

Computer Science and Technology

(Software Engineering)



Education Objectives

1. Students will have deep knowledge and understanding of the hardware and software aspects of computers;
2. Students will have skills in designing a software product to meet the desired needs within realistic constraints.
3. Students will have hands on knowledge in planning and coordinating a team effort to develop a substantial software product.
4. Students will be able to precisely identify and solve software problems

Job Prospects

The hiring outlook for software engineers is favorable, thanks largely to new, exciting technology like IoT, AI Big Data and cloud. The job opportunities in the field of software engineering will continue to expand through out the next two decades—and a bachelor's degree will be a prerequisite for many of these positions based on statistics data in China as well as around the world.

Practical Teaching

Practical Teaching includes at least 5 course projects in such courses as C Programming, Data Structure and Algorithms, The Principles of Database System and Application, Web Application Development etc. We also provide at least 3 months of interning in IT companies and related organizations and 1 semester for Graduation thesis.

Duration

4 years.

Core Courses

The core courses for CS major includes C programming; Data Structure and Algorithms; Operation System; Data communications and Computer Network; The Principles of Database System and Application; Object-oriented java programming; Multimedia Technology; Web Application Development; C++ Programming; Unified Modeling Language ; Android Development; Software Engineering.

Course Title: Multimedia Technology

Course Code: SWE120

Credits:3

Credit Hours:48

Course Description

The main contents of this course include the basic theories of image, audio, video, animation, etc. Through this course, students will learn about the concepts of multimedia technology, including the key technologies and development of multimedia technology, basic knowledge of digital audio, audio digitization, basic format of sound files, the basic concept of graphic images, image digitization, basic theory of color mode, the basics of analog video and digital video, image compression standards, computer animation theory. At the same time, the students are going to master the skills of media editing software including: the usage of audio editing software (Adobe Audition), the usage of image processing software (Photoshop), the usage of vector animation software (Flash), and the usage of video editing software (Premiere).

Course Title: Mobile Development

Course Code: SWE124

Credits:3

Credit Hours:48

Course Description

Mobile development for beginners. The course is task oriented. Students should learn the Java Programming course before this course. Contents include: Model-View-Controller framework for Android, Activity Lifecycle, Debugging of Android Apps, Activity calling, UI Fragments, XML Layout Attributes, RecyclerView and Adapter, Fragment Arguments, ViewPager and FragmentStatePagerAdapter, DialogFragment, Toolbar and Menus, SQLite Databases.

Course Title: C programming

Course Code: SWE103

Credits:6

Credit Hours:96

Course Description:

Building on the fundamental of programming skills and prerequisites of other courses, this course will teach you how to set up C programming environment, e.g. what IDE you can use to code and run your program, as well as how to test and debug your program. After this course, you'll be able to write the program by first planning and design what your program should do to solve the program. Here's the list of general contents you are going to learn, Basic syntax of C language, e.g. how to use keywords, declare variables etc. The decision making and loop statements. Functions. Arrays. Pointers. Struct.

Please refer to this tutorial link <http://www.tutorialspoint.com/cprogramming/index.htm> for details

Course Title: Data Structure and Algorithm

Course Code:SWE110

Credits:6

Credit Hours:96

Course Description:

This course "Data Structure and Algorithm" is provided for Computer Science and Software Engineering and related majors. It describes data structures, methods of organizing large amounts of data, and algorithm analysis, the estimation of the running time of algorithms. This course is aimed at serving for undergraduate engineering students of computer science and postgraduate level courses of computer applications. The objective of this course is to introduce the concepts of data structures and apply these concepts in problem solving. The course provides a thorough and comprehensive coverage of the fundamentals of data structures and the principles of algorithm analysis. The main focus has been to explain the principles required to select or design the data structure that will best solve the problem. A structured approach is followed to explain the process of problem solving. A theoretical description of the problem is followed by the underlying technique. These are then largely supported by an example followed by an algorithm, and finally the corresponding program in C language. The main contents of this course include:

Basic concepts of Data Structure and Algorithm
Linear Structure and Sequential list and Link List

Stack Queue Binary tree and other forms of tree
Graph and its application
Various searching methods
Various sort methods

This course is mandatory for Computer Science and Software Engineering Students. Finishing this course and pass the examination will be given 6 credits.

Contact information:

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