Bemidji State University

BIOL 4360: Developmental and Tumor Biology

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Investigation of the mechanisms leading to the development of multicellular animal organisms from a fertilized egg. In contrast, the course also investigates how cells within a multicellular organism can become misregulated, leading to cancer. Lecture and lab.
Prerequisites: BIOL 1211 and BIOL 1212. BIOL 2360 or BIOL 3380 is highly recommended. (Might not be offered every year)

B. COURSE EFFECTIVE DATES: 05/15/2013 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. There are three lecture sections per week and a three hour lab section with roughly the first half of the course content relating to developmental biology and second half relating to tumor/cancer biology. The lab experiments for the course have a similar break-down in the schedule. Please see the attached syllabus for more detail regarding specific topics covered during the course.

D. LEARNING OUTCOMES (General)

1. 1. Students will become familiar with the signaling pathways and cell-to-cell relationships that are involved in development.
   2. Students will understand levels of cellular commitment in a variety of organisms.
   3. Students will understand the developmental pathways related to ectodermal, mesodermal, and endodermal tissues.
   4. Students will understand concepts of development related to stem cells, metamorphosis, and regeneration.
   5. Students will investigate gain a basic understanding of tumor development.
   6. Students will be able to compare and contrast the process of tumor development w

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted