

# 100-1 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	系統理論及於生物科技之應用	Serial No. / ID	1373 / EDR5143
Dept.	電機工程學系博士班	School System / Class	研究所博士班1年1班
Lecturer	吳幸珍	Full or Part-time	專任
Required / Credit	Optinal / 3	Graduate Class	No
Time / Place	(三)234 / H371	Language	Chinese

Introduction
<p>This course is to let graduate understand the impact of system theory on drug design and medicine. Many rare diseases face gene mutation problems. We shall talk about such kinds of systems in class. A few such systems have been closely observed and carefully analyzed. The results indicate that these biological systems are flooded with feedback and feedforward loops. Some of the main high throughput measurement technologies and their applications in biology are also discussed. The related computational technologies for modeling and advanced biology concept are included in this class.</p>

Outline
<ol style="list-style-type: none"> <li>1. Introduction</li> <li>2. The Cell</li> <li>3. tumor and immune systems</li> <li>4. monitor-gene-expression-profile(paper)</li> <li>5. B-cell-lymphoma-identification(paper)</li> <li>6. Computational Analysis of Biochemical Systems</li> </ol> <p>Midterm</p> <ol style="list-style-type: none"> <li>7. Models of Biochemical Systems</li> <li>8. From Maps to Equations</li> <li>9. Metabolic Flux Analysis/ Flux Balance Analysis</li> <li>10. Computer Simulation</li> <li>10. Final Exam.</li> </ol>

Prerequisite
no