

科 研 寫 作 (2011)

Scientific Writing

Time: Monday 13:10-14:30

Credit: 1

Room: 602 教室

課程協調人：賴明德 (Tel: 5549; E-mail: a1211207@mail.ncku.edu.tw)

日期	主 講 人	題 目
3 月 7 日	賴明德	數據分析及整理
3 月 14 日	賴明德	科研寫作入門簡介
3 月 21 日	林銘德 林以行 黎煥耀	科研寫作的架構及常犯的錯誤
3 月 28 日	吳俊忠	期刊投稿經驗分享
4 月 4 日		放假
4 月 11 日	簡伯武	實驗的設計
4 月 18 日	許桂森	撰寫研究計劃
4 月 25 日	王憶卿	從審委的角度談何謂好的計畫
5 月 2 日	吳昭良	撰寫整合型計畫
5 月 9 日	賴明德	簡易英文科技寫作
5 月 16 日	王憶卿	計畫寫作模擬
5 月 23 日	賴明德	討論

「科研寫作」修課規定

1. 尚未選定指導教授進行實驗之學生請勿選課
2. 期末分數=(1) 上課次數缺一次扣兩分 (2) 期末報告
3. 期末報告須撰寫論文一篇 (根據自己的實驗數據) 含 Title page (1 page), Abstract (less than 200 words), Introduction (3 pages), Material and Methods (2 pages limit), and Results (3 pages limit). Figure Legends (2 pages) are required, but Discussion (2 pages limit) is optional.
4. Written in double-spaced and 2003 word format.
5. E-mail to the Office (yjc4556@mail.ncku.edu.tw) by May 12, 2011, 5:00pm.

癌症學程核心課程 I

課程名稱：癌症醫學 (Cancer Medicine)

任課老師：周楠華、蘇五洲等 (2 學分，開授學期：碩一下)

時間：每週二 8:10 – 10:00 上課教室：601 教室

說明：

惡性腫瘤連續佔台灣地區主要死亡原因之首，而且部份癌症更有年輕化的趨勢，提醒我們對癌症的了解、預防及治療，仍然有許多有待突破的瓶頸。目前知道，70%的癌症來自飲食與生活的失調。因此針對高危險群病患推廣預防癌症的措施，以及推動癌症早期篩檢、早期治療等都是根本解決的最重要方向。因此，本課程是介紹現今治療癌症主要的基本原理，應用飲食控制來預防癌症發生的理論，或是各種早期診斷癌症研究等近況。每個主題都邀請鑽研此一題目的老師授課。選修學生可以更深入了解現今腫瘤醫學的進步。也可在此一基礎上，找尋在後基因體時代可能的敏感早期癌症篩檢，或是早期治療之方式。

課程綱要 ([有問題請連繫 5288 或 chownh@mail.ncku.edu.tw](#))

- | | |
|--|-----|
| 1. (3/1) Chemoprevention (I) ----- example in bladder cancer | 周楠華 |
| 2. (3/8) Chemoprevention (II) ----- example in colon cancer | 李政昌 |
| 3. (3/15) Tumor marker | 周楠華 |
| 4. (3/22) Tumor diagnosis by medical imaging | 姚維仁 |
| 5. (3/29) Radiation therapy | 陳海雯 |
| 6. (4/12) Chemotherapy | 蘇五洲 |
| 7. (4/19) Surgical Oncology | 賴吾為 |
| 8. (4/26) Tumor diagnosis by proteomics | 周楠華 |
| 9. (5/3) Tumor diagnosis by Microarray | 辛致煒 |
| 10. (5/10) Bone marrow transplantation | 陳彩雲 |
| 11. (5/17) Molecular targeted therapy | 許耿福 |
| 12. (5/24) Cancer stem cells | 陳玉玲 |
| 13. (5/31) 學生報告 (I) | 周楠華 |
| 14. (6/7) 學生報告 (II) | 周楠華 |
| 15. (6/14) 學生報告 (III) | 蘇五洲 |

授課 12 堂

學生報告 3 堂

報告成績及修課成績 (另參加出席率)

腫瘤生物學 Tumor Biology 2011 version 2

時間： Tuesday, AM 10:10-12:00

地點：601 教室

學分：2 學分

課程協調人：賴明德 Tel: 5549; e-mail: a1211207@mail.ncku.edu.tw

時間	課程內容	老師
2/22	The Nature of Cancer	賴明德
3/1	Tumor virus and cellular oncogenes	賴明德
3/8	Tumor suppressor genes	賴明德
3/15	Multistep tumorigenesis	賴明德
3/22	Discussion	賴明德
3/29	Oncogene: Growth factor receptor	劉校生
4/12	Oncogene: Cytoplasmic signaling	劉校生
4/19	Discussion	劉校生
4/26	Genome Instability	黃溫雅
5/3	Discussion	黃溫雅
4/10	Angiogenesis	吳梨華
5/17	Discussion	吳梨華
5/24	Metastasis	鄭宏祺
5/31	Discussion	鄭宏祺
6/7	Tumor Immunology	黎煥耀
6/14	Discussion	黎煥耀
6/21	Rational Treatment	賴明德

Textbook: The Biology of Cancer (2007) By Robert Weinberg, Garland Science.

