Curriculum of Computer Science and Technology

Xi'an Jiao Tong University

The information below is extracted from the existing curriculum for your reference. The university reserves the right to adjust the curriculum as appropriate. Therefore, Please refer to the curriculum used in the year of entry as final curriculum.

1. Program Overview

University：Xi'an Jiao Tong University

School：School of Computer Science and Technology

Major：Computer Science and Technology

Duration：4 Years

Awarding Degree：Bachelor of Engineering

2. Teaching Outcome

The major aims to cultivate outstanding talents who master solid basic theory and professional knowledge of computer science and technology, with sound personality, humanistic feelings, social responsibility, international vision and leading quality. Undergraduates have ability of systematic thinking and research and development in computer-related fields, and can engage in scientific research, technological innovation, engineering application and organizational management related to computer science and technology majors, and play a backbone and leading role in the industry.

Five years after graduation:

1. Students are able to comprehensively consider technology, economy, law, environment, ethics factors and etc. Also, they can identify, express and analyze the related complex engineering problems in the computer field, and then study and formulate reasonable solutions. Moreover, they can apply various modern tools and management technologies to complete the implementation of the project;

2. Students have a high sense of social responsibility and noble professional ethics, and possess team organization and management ability and leadership;

3. Students have an international vision, and can effectively communicate with domestic and foreign peers and customers;

4. Students are equipped with the consciousness of independent learning and lifelong learning, and can closely follow the global development trend of computer technology, and constantly apply the latest knowledge and technology to the solution of complex engineering problems.

3. Curriculum

（1）Main Subject：Computer Science and Technology

（2）Relevant Subjects： Control Science and Engineering, Information and Communication Engineering, Microelectronics Science and Engineering

（3）Detailed Curriculum for International Students

1）General Courses

Type	Code	Title	Credits	Compulsory/ Optional	Semester	Teaching language
Public Courses	LITE200621	Chinese Listening and Speaking1	4	Compulsory 22 Credits	1-1	Chinese
	LITE200521	Chinese Listening and Speaking	4		1-2	Chinese
	LITE200721	Comprehensive Chinese1	6		1-1	Chinese
	LITE307021	Comprehensive Chinese2	4		1-2	Chinese

Type	Code	Title	Credits	Compulsory/ Optional	Semester	Teaching language
	LITE101021	Overview about China	2		1-2	Chinese
	JZSJ900121	Traditional Chinese Culture Practice1	1		1-1	Chinese
	JZSJ900221	Traditional Chinese Culture Practice2	1		1-2	Chinese
	PHED109050	Sports1	0.5	Compulsory 2 Credits	1-1	Chinese
	PHED109150	Sports2	0.5		1-2	Chinese
	PHED109250	Sports3	0.5		2-1	Chinese
	PHED109350	Sports4	0.5		2-2	Chinese
Compulsory 24 Credits						

2）Fundamental Courses

Type	Code	Title	Credits	Compulsory/ Optional	Semester
Mathematics and Natural Science Courses	MATH295707	Advanced MathematicsI-1(international students)	5.5	Compulsory 34.5 Credits	1
	MATH295907	Advanced MathematicsI-2(international students)	5.5		2
	MATH295807	Linear Algebra and Geometry(international students)	3.5		1
	COMP250105	Adiscrete Mathematics	4		4
	MATH295507	Probability Statistics	3		4
	PHYS281509	University PhysicsII-1	4		2
	PHYS281609	University PhysicsII-2	4		3
	PHYS281809	Experiment in University PhysicsI-1	1		2
	PHYS281909	Experiment in University PhysicsI-2	1		3
	COMP300205	Programming Fundamentals	3		2
Subtotal of Mathematics and Natural Science Courses			Compulsory 34.5 Credits		
Basic Major Courses	ELEC321104	Circuit	4.5	16.5	4
	EELC321804	Fundamentals of Analog Electronics	4		5
	EELC323004	Electronics Laboratory-1	0.5		5
	COMP400505	Data Structures and Algorithms I	3.5		4
	EELC300505	Electronics Laboratory-2	0.5		5
	EELC400105	Digital Logic Circuit	3.5		5
Subtotals of Basic Major Courses			Compulsory 16.5 Credits		

3）Professional Courses and Concentrated Practice

Type	Code	Title	Credits	Compulsory/Optional	Semester
Professional Core Courses	COMP460705	Comprehensive Design Experiment of Computer System	1	Compulsory 25.5 Credits	10
	COMP000105	Introduction to Computer Science and Technology	1		4
	COMP460405	Experiment of Data Structure and programming	1		6
	COMP462205	Algorithmic Analysis and Design	2.5		5
	COMP450105	Computer Composition	4		7
	COMP450205	Principle of Operating SystemI	3		7
	COMP450505	Principle of Computer Network	3		7
	COMP450905	Experiments of Computer Composition and Structure	1		7
	COMP451005	Experiments of Operating System Design	1		7
	COMP450305	Formal Languages and Compilation	3.5		8
	COMP451105	Experiments of Compiler Design	1		8
	COMP460605	Experiments of Computer Network	1		8
	COMP462105	Database System	2.5		8
Subtotal of Professional Core Courses			Compulsory 25.5 Credits		
Elective Major Courses	COMP551005	Assembly Language	2.5	Optional 8 Credits	5
	COMP561805	JAVA Programming	2		5
	COMP551605	Artificial Intelligence	2.5		7
	COMP560405	Introduction to Internet of Things Applicatio	2		10
	COMP300727	Embedded Intelligent System	2		8
	COMP550705	Software Defined Network	2		8
	COMP561705	Software Engineering	2		8
	COMP462405	Network and Information Security	2		10
	COMP562205	Computer Vision and Pattern Recognition	2.5		8
	COMP551705	Data Warehouse and Data Mining	2		10
	COMP550605	Introductory Combinatorics	2		5
	COMP551805	Computer Graphics	2.5		7
Elective Major Courses			Optional 8 Credits		
Concentrate Practice	ITDE900127	Programme Design	1	Compulsory 16 Credits	10
	PRAC400205	Professional Practice II	3		9
	PRAC400105	Professional Practice Ⅰ	1		6
	GRDE900100	Graduation Project (paper)	10		11
	EPRA300252	Electrical Engineering Practice	1		5
Subtotal of Concentrate Practice			Compulsory 16 Credits		

Type	Code	Title	Credits	Compulsory/ Optional	Semester
Total				124.5 Credits	

4. Graduation and Degree Awarding Requirements

For graduation, Students should take 124.5 credits, including 24 credits in general courses, 51 credits in fundamental courses and 49.5 credits in professional courses and concentrated practice.

Students will be awarded bachelor of engineering if they meet the requirements of degree awarding.