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學期	1121
開課單位	生命科學系
流水號	24019
課號	LS5023-*
授課教師	陳盛良
課程名稱(中文)	發育生物學
課程名稱(英文)	Developmental Biology
課程學制	碩博同修
學分	2
課程目標	<p>"This subject is designed for undergraduate and postgraduate students who have no previous training in embryology and developmental biology related fields. This subject is a one year course with two credits for each semester. Interested students should have basic knowledge in Cell Biology, Biochemistry, and Molecular Biology, before they take this subject. Students taking this subject will be introduced with the early development of four model animals, including fruit fly, zebra fish, nematode, and mouse/human. Later in the second semester, the development of various organs in mammals and chicks will be discussed in detail. The creation of organisms by the fertilization of sperms and eggs will also be discussed. The application of these knowledge in biomedical research and clinical therapy will be discussed at the end of each chapter. Apart from lectures in the classes in the classroom, students are also required to perform two experiments to observe the developments of <i>C. elegans</i> and chicks in the specified periods."</p>

授課內容

"Syllabus of Developmental Biology 2012 Semester 1

Week Topics Instructors

- 1 Chapter 1 Developmental anatomy 陳盛良
- 2 Holiday 陳盛良
- 3 Chapter 3 Cell-Cell communication in development 陳盛良
- 4 Chapter 4 Fertilization 陳盛良
- 5 Chapter 4 Fertilization 陳盛良
- 6 Chapter 14 Sex determination 陳盛良
- 7 Chapter 14 Sex determination 陳盛良
- 8 Chapter 5 Early development in sea urchins 陳盛良
- 9 Mid-term examination 陳盛良
- 10 Chapter 5 Early development in sea urchins 陳盛良
- 11 Holiday 陳盛良
- 12 Chapter 5 Early development in *C. elegans* 陳盛良
- 13 Chapter 5 Early development in *C. elegans* 陳盛良
- 14 Chapter 6 The genetics of axis specification in *Drosophila* 陳盛良
- 15 Chapter 6 The genetics of axis specification in *Drosophila* 陳盛良
- 16 Chapter 6 The genetics of axis specification in *Drosophila* 陳盛良
- 17 Chapter 6 The genetics of axis specification in *Drosophila* 陳盛良
- 18 Final examination

*Hands on experiment: The culture of *C. elegans*

Syllabus of Developmental Biology –2011/Spring

Week Date Topics Instructors

- 1 23-Feb The early development of Amphibians SL Chen
- 2 2-Mar The early development of Amphibians SL Chen
- 3 9-Mar The early development of Amphibians SL Chen
- 4 16-Mar The early development of Chicks SL Chen
- 5 23-Mar The early development of mammals–mouse SL Chen
- 6 30-Mar The early development of mammals–human SL Chen
- 7 6-Apr Holiday SL Chen
- 8 13-Apr Central Nervous system and epidermis SL Chen
- 9 20-Apr Mid-term exam SL Chen
- 10 27-Apr Central Nervous system and epidermis SL Chen

	<p>11 4-May Neural Crest cells and axonal specificity SL Chen</p> <p>12 11-May Paraxial and intermediate mesoderm development SL Chen</p> <p>13 18-May Paraxial and intermediate mesoderm development SL Chen</p> <p>14 25-May The development of Lateral plate mesoderm SL Chen</p> <p>15 1-Jun The development of Lateral plate mesoderm SL Chen</p> <p>16 8-Jun The development of endoderm SL Chen</p> <p>17 15-Jun The saga of the germ line and stem cells SL Chen</p> <p>18 22-Jun Final examination SL Chen</p> <p>Course organizers: Prof. Chen (S5 Rm 305, Tel: 65069, email: slchen@cc.ncu.edu.tw)</p> <p>*Hands on experiment: Observation of Chick embryo development"</p>
教科書/參考書	<p>"Text book: Developmental Biology, 8th edition 2006, by Scott F. Gilbert</p> <p>References:</p> <p>1. Principles of Development: Lewis Wolpert</p> <p>2. Principles of Developmental Biology: F. H. Wilt & S. C.Hake"</p>
自編教材比例	0
授課方式	講授 實習/實驗
評量配分比重	<p>Midterm exam: 45%</p> <p>Final exam: 45%</p> <p>Experiments: 10%</p>
辦公時間	0600-1800
授課週數	18
彈性教學說明	
課程領域	基礎學科、生理、神經生物

系所核心能力	強度指數	評量方式
高等生物專業知識	(5) 非常高	紙筆測驗/會考，出席/課堂表現
創新及整合研究	(5) 非常高	紙筆測驗/會考，出席/課堂表現
專業寫作與表達	(2) 低	紙筆測驗/會考，出席/課堂表現
國際觀	(1) 非常低	紙筆測驗/會考，出席/課堂表現