Chapter 2-4	賴明德 (4 hrs)	Chapter 5-6	劉校生 (6 hrs)
Chapter 7-11	賴明德 (6 hrs)	Chapter 12	黃溫雅 (4 hrs)
Chapter 13	吳梨華 (4 hrs)	Chapter 14	鄭宏祺 (4 hrs)
Chapter 15	黎煥耀 (4 hrs)	Chapter 16	賴明德 (2 hrs)

Course grade: midterm examination and final term report

腫瘤免疫學 (TUMOR IMMUNOLOGY, Spring 2011)

上課地點: 11 樓教室

上課時間: 週二 10:10– 12:00 a.m.

協調老師: 楊倍昌 (Ext 5637) & 凌 斌 (Ext 5632)

參考書: Tumor Immunology and Cancer Vaccines (edited by Samir Khleif, 2005)

Date	Title	Lecturer
02/22	Introduction	凌 斌
03/01	Tumorigenesis & Tumor Microenvironment	凌 斌
03/08	Inflammation and Cancer	凌 斌
03/15	Immunosurveillance and Immunoediting of Cancer-I	黎煥耀
03/22	Immunosurveillance and Immunoediting of Cancer-II	黎煥耀
03/29	Paper Discussion-I (Tumorigenesis & Inflammation)	凌 斌
04/12	Paper Discussion-II (Immunoediting)	黎煥耀
04/19	Mechanisms of Immune Evasion by Cancer-I	楊倍昌
04/26	Mechanisms of Immune Evasion by Cancer-II	楊倍昌
05/03	Paper Discussion-III (Immune Evasion)	楊倍昌
05/10	Research Project-Abstract Presentation	全體任課老師
05/17	Cancer Immunotherapy	蕭瓊莉
05/24	Cancer Vaccine Development	蕭瓊莉
05/31	Paper Discussion-IV (Cancer Vaccine & Immunotherapy)	蕭瓊莉
06/07	Research Project-Proposal Presentation-I	全體任課老師
06/14	Research Project-Proposal Presentation-II	全體任課老師

課程目標：

1. 首先建立學生對腫瘤免疫學 (Tumor Immunology)的基本概念。
2. 進一步探討腫瘤免疫學領域的最新發展, 包括免疫療法 (Immunotherapy)及癌症疫苗 (Cancer Vaccines)的應用。
3. 以老師授課、學生專題討論、及撰寫研究計畫等方式進行, 以期達到教學相長之目標。

上課方式：

1. 課程內容分為 4 個主題(Tumorigenesis & Tumor microenvironment, Immunoediting, Immune Evasion, & Cancer Immunotherapy)及其他單元, 每一主題有兩次課程及一次相關文獻討論 (Paper Discussion)。
2. 任課老師請在兩週前將選定的 paper 交給學生。如有需要, 任課老師可依據情況調整授課及專題討論方式。
3. 學生分為 4 組, 各組選定一個主題進行文獻及研究專題報告 (Paper & Research Project Discussion); 並於學期末繳交一份書面研究專題報告 (Written Proposal)。
4. **PBL study (Problem-based learning):** 各組學生選定一類 Cancer 為 Immunotherapy 之主題, 利用腫瘤免疫學 (Tumor Immunology)的新知提出一個 Problem-based Research Project, 在學期中先提出研究計畫初步構想 (Idea Presentation); 最後在學期末二次課堂時間各組提出完整研究計畫報告 (Proposal Presentation), 並由全體任課老師參與評估和討論。

評分方式：

1. 上課出席率 (Attendance) 50%
2. 專題報告 (Paper, Research Project Discussion, and Written Proposal) 30%
3. 課堂表現 (Class Performance) 20%

Cell Biology (II) (2011 Spring)

Time: Wednesday 13:10 ~ 15:00

Place: 602 Lecture Room

Coordinator: Dr. Y. M. Kuo(ext. 5294) Textbook: Molecular Biology of THE CELL, 5th ed.

Date	Ch.	Topic	Instructor
02/23		Introduction of the course (II)	Dr. Y.M. Kuo
02/23	19	Cell junctions, Cell adhesion, ECM	Dr. H. C. Cheng
03/02	19	Cell junctions, Cell adhesion, ECM	Dr. H. C. Cheng
03/09		Discussion (Ch. 19)	Dr. H. C. Cheng
03/16	20	Cancer	Dr. M. D. Lai
03/23		Discussion (Ch. 20)	Dr. M. D. Lai
03/30	21	Sexual reproduction	Dr. Y.M. Kuo
04/13	22	Development	Dr. Y.M. Kuo
04/20	22	Development	Dr. Y.M. Kuo
04/27		Discussion (Ch. 22)	Dr. Y.M. Kuo
05/04	23	Tissues, stem cells, tissue renewal	Dr. K.J. Tsai
05/11		Discussion (Ch. 23)	Dr. K.J. Tsai
05/18	24, 25	Pathogen/Infection/Immunity	Dr. H. Y. Lei
05/25	24, 25	Pathogen/Infection/Immunity	Dr. H. Y. Lei
06/01	24, 25	Pathogen/Infection/Immunity	Dr. H. Y. Lei
06/08		Discussion (Ch. 24, 25)	Dr. H. Y. Lei
06/15	19-25	Final Examination (30%)	All instructors

Please note:

- 1. This course is designed for students who already have sufficient background knowledge in basic cell biology, e.g., those who have taken Essential Cell Biology or Cell Biology (I).**
- 2. The goal of this course is to provide students a conceptual framework of cell biology, not just the information that we now have about cells.**
- 3. The course content includes both lectures and discussions.**
- 4. The lectures essentially follow the materials in Part V of the textbook and the discussions focus on pre-assigned questions.**
- 5. At the beginning of the course, students are divided into ~5 study groups (4 or 5 students per group) by the course coordinator.**
- 6. Each group should study together in order to prepare short PowerPoint files for ALL assigned questions before each discussion.**
- 7. Discussions are graded according to the team's preparation of the PowerPoint files and the individual's presentation/commentary performance.**
- 8. Course grades are based on discussions (70%) and a final examination (30%).**

