

課程名稱：105-1 細胞分子生物學 (2 學分)

授課老師：趙知章、賴桂珍、廖文霖、陳紹寬老師

一、課程目標：教導學生了解細胞基本組成構造、功能以及調節方式。

二、課程大綱：課程主要分成三大部分，分別為：

1. Genetics and molecular biology (第一~四單元)；
2. Cellular structure and function (第五~十二單元)；
3. Cellular growth and development (第十三~十六單元)

三、上課進度：(每週二上午 10:10 ~ 12:00)

| Lecture | Date  | Topic   | 授課老師 |
|---------|-------|---|------|
| 1       | 09/13 | Introduction & Chemical and Molecular Foundations             | 趙知章  |
| 2       | 09/20 | Basic Molecular Genetic Mechanisms                            | 趙知章  |
| 3       | 09/27 | Transcriptional Control of Gene Expression                    | 廖文霖  |
| 4       | 10/04 | Post-transcriptional Gene Control                             | 廖文霖  |
| 5       | 10/11 | Biomembrane Structure & Transport of Ions and Small Molecules | 賴桂珍  |
|         | 10/17 | First Exam (Monday): Lecture 1-4                              |      |
| 6       | 10/18 | Moving Proteins into Membranes and Organelles                 | 趙知章  |
| 7       | 10/25 | Vesicular Traffic, Secretion, and Endocytosis                 | 陳紹寬  |
| 8       | 11/1  | Cell Organization and Movement (I)                            | 廖文霖  |
| 9       | 11/8  | Cell Organization and Movement (II)                           | 廖文霖  |
| 10      | 11/15 | Signal Transduction and G protein-coupled Receptor            | 陳紹寬  |
|         | 11/22 | Second Exam : Lecture 5-10                                    |      |
| 11      | 11/29 | Cellular Energetics   | 陳紹寬  |
| 12      | 12/6  | Integrating Cells into Tissues                                | 賴桂珍  |
| 13      | 12/13 | Stem Cell, Cell asymmetry, and Cell Death                     | 賴桂珍  |
| 14      | 12/20 | The Molecular Cell Biology of Development                     | 賴桂珍  |
| 15      | 12/27 | Immunology  | 陳紹寬  |
| 16      | 1/3   | Cancer  | 趙知章  |
|         | 1/10  | Final exam : Lecture 11-16                                    |      |

四、教學方式：依教學進度講授教科書之章節。

五、評分標準：1. 三次考試：90%；  
2. 平時表現（出席及參與討論情況）：10%

六、參考書目：Molecular Cell Biology, Lodish et al., 2013; 7<sup>th</sup> ed.; W.H. Freeman & Company Press