

Program: Molecular Biology and Genetics

Course Name: Cancer Biology

Course Number: 505

Course Directors: Scott K. Shore, Ph.D. and Elizabeth Moran, Ph.D., Room 334 and 333 AHB. Tel. 2-3359 and 2-7313, email. sk@temple.edu and betty@temple.edu

Credits: 3

Semester: Fall, even years

Times: Meets twice weekly for 1.5 hours

Location: AHB 310

Prerequisites: All students are required to have a background in Biochemistry, Cell Biology and Molecular Biology.

Description: The goal of the course is to provide students with a comprehensive background on cancer, from cellular transformation to clinical oncology.

Students will gain an understanding of the origins of and treatments for cancer.

Topics presented in the class include:

- 1) Psychosocial effects of human cancer
- 2) Genetics of cancer
- 3) Oncogenes and tumor suppressor genes
- 4) Metastasis and angiogenesis
- 5) The immune system and tumorigenesis
- 6) Immunotherapy and cancer vaccines
- 7) RNA and DNA tumor viruses
- 8) Gene Therapy
- 9) Cancer treatments
- 10) Cancer prevention

Students are expected to participate in class by contributing to discussions. At the end of the course each student will present a 15-minute presentation on a topic incorporating the material presented throughout the course.

Textbook & Readings: As a general background source Alberts B. et al., The Molecular Biology of the Cell 4th Edition (2002) Garland Science Press, ISBN 0-8153-3218-1 is recommended. Other texts that may prove helpful include McKinnell, R.G., et al., The Biological Basis of Cancer (1999), Cambridge University Press, ISBN 0-521-5969-5 and Macdonald, F. et al. Molecular Biology of Cancer 2nd Edition (2004), Garland Science, ISBN1-85996-247-5. Each instructor will provide an outline for his or her lecture.

Exams & Grades: Two exams will be given as indicated on the course schedule. Class attendance is required. The final grade will take into account both exams, class participation and the oral presentation. The examinations will weigh the greatest (about 80%).

Office Hours: The Course Directors are available during the normal workday hours. Other instructors are available on the same terms or as indicated in the syllabus.