2011 Signal Transduction (3 credits)

2011/1/18

Time: Wednesday 9:10-12:00

Class room: Room 604

<u>Date</u>	<u>Topic</u>	<u>Lecturer</u>
2/23	Introduction	王育民
3/2	Kinases and phosphatases in signal transduction (I)	凌 斌/蔣輯武
3/9	Kinases and phosphatases in signal transduction (II)	凌 斌/蔣輯武
3/16	Transcriptional regulation in signal transduction (I)	陳炳焜/王育民
3/23	Transcriptional regulation in signal transduction (II)	陳炳焜/王育民
3/30	Signal transduction in apoptosis and autophagy (I)	張南山/徐麗君
4/13	Signal transduction in apoptosis and autophagy (II)	張南山/徐麗君
4/20	Signal transduction in tumor biology (I)	楊倍昌/蘇五洲
4/27	Signal transduction in tumor biology (II)	楊倍昌/蘇五洲
5/4	Signal transduction in infectious disease (I)	林以行/林秋烽/蔡佩珍
5/11	Signal transduction in infectious disease (II)	林以行/林秋烽/蔡佩珍
5/18	Signal transduction in neuroscience (I)	簡伯武/黃阿敏
5/25	Signal transduction in neuroscience (II)	簡伯武/黃阿敏
6/1	Exam	
6/8	Study project presentation (I)	全體任課教師
6/15	Study project presentation (II)	全體任課教師
6/22	Study project presentation (III)	全體任課教師

Signal Transduction

課程協調人：生訊所王育民老師 (yumingw@mail.ncku.edu.tw;分機 31067)

課程助教：廖靖君 (e1488119@nckualumni.org.tw;分機 31067)

課程目標：

1. 學習訊息傳遞的基本概念和實際應用
2. 學習 grant proposal writing

上課方式：

分為基本和應用共計 6 個主題，每一主題有兩次課程，學生在開學時分為 6 組，各選定一個主題提出 research proposal，以國科會 grant proposal 的方式書寫。

- 要顧及 originality, logicity, feasibility, specificity, clarity。
- 請各主題相關的老師給予指導。
- 在各主題課程之(I)由老師給 lecture 或 paper discussion (請老師在一週前將選定的 paper 交給學生)，(II)由該組學生自行找與 study project 相關的 papers 進行 presentation，此部份是為了 grant proposal 的 background introduction 作準備。這是建議方式，真正執行的方式請各組老師自行商量，但請安排該組學生有做 presentation 的機會。
- 學期最後三次每次由兩組報告 proposal 內容，由全體任課老師參與評估和討論。
- 依據建議修改內容在 next Monday 交書面報告。

評分方式：

- 考試題目 6 選 4，佔 40%
- Study project:
 - paper presentation 20%
 - project presentation 20%
 - written project 20%

English Writing for Scientific Paper

Spring, 2011

Wednesday, 13:10 ~ 16:00

Room: 醫學院 604 研討室

Coordinator: 張嘉倩 Claire Chang

Week	Date	Topic: for scientific paper // for building basic English ability
1	2/23	Course Introduction // TOEIC
2	3/2	Overview of the Whole Process // Basic English Writing Skill
3	3/09	Corpus Practice // Basic English Writing Skill
4	3/16	Introduction // Tongue Twister
5	3/23	Introduction / Practice // Shadowing
6	3/30	Materials & Methods // Template for Speaking
7	4/6	No Class
8	4/13	Materials & Methods Practice // Listening Practice
9	4/20	Results // Dictation
10	4/27	Results Practice // TOEIC
11	5/4	Discussion // English Grammar
12	5/11	Discussion Practice // Common Errors in Writing
13	5/18	Abstract // Presentation Skill
14	5/25	Abstract / Practice // Presentation Skill
15	6/1	Cover letter // How to Write E-mails
16	6/8	References, Acknowledgements, and Front page / Practice
17	6/15	Mock Conference Presentation
18	6/22	Mock Conference Presentation

癌症分子病理(2011)

上課時間：週三 4:00~6:00pm

上課地點：602 教室

協調老師：何中良、周楠華

<u>週次</u>	<u>日期</u>	<u>內 容</u>	<u>授課老師</u>	<u>分機</u>	<u>Call機</u>
1	2/23	Pathology of human cancers----- Definition, terminology, diagnosis	何中良	2638	8521
2	3/2	Molecular basis of human cancers (I)----- Oncogene	賴明德	5549	
3	3/9	Molecular basis of human cancers (II)----- DNA repair	黃溫雅	5766	
4	3/16	Molecular basis of human cancers (III)----- Chromosomal translocation	何中良	2638	8521
5	3/23	Molecular basis of human cancers (IV)----- Viruses	呂政展	2641	
6	3/30	Methodology (I) — Archival tissues	何中良	2638	8521
7	4/6	放 假			
8	4/13	Methodology (II) — Clinical samples	呂政展	2641	
9	4/20	Ovarian cancer	何中良	2638	8521
10	4/27	Bladder cancer	周楠華	2630	8511
11	5/4	Cervical cancer	沈孟儒	5505	7303
12	5/11	Liver cancer	周楠華	2630	8511
13	5/18	Colon cancer	李政昌	5183	7222
14	5/25	Lung cancer	蘇五洲	5401	7061
15	6/1	Oral cancer	謝達斌	5410	8438
16	6/8	學生報告(I)	何中良 周楠華	2638	8521
17	6/15	學生報告(II)	何中良 周楠華	2638	8521

6月4日畢業典禮

Developmental Biology, 2011

Time: Wednesday 10:10~12:00 a.m.

