

**CELL, DEVELOPMENT, AND CANCER BIOLOGY**  
**BIOL 497I**  
**Summer, 2010**

Lectures: 10:00 - 11:30 am

Informal group discussion/Study time: 2:00 - 3:30 pm

Location: College of Life Sciences, Peking University, Beijing, China  
Room # (To be determined)

Instructors:

Prof. Zhi-Chun Lai

Tel Phone: 814-863-0479

Cell Phone: 136-9133-8957

Email: [ZCL1@psu.edu](mailto:ZCL1@psu.edu)

Prof. Wenxia Zhang

Tel phone: 8275-7605

Email: [wxzhang@pku.edu](mailto:wxzhang@pku.edu)

Teaching Assistant:

Name

Cell Phone:

Email:

BIOL 497I "*Cell, Development, and Cancer Biology*" is an embedded course to be offered for the first time in the spring semester of 2010, with a short-term education abroad component in the summer of 2010. Major objectives of this course are:

- To discuss both basic and advanced topics in selected areas in cell biology, developmental biology, and cancer biology;
- To illustrate molecular, genetic and cellular basis of normal development and tumorigenesis;
- To learn how some of the cutting-edge research in cell, developmental and cancer biology is done in China today;
- To gain international experience and knowledge about Chinese culture and history through studying with students from Peking University and visiting some historical places in Beijing, China.

Grades will be mainly based two exams at University Park, one PowerPoint presentation in Peking University, and attendance. Make-up exam is discouraged and will be dealt with on a case-by-case basis. A written explanation or official document is required in order for make-up exam to be considered. Students are expected to be aware of and in compliance with the university academic integrity policy, which can be found at <http://www.science.psu.edu/academic/Integrity/index.html>.

Exam #1: March 25, 2010 (40%)

Exam #2: April 29, 2010 (40%)

Exam #3: July 29, 2010 (20%)

Text: **The Biology of Cancer**  
First Edition, by Robert A. Weinberg  
Publisher: Garland Science

During the summer session in Beijing, students are subject to the laws of the host country in addition to follow the Penn State Code of Conduct. Students are also expected to follow the Peking University ZhongGuanYuan Global Village's guidelines (*to be provided*) during the summer session. When visiting local places, we will make sure that no one is left behind.

**Week #1:**

1. July 11 Sun *Arrival*
2. July 12 Mon Genetic basis of animal development
3. July 13 Tues Functional studies of developmental and cancer genes - Fly
4. July 14 Wed Axis determination and organ formation in *Drosophila*
5. July 15 Thurs Functional studies of developmental and cancer genes - Mice
6. July 16 Fri Zebrafish development  
Guest lecture by Prof. B. Zhang;  
Visit the zebrafish facility at PKU
7. July 17 Sat *Visit the Summer Palace*
8. July 18 Sun *Visit the Forbidden City*

**Week #2:**

9. July 19 Mon Animal cloning and cell totipotency
10. July 20 Tues Cell signaling, stem cell, and cell therapy
11. July 21 Wed Guest lecture by Prof. HQ Deng (*To be confirmed*);  
Visit the Stem Cell Lab at PKU
12. July 22 Thurs Cellular signaling and cancer
13. July 23 Fri Meeting with PKU students and faculty
14. July 24 Sat *Visit the Great Wall*
15. July 25 Sun [*To be determined*]

**Week #3:**

16. July 26 Mon Cell transformation requires multiple genes;  
multi-step carcinogenesis
17. July 27 Tues The rationale of cancer treatment
18. July 28 Wed Animal models of human cancer
19. July 29 Thurs PowerPoint presentations by individual groups
20. July 30 Fri PowerPoint presentations by individual groups
21. July 31 Sat *Departure*