>st</sup> 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	大学计算机基础 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 2<sup>nd</sup> Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
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A09A102I	工科高等数学 (2) Advanced Algebra for Engineering (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
F13D171I	建筑工程制图与 AutoCAD 后延 Architectural Engineering Drawing and AutoCAD	24	1.5	Compulsory	MC	Examination
E13D151I	土木工程概论 Introduction to Civil Engineering	16	1.0	Compulsory	MC	Examination

the 3<sup>rd</sup> 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 Circuits 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)# The Principles of Automatic Control A(1)	64	4.0	Compulsory	FMC	Examination
G32A201I	机械工程技术训练 A Mechanical Technology Practice A	140	3.5	Compulsory	PC	Test

the 4<sup>th</sup> 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) The Principles of Automatic Control A(2)	26	1.5	Compulsory	FMC	Examination
E13C262I	土木工程材料 Civil Engineering Materials	56	3.5	Compulsory	FMC	Examination
E13C271I	结构力学(I) Structural Mechanics (I)	48	3.0	Compulsory	FMC	Examination
E13C261I	测量学 Surveying	40	2.5	Compulsory	FMC	Examination
G32A204I	电子工程技术训练 Electronic Technology Practice	80	2.0	Compulsory	PC	Test

the 5<sup>th</sup> Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E13C272I	结构力学 (II) Structural Mechanics (II)	32	2.0	Compulsory	FMC	Examination

E13C372I	土力学 Soil Mechanics	48	3.0	Compulsory	FMC	Examination
E13C361I	混凝土结构设计原理 Design Principles of Structural Concrete Members	64	4.0	Compulsory	FMC	Examination
E13C366I	基础工程 Foundation Engineering	32	2.0	Compulsory	FMC	Examination

the 6<sup>th</sup> Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
E13C362I	混凝土结构与砌体结构设计 Design of Reinforced Concrete Structure and Masonry Structure	40	2.5	Compulsory	FMC	Examination
E13C363I	钢结构设计原理 Basis of Steel Structural Design	56	3.5	Compulsory	FMC	Examination
E13C364I	土木工程施工 Civil Engineering Construction	56	3.5	Compulsory	FMC	Examination
E13C365I	高层建筑结构 High-rise Building Structures	24	1.5	Compulsory	FMC	Examination

the 7<sup>th</sup> Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
F13D461I	结构抗震 Earthquake-resistant Structures	32	2.0	Compulsory	MC	Examination
F13D472I	建筑结构检验 Testing of Building Structures	16	1.0	Compulsory	MC	Examination
F13D474I	土木工程设计软件介绍 Introduction to Design Software in Civil Engineering	16	1.0	Compulsory	MC	Test

the 8<sup>th</sup> Semester

Code	Title	Hours	Credits	Note	Type	Evaluation
G13D4010	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)