Place: 9th floor, Room 82-0929

Coordinator: Wen-Tsan Chang (phone # 5533)

<u>Date</u>	<u>Topic</u>	<u>Lecturer</u>
2/23	Introduction of developmental biology	張文祭
3/2	Model organism- <i>Saccharomyces cerevisiae</i> (Budding yeast, I)	張文祭
3/9	Model organism- <i>Saccharomyces cerevisiae</i> (Budding yeast, II)	張文祭
3/16	Model organism- <i>Dictyostelium discoideum</i> (Social amoebae, I)	張文祭
3/23	Model organism- <i>Dictyostelium discoideum</i> (Social amoebae, II)	張文祭
3/30	Model organism- <i>Caenorhditis elegans</i> (Round worm, I)	張文祭
4/6	校際活動週	
4/13	Model organism- <i>Caenorhditis elegans</i> (Round worm, II)	陳昌熙
4/20	Model organism- <i>Drosophila melanogaster</i> (Fruit fly, I)	張文祭
4/27	Model organism- <i>Drosophila melanogaster</i> (Fruit fly, II)	張文祭
5/4	Model organism- <i>Xenopus laevis</i> (Frog, I)	張文祭
5/11	Model organism- <i>Xenopus laevis</i> (Frog, II)	張文祭
5/18	Model organism- <i>Danio rerio</i> (Zebra fish , I)	張文祭
5/25	Model organism- <i>Danio rerio</i> (Zebra fish , II)	傅子芳
6/1	Model organism- <i>Mus musculus</i> (Mouse, I)	張文祭
6/8	Genetic aspects of development	張文祭
6/15	Model organism- <i>Mus musculus</i> (Mouse, II)	蔡曜聲
6/22	Final discussion and examination	張文祭

This course is open for graduate students (Doctoral and Master degree).

Advanced Bacteriology

高等細菌學

Spring, 2011

Thursday 9:10-12:00 am.; 11th floor, conference room

Date	Topic	Lecturer
2/24	An overview	何 漣 漪
3/3	Structure and function of bacterial cell parts	鄧 景 浩
3/10	Bacterial growth	何 漣 漪
3/17	Bacterial chromosomes and plasmids	吳 俊 忠
3/24	Genetic exchange and recombination	鄧 景 浩
3/31	Cell division	吳 俊 忠
4/14	Signaling in and between bacterial cells	邵 長 平
4/21	Microbial genomics	鄧 景 浩
4/28	Quest for food (1): transport	何 漣 漪
5/5	Quest for food (2): motility and taxis	何 漣 漪
5/12	Bacterial pathogenesis (I)	吳 俊 忠
5/19	Bacterial pathogenesis (II)	吳 俊 忠
5/26	Antibiotic resistance	吳 俊 忠
6/2	Microbial diversity	何 漣 漪
6/9	Bacterial programmed cell death	何 漣 漪
6/16	Panel discussion	何 漣 漪

Course coordinator: 何 漣 漪 (ext. 5635)

There will be lecture and paper discussion or oral presentation for each topic. The students will be graded based on their performance in paper discussion, oral presentation and term paper.

高等病毒學

2011 Spring

Department of Immunology and Microbiology

No.	Date	Topics	Lecturer
1.	2-24	Virus structure and replication	劉校生
2.	3-3	Viral entry, assembly and budding	王憲威
3.	3-10	From clinical virology to basic virology	王貞仁
4.	3-17	Virus related autophagy	劉校生
5.	3-24	Innate immune recognition of viral infection	凌 斌
6.	3-31	Immune escape of viral infection	林秋烽
7.	4-14	Tumor viruses	劉校生
8.	4-21	Hepatitis C virus	楊孔嘉
9.	4-28	Dengue virus	黎煥耀
10.	5-5	HIV	王憲威
11.	5-12	Hepatitis B virus	張定宗
12.	5-19	Enterovirus 71	余俊強
13.	5-26	Epstein-Barr Virus	張堯
14.	6-2	Influenza virus	王貞仁
15.	6-9	Emerging viruses	劉校生
16.	6-16	Final Exam	

1. Lecture and PBL oriented paper presentation and discussion.

2. Time: **1:10 - 4:00** (Thursday)

3. Class room: 醫學院 11 樓研討室(82-1124)

3. Suggested text book: Principles of Virology (3rd edition, Flint, S. J. et al., 2009)

4. Lecture coordinator: Hsiao-Sheng Liu, Tel (06-2353535, ext 5630),

FAX (06-2082705); e-mail: a713@mail.ncku.edu.tw

高等病毒學 課程要求

學生修習過大學部程度之分子生物學以及醫用微生物及免疫學才適合選修這門課。本課程包括通論以及個論兩部分。以分子生物學為基礎作全面性之介紹，個論部分之病毒均為台灣好發之重要病毒。本課程為三學分，課程中除老師講授外(約 1 至 1.5 小時)，著重各主題相關之最新 paper 研讀並以小組方式口頭報告與討論。課程中有期中以及期末考，評分方式為筆試、指定 paper 之研讀、口頭報告、討論及書面報告之總合。

@ 負責之同學於一周前與老師們聯繫指定 paper 之研讀事宜。

新藥研發 New drug development

時間：Thursday 10:00 -12:00 a.m.

