

## 99-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	實驗設計	Serial No. / ID	1261 / BDR5085
Dept.	生物產業科技學系博士班	School System / Class	研究所博士班1年1班
Lecturer	吳芳禎	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(六)234 / H543	Language	Chinese

### Introduction

Experimental design, combined with some existing technologies, is used to plan experiments and to analyze results by statistical tools, and eventually to improve the productivity of a process. In other words, experimental design is to plan a production process, from raw materials through manufacturing to final products, including design, test, and analysis of the findings under a variety of factors and their combinations. Experimental design together with statistical analysis is a powerful tool to optimize a process and to enhance the credibility of inference. First, this course introduces fundamental statistical methods, so that students can figure out things using an optimal experimental design and analytical methods when encountering problems. This course also intends to teach students how to design experiments encountered in the field of bio-industries (A) through cooperative discussion and self-practice (C2). To strengthen the implementation of the training (D1, D2, D4, D5, D6, D7), students require to use statistical tools to solve various problems on industrial production and business aspects (B1, B2, B3), and through the examples students can also experience the essence and functions of experimental design.

### Outline

Briefly review biostatistics, and then introduce various types of experimental designs.

### Prerequisite

Biostatistics related courses