BIOL 327: Modern Embryonic and Developmental Biology

This course covers the molecular mechanisms that regulate vertebrate embryonic development. Discussions range from conserved evolutionary processes to defects and genetic mutations in human development and disease. Specific topics include: cell-cell interactions; organogenesis; brain, cardiovascular and limb development; stem cell generation, maintenance and migration; cloning and genetic manipulations; epigenetic modification and system biology. Each class will include discussions of current literature, with emphasis on processes and mechanisms of development. This course is suitable for students preparing to pursue careers in research, medicine, and/or health, Fellows studying mouse models with developmental defects, and those wishing to expand their understanding of growth and development of complex organisms. Students will have opportunities to read, evaluate, and discuss critically research articles.

Learning Objectives

- Expand on knowledge of elementary cell biology to include development of complex organisms and genetic origin of human disease
- Acquire understanding of developmental processes and resulting impact of genetic mutations
- Advance scientific communication skills toward critical evaluation of scientific literature

Credits: 2
Class Type: Graduate Course
Prerequisites:
BIOL 101
The above course(s), understanding of college level biology, or permission from the instructor.
Program: Biology, Genetics, and Medicine