地點：602 教室

學分數：2 credits hour

課程協調人：張明熙教授(Tel: 5677; e-mail: mschang@mail.ncku.edu.tw)

課程目標：

1. 讓學生瞭解醫療新藥如何從上游、中游、到下游，從研究發展、動物實驗到臨床試驗的完整過程。
2. 讓學生瞭解針對不同的疾病如何設計標的分子，以發展新藥。

上課教師及上課內容

Item	Topics	Instructor
2/24	Introduction	張明熙教授
3/3	Recombinant protein drugs development (traditional)	張明熙教授
3/10	Recombinant protein drugs development (post- genome era)	張明熙教授
3/17	Antibody drugs	張明熙教授
3/24	Using RNAi and micro RNA in therapeutics	張文祭教授
3/31	Tumor cell metastasis and potential drug target	鄭宏祺教授
4/14	PPAR: therapeutic effect of their agonists	蔡曜聲教授
4/21	Stem cell therapy for cardiovascular regeneration	謝清河教授
4/28	Alzheimer disease and drug development	郭余民教授
5/5	Epigenetics and cancer drug development	王憶卿教授
5/12	Autoimmune diseases and drug development	劉明輝教授
5/19	Pharmacokinetic study	周辰熹教授
5/26	Clinical trial	高雅慧教授
6/2	Student presentation	張明熙教授
6/9	Student presentation	張明熙教授
6/16	Discussion of student presentations	張明熙教授
6/23	Discussion of student presentations	張明熙教授

Molecular Neuroscience 分子神經科學

Spring, 2011 九十九學年第二學期

Coordinator : Dr. Huang, A-Min (Ext. 5457) Email: amhuang@mail.ncku.edu.tw

Time : Thursday 8:10~10:00 a.m. Place : Rm. 82-0724

Aim : To discuss major areas of molecular neuroscience including promoter analysis, dendritic development, synapse formation, RNA interference and gene delivery into the nervous system, long-term potentiation, molecules and fear memory, transgenic mice in Alzheimer's disease research, genes and molecules related to mental disorders. Include lectures in review articles and active reading of primary literatures. Focus on major concepts and recent advances in experimental neuroscience.

Evaluation : Presentation 50%; active reading and discussion 50% ; 修課學生選擇有興趣的主題，由相關授課老師指定文獻，進行 active reading presentation 。

Date	Topics	Lecturer
2/24	Introduction to Molecular Neuroscience & format of active reading	黃阿敏
3/3	Promoter analysis of neuronal genes	黃阿敏
3/10	Active reading and discussion 1	Student presentation
3/17	Dendritic development	黃阿敏
3/24	Active reading and discussion 2	Student presentation
3/31	Synapse formation	黃阿敏
4/7	Holiday (校際活動週)	
4/14	Active reading and discussion 3	Student presentation
4/21	Biotechnology for studying of long-term potentiation	許桂森
4/28	Active reading and discussion 4	Student presentation
5/5	Searching for molecules related to fear memory	簡伯武
5/12	Active reading and discussion 5	Student presentation
5/19	RNAi and lentiviral delivery of genes into the nervous system	楊尚訓
5/26	Active reading and discussion 6	Student presentation
6/2	Transgenic mice and Alzheimer's disease	郭余民
6/9	Active reading and discussion 7	Student presentation
6/16	Genes and molecules related to behavioral disorders	黃阿敏
6/23	Active reading and discussion 8	Student presentation

Cell Growth and Differentiation, 2011

Time: Thursday 10:10~12:00 a.m.

Place: 9th floor, Room 82-0929

Coordinator: Wen-Tsan Chang (phone # 5533)

<u>Date</u>	<u>Topic</u>	<u>Lecturer</u>
2/24	Cell growth, development, differentiation and death	張文榮
3/3	Progression and regulation of cell cycle	蔣輯武
3/10	Cell senescence	蔣輯武
3/17	Programmed cell death (apoptosis)	陳昌熙
3/24	Aging	陳昌熙
3/31	Cytokines and cell differentiation	張明熙
4/7	校際活動週	
4/14	Cancer	鄭宏祺
4/21	Growth, differentiation and death of cardiac cell	莫凡毅
4/28	Stem cell self-renewal and pluripotency	謝清河
5/5	Regulation of epithelial cell growth, differentiation and apoptosis by substratum rigidity	湯銘哲
5/12	Development and differentiation of low eukaryotes	張文榮
5/19	Growth, differentiation and death of endothelial cell	吳梨華
5/26	Growth, differentiation and death of fat cell	蔡曜聲
6/2	Growth, differentiation and death of T cell	黎煥耀
6/9	Growth, differentiation and death of uterine cell	陳麗玉
6/16	Final discussion and examination	張文榮

This course is open for graduate students (Doctoral and Master degree).

Contemporary Cell Biology Spring 2011

Credit Hours: 2 Time: Thursday 17:10-19:00 Class room: 9F(82-0929)

Text book: hand out for each section

Course Coordinators: Dr. Hung-Chi Cheng & Chia-Ching Wu

Course Format:

This class will introduce current researches in cell biology. The lecture will combine problem-based learning (PBL) and project presentation to facilitate active learning of contemporary cell biology for graduate students. Each student will be assigned to the PBL and also the project presentation by the instructors. **To be noticed, the language used in the class is English.**

Grading Criteria:

The grade for this class will be given by evaluating participations and performances in the class (70%) and a final exam (30%).

