100-2 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	半導體元件導論	Serial No. / ID	1603 / EEI2039
Dept.	電機工程學系	School System / Class	大學日間部2年1班
Lecturer	范榮權	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(三)12 / H339 (四)1 / H339	Language	Chinese

Introduction

This course is to provide a basis for understanding the characteristics, operation and limitations of semiconductor devices. In order to gain this understanding, it is essential to have a thorough knowledge of the physics of the semiconductor material. The goal of this course is to bring together quantum mechanics, The quantum theory of solids, semiconductor material physics and semiconductor device physics. all of these components are vital to the understanding of both the operation of present day devices and any future development in the field.

Outline

1.The crystal structure of solids
2.Introduction to quantum mechanics
3.Introduction to the quantum theory of solids
4.The semiconductor in quilibrium
5.Carrier transport phenomena
6.Noequilibrium excess carriers in semiconductors
7.The PN junction

Prerequisite

general physics, electromagnetics, electronic circuits