**数字信号处理（26.014.0.1）**

本课程是为生物医学工程专业学生开设的一门专业课，是继高等数学、线性代数、复变函数、信号与系统后，为进一步学习专业知识打基础的课程。本课程主要讨论离散时间信号和系统的基础理论，离散傅里叶变换 DFT 理论及其快速算法 FFT，IIR 和 FIR 数字滤波器的设计以及有限字长效应。学生通过对本课程的学习，应该掌握数字信号处理的基本理论、基本知识和基本方法，还应掌握一些必要的软件工具，为学生进一步学习有关信息或信号处理等方面的研究工作打下基础。

Digital signal processing is a professional course to the students of the biomedical engineering, which is a basis subject to learn the professional knowledge after learning higher mathematics, linear algebra, complex function and signal and system. Basis theories are mainly discussed about the discrete time signal and system, discrete Fourier transform and its fast algorithm, the digital filter design of infinite impulse response and finite impulse response and finite word length effect in this course. Through this course, the students will grasp not only the basis theory, knowledge and technique of the digital signal processing, but also some necessary software, which will help them to study the information and signal processing.