Week	Date	Topic	Lecture
1	2/24	Introductions of class and PBL section	HCC/CCW
2	3/3	Cell cycle, proliferation, and apoptosis	CCW
3	3/10	PBL 1: PBL and current research update	CCW
4	3/17	Tissue engineering and stem cell biology	CCW
5	3/24	PBL 2: PBL and current research update	CCW
6	3/31	Cancer stem cell biology	CCW
7	4/14	PBL 3: PBL and current research update	CCW
8	4/21	Mechanobiology	CCW
9	4/28	Midterm Project Presentation	CCW
10	5/5	Cell adhesion, cytoskeleton, and migration	HCC
11	5/12	PBL 4: PBL and current research update	HCC
12	5/19	Extracellular matrix and glycobiology	HCC
13	5/26	PBL 5: PBL and current research update	HCC
14	6/2	Cancer progression and metastasis	HCC
15	6/9	PBL 6: PBL and current research update	HCC
16	6/16	Final Exam	HCC/CCW

Contemporary Molecular Biology Spring 2011

Credit Hours: 2 **Time:** Friday 13:10~15:00 **Class room:** R602

Course Reference: Robert F. weaver, Molecular biology, 4th ed.

Course Coordinators: Dr. Chang-Shi Chen and Dr. Shang-Hsun Yang

Course Format:

The class will combine lecture, problem-based learning (PBL), and paper discussion sections on the topics of contemporary molecular biology. Each student will be assigned to the PBL and also the paper discussion sections by the instructors. **Of note, the language used in the class is English.**

Grading Criteria:

The grade for this class will be given by evaluating participations and performances in the class (70%) and a final exam (30%).

Date	Topic	Lecture
2/25	Introductions to class and PBL section assignment	CSC/SHY
3/04	DNA, Chromatin, and Chromosome Structures	SHY
3/11	PBL section 1: Current research on genomics	SHY
3/18	DNA Replication	SHY
3/25	PBL 2: Current research on recombination and transposition	SHY
4/01	Transcription-Eukaryotes, Chp 10, 11, 12	CSC
4/15	PBL 3: Current research on post-transcriptional events	CSC
4/22	Translation-chp17, 18,19	CSC
4/29	PBL 4: Current research on post-translational regulations.	CSC
5/06	Gene Regulations	SHY
5/13	PBL 5: Current research on gene silencing.	SHY
5/20	Epigenetic regulations-chp13, 14, 15, 16	CSC
5/27	PBL 6: Current research on epigenetic regulations.	CSC
6/03	Paper discussion section 1	CSC
6/10	Paper discussion section 2	SHY
6/17	Final Exam	CSC/SHY

應用分子生物學 Applied Molecular Biology

時間：星期五 AM 9:10 - 12:00

地點：601 教室

學分數：3 credits hour

協調人：張明熙教授(Tel: 5677; e-mail: mschang@mail.ncku.edu.tw)

Date	Subject	Teacher
2/25	Introduction (9:10 - 9:30)	張明熙
	Molecular Application in Aquaculture	蔡懷楨
3/4	Immunotherapy and DNA Vaccine	賴明德
3/11	Application of recombinant DNA technology in drugs	張明熙
3/18	Application of Protein Crystallography in Structure-Based Drug Design	王淑鶯
3/25	Applications of <i>C. elegans</i> as Disease Models in Drug	陳昌熙
4/1	Carbohydrate Microarray	張權發
4/15	Nanoparticle in Biomedicine Discovery	陳毓宏
4/22	Molecular Application in Horticulture	張敏政
4/29	Application in Molecular Medicine	吳梨華
5/6	Translational Medicine and Therapeutics	呂佩融
5/13	參加第 8 屆海峽兩岸細胞生物學學術研討會活動	
5/20	Applications of Gene-Knockout	蔡曜聲
5/27	Application of cytokines in clinics	邢中熹
6/3	Molecular Application in Model Organism	張文榮
6/10	Visit Biotechnology company	張明熙
6/17	繳交報告	張明熙

2011 Course title: **The molecular mechanisms of apoptosis**

Course Goals: This course covers the topics of molecular mechanisms that regulate apoptosis, also known as the programmed cell death. Topics include an overview of apoptosis; the role of mitochondria in apoptosis; the Bcl-2 protein family; the caspases; the death receptors; and apoptosis in diseases. The primary goal of this course is to let students gain insights and learn recent findings in the apoptosis field.

Course Format: This course will incorporate lecture, discussion, and student report

Course Materials: Review articles and recent published research articles on apoptosis-related field

Grading Criteria: Student's performance will be evaluated throughout the course by attendance (10%), participation (10%), presentation in the class (40%), and a final essay (40%).

