课程编号：1713602780

课程名称：走进微电子世界

学分/学时：1/16

先修课程：无

适用专业：全校各专业

课程性质：全校任选课

教 材： 张兴等 编著.微电子学概论（第三版）.北京大学出版社, 2010

主要参考书：MichaelQuirk 等 主编. 半导体制造技术 (第八版). 电子工业出版社, 2015

内容简介：

"走进微电子世界"课程是根据"微电子学概论"课程开设的一门通识课程，是面向全校各专业开设的一门全校选修课程。通过本门课程的学习，学生能够充分地理解微电子技术发展历程、微电子集成芯片的"微小"尺寸与量子结构等概念、物理本质及实际应用；在认识和理解基本的微电子"芯"、微电子"集成"、微电子"封装"的技术基础上，以故事的形式呈现芯片集成、猫须探测器、内存的小尺寸大容量、中央处理器的奔腾无止境等微电子技术的经典案例，使学生能够有效的建立集成电路制备原理、技术与工艺之间的联系，培养学生能够根据微电子技术的基础理论、工艺过程，了解集成电路设计的思路与方法；也为后续课程的学习和从事与本专业有关的工程技术工作打下良好基础。课程讲述借助多媒体课件和视频材料辅助教学，教学内容生动、图文并茂。

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Course Description

Course Code：1713602780

Course Name：Introduction of Microelectrics

Credit/Hours：1/16

Textbooks：Zhang Xing etc. Introduction of Microelectrics(the Third Edition). Peking University Press, 2010

Reference Books： MichaelQuirk etc. Semiconductor Manufacturing Technology (the Eighth Edition). Publishing House of Electronics Introdustry, 2015

Course Description：

The course of Entering Microelectronics World is a general course on the basis of the course of Introduction of Microelectronics. It is an elective course for all students majored in various subjects. Through the study of this course, students could deeply understand the development of microelectronic technology, the "tiny" dimensions and quantum structures of microelectronic integrated chips, some physical nature and practical applications. On the basis of understanding and grasping the microelectronic "chip", microelectronic "integration", and microelectronic "encapsulation" technology, the course will present some classic cases in the narrative form, such as chip integration, cat whisker detector, small size and large capacity of memory, and the unending state of the central processor. Students would effectively establish the connection in the principle of integrated circuit preparation, technology and fabrication. According to fundamental theories of microelectronic technology and microelectronic fabrication, students could understand the idea and method of integrated circuit design. Through the study of this course, it will set up a good foundation for the study of follow-up courses, the work of engineering and technology related to these majors. With the assistance of multimedia courseware and video material, the teaching content becomes vivid and graphic.