Class Time: Friday 10:10 am~12:00 pm

Classroom: 303D

Coordinator(s): Chi-Wu Chiang (蔣輯武)Ph.D. , ext. 3637, 3591

Teaching Assistant: Ting-Yuan Lee

Date	Topic	Lecturer
2/25/2011	Overview of apoptosis research: history and view	蔣輯武
3/4/2011	The programmed cell death in <i>C. elegans</i>	蔣輯武
3/11/2011	Apoptosis in development	蔣輯武
3/18/2011	Mitochondria and apoptosis	張南山
3/25/2011	The pro-survival subfamily of Bcl-2 protein family	蔣輯武
4/1/2011	The pro-apoptotic subfamily of Bcl-2 protein family	蔣輯武
4/15/2011	The biochemistry of apoptosis	蔣輯武
4/22/2011	Caspases: the central executioners of apoptosis	蔣輯武
4/29/2011	The death receptors: signaling and modulation	蔣輯武
5/6/2011	Application of apoptosis in therapeutics	吳梨華
5/13/2011	Apoptosis in the nervous system	莊季瑛
5/20/2011	Special topics in apoptosis	張南山
5/27/2011	Non-apoptotic programmed cell death	蔣輯武
6/3/2011	Pathogens, cell death, and diseases	蔣輯武
6/10/2011	Special topics in apoptosis	林以行
6/17/2011	Discussions on apoptosis	蔣輯武
6/24/2011	Final report	蔣輯武 張南山

病理學概要(2011)

時間：每週五第3、4節 (10:10-12:00)

上課地點：604 教室

		<u>課程表</u>	<u>講員</u>
1	2月25日	病理學與生物醫學研究	蘇益仁
2	3月04日	感染症病理學：細菌及結核菌	顏經洲
3	3月11日	幽門桿菌與胃癌	顏經洲
4	3月18日	流感病毒病理學	蘇益仁
5	3月25日	腸病毒感染病理學	蘇益仁
6	4月01日	EB 病毒感染病理學	蘇益仁
7	4月15日	腫瘤病理學概要	張孔昭
8	4月22日	肝炎與肝癌	蘇益仁
9	4月29日	EBV 相關癌症 (鼻咽癌與淋巴癌)	張孔昭
10	5月06日	肺癌	顏經洲
11	5月16日(一)	口腔癌病理學 (上課時間 am 10:10-12:00 601 教室)	靳應臺
12	5月27日	婦癌病理學	何中良
13	6月03日	腸癌	李忠達
14	6月10日	分子醫學在病理診斷上的應用	呂政展

Angiogenesis

2011, Spring Semester

An overview on new blood vessel formation

Course Format: In the first 13 weeks, lectures will be given by the assigned professors with expertise in the lecture topic. In the final 3 weeks, students will be asked to present a most-updated journal paper on the topics they have learned from lectures and write the assigned homework.

Course Materials: Listed reference books and the most updated information published in literatures.

Grading Criteria: Punctuality, attendance and verbal participation (15%), an oral presentation (50%) and homeworks (35 %)

Class Time: Friday, 1:10 - 3:00PM
Classroom: Rm 601 at NCKU Medical College
Coordinator(s): 吳梨華 (ext.3618)
Teaching Assistant: 郭怡孜 (ext.4214)

Date	Topic	Lecturer
02/25/2011	Course overview (5 min) Historical overview of angiogenesis research	吳梨華 林銘德
03/04/2011	Mechanisms of blood vessel formation	吳梨華
03/11/2011	Pathological angiogenesis	周楠華醫師
03/18/2011	Physiological angiogenesis	蔡美玲
03/25/2011	Heterogeneity of endothelial cells	吳梨華
04/01/2011	Angiogenic factors and their receptors	吳梨華
04/08/2011	School holiday	
04/15/2011	Role of extracellular matrix in angiogenesis	鄭宏祺
04/22/2011	Role of redox in angiogenesis	江美治
04/29/2011	Inflammation and angiogenesis	沈延盛醫師
05/06/2011	Tumor angiogenesis and lymphangiogenesis	吳梨華
05/13/2011	Models for studying angiogenesis	吳梨華
05/20/2011	Anti-angiogenic therapeutic potential in human cancer	張俊彥醫師
05/27/2011	Angiogenic therapeutic potential in human diseases	羅傳堯醫師
06/03/2011	Student presentation	吳梨華
06/10/2011	Student presentation	吳梨華
06/17/2011	Student presentation	吳梨華
06/24/2011	Term paper	吳梨華

基因治療特論 (Special Topics on Gene Therapy) Spring, 2011

課程協調人：吳昭良 (生化所 ext 5536; wumolbio@mail.ncku.edu.tw)

蕭瓊莉 (微免所 ext 5629; alshiau@mail.ncku.edu.tw)

時 間： **星期五 13:10-15:00** 課程碼： **S450800** (微免所和基醫所合班)

地 點： **1124 教室 (11 樓微免所教室)**

Date	Topic	Lecturer
2/25	Overview	吳昭良
3/4	Viral vectors for gene therapy (I)	蕭瓊莉
3/11	Viral vectors for gene therapy (II)	蕭瓊莉
3/18	Non-viral vectors for gene therapy	陳毓宏
3/25*	Immunotherapy and DNA vaccine	許耿福
4/1	Cancer gene therapy using suicide genes and oncolytic viruses	謝嘉興
4/15	Oncogenes, tumor suppressor genes, cell cycle & gene therapy	賴明德
4/22	Stem cell-based therapy	袁國
4/29	Films: (I) The Enemy Within; (II) Killers into Cures	吳昭良
5/6	Gene therapy for autoimmune diseases	王崇任
5/13	Gene therapy for genetic diseases	郭保麟
5/20	Film: Gene therapy for cystic fibrosis	吳昭良
5/27	Paper presentation (I): RNA and microRNA technology for gene therapy	吳昭良 蕭瓊莉
6/3	Paper presentation (II): Cardiovascular gene therapy	吳昭良 蕭瓊莉
6/10	Paper presentation (III): Gene therapy for eye, brain, nerves, and skin	吳昭良 蕭瓊莉
6/17	Paper presentation (IV): Clinical gene therapy	吳昭良 蕭瓊莉

Grades will be based on learning attitude (20%), including attendance and participation in discussions, oral presentation (40%), and final report (40%). Paper chosen for oral presentation should be from journals with impact factor above 5. The final report written in Chinese is due to submit on June 17 before 5 pm. Regular attendance is expected. Of note, same paper (not from review articles) cannot be selected for both oral presentation and final report. Copy and paste from the internet are not allowed.

*3/25 Lecture (許耿福): 10:10~12:00 at the same classroom (Room 1124).

生物科學史 (Historical view of biology); 2 學分

時間: Friday, 13:10-15:00。

地點: 醫學院 3 樓 303D 教室

課程目標及內容:

- 本課程不是要訓練歷史學家。歷史學有自己的專業。這門課希望培養理解與欣賞歷史學的能力。
- 可能有許多不同的立場來陳述科學史。由文獻史學，社會學，哲學的方式或是由生物學知識的內容本身來看待生物科學的發展。目前在台灣的大學中生物相關科系裡，還很少由自己來探討生物科學史的努力。在醫學院裡也未正式設立醫學史的研究部門。所有的生物科學研究都好像是前無古人一樣，令人不解。
- 每個人對於知識的理解不必然都會相同，第三者所闡述曾經在自己頭蓋骨內運作的軌跡，讀來有些像似隔靴搔癢。知識份子應該也能回顧自己，建立自己的歷史價值。在生物科學知識研究者的立場，我期待能夠以切身的經驗，結合歷史發展的眼光來認識生物學發展的議題。希望透過歷史事件的陳述可以呈現生物科學知識的累積推進中人如何發揮理智。本課程要探究生物學理論的合理化過程，除了主觀而隨機的發展之外，在文化知識架構下是否可能客觀的生成? 有關科學哲學及邏輯的部份請參考另外一門課: [生物科學的道理與法則](#)。
- 不要以為那些號稱的先進都是先知，都知道一切的道理。他們也會胡扯，也會犯錯。不要以為自己缺乏經驗就不必費心自己發展自己的看法，就可以偷懶。假裝弱者只是浪費腦袋而已。

擋修條件: 常常遲到早退者請勿選修本課。

授課及評估方式: 本課程設計分成三個部份。上課方式以講解，指定討論，座談，隨堂作業並用。 評分: 平時上課佔討論七十分，時有佳論再加五分，平時作業佔二十五分(精采:20-25;普通: 10-19;太差:0-5)，缺席每節扣五分。

第一部份，泛論生物學的文化形式。

第二部份，舉例說明實證科學之興起與發展。

第三部份，與生物科學知識有關的專題。

協調老師: 楊倍昌 (Tel: 5637); 成大醫學院微免所

授課老師簡歷

陳恒安: 成大歷史系副教授

王秀雲: 高醫大性別研究所副教授

高雅慧: 成大醫學院臨床藥學所教授

張玉川: 成大醫學系外科教授

許宏彬: 中興大學歷史系助理教授

2011 課表如下:

Date Topics and Instructors

生物學的文化形式

- 2/25 印歐文明對生命的認知 (由實踐而論述)。(Dr.陳恒安)
- 3/4 生命現象裡的機械性：近代科學對於生物的定義及其取代型式。(Dr.楊倍昌)
討論主軸:由自然哲學到自然科學的轉變
- 3/11 科學史的研究法:「科學史中的實驗室」。(Dr.王秀雲)
- 3/18 階段報告及討論。(Dr.楊倍昌)
建議主題:
1. 生物學的範疇, 替自己的研究領域下定義.
2. 重新描述自己的研究領域可能的發展.

實證科學之興起與發展

- 3/25 科學知識的物質性：遺傳學三部曲。(Dr.楊倍昌)
討論主軸: 科學知識為什麼會被遺忘
- 4/1 生物體的基本構成：細胞論，跳躍式的 歸納法則。(Dr.楊倍昌)
討論主軸: 新工具對生物科學的影響
- 4/8 校際週--停課
- 4/15 病菌：由未可知到可知。(Dr.楊倍昌)
討論主軸: 突破科學典範的要件
- 4/22 近代處理疾病的三種思考進路：免疫學、公共衛生及抗生素。(Dr.楊倍昌)
討論主軸: 評議科學策略
- 4/29 疾病的處理與人對健康的期待。(Dr.高雅慧)
- 5/6 達爾文演化論的生物性、哲學性與社會性。(Dr.楊倍昌)
- 5/13 實驗室與實證科學。(Dr.楊倍昌)
- 5/20 階段報告及討論。(Dr.楊倍昌)
建議主題:
1. 介紹一個在你自己的領域裡,曾經被埋沒,然後再重新被發現的例子?請討論它被遺忘的原因.
2. 什麼是現代科學實驗室的特徵?

專論

- 5/27 留名在醫學歷史中的日本醫生。(Dr.張玉川)
- 6/3 杜聰明與漢醫院。(Dr.楊倍昌)
- 6/10 從雙螺旋到三螺旋：台灣醫學研究的轉型。(Dr.許宏彬)
- 6/17 在台灣科學發展的歷史事物：書報討論。(Dr.楊倍昌)
- 6/24 綜合討論。(Dr.楊倍昌)
建議主題:
1. 台灣社會對現代生物醫學的看法