Developmental Biology & Stem Cells

2022

2/18 development **Fraidenraich**
2/22 stem cells **Fraidenraich**
2/25 PSCs **Nouet/Fraidenraich**
3/1 Transgenics/CRISPR **Yehia**
3/4 Cardiac Development **Astrof**
3/8 Molecular Basis of Congenital Defects **Babu**

3/11 Midterm exam (in person)

3/15 CSC **Vinagolu**
3/18 Mammary Gland Development **Wood**
3/22 HSCs **Rameshwar**
3/25 Teratogens **Xie**
3/29 NSCs **Levison**
4/1 Cell Cycle/Apoptosis **DeLorenzo**

4/5 Final exam (in person)

Spring 2022 – February 18th - April 5th
Tuesdays and Fridays, 10:00 AM – 11:50 PM
mode: in-person and virtual (hybrid)
location: MSB B610
TA: Julie Nouet
Peer tutor: Tara Serey

COURSE DESCRIPTION:

The goal of this course is to provide PhD and Master's students with an introduction to a wide range of concepts in the field of developmental biology and stem cells. Topics will be covered on a weekly basis and each session will be taught by an expert in that specific area. The course will begin with basic concepts of human development. The course will then move into animal models, key transcription factors and morphogens, which are required for proper development. Congenital disease and abnormal development induced by teratogens will be an important topic of the course. Finally, an introduction to embryonic, adult and cancer stem cells will be taught, with emphasis on the state-of-the-art induced pluripotent stem cells.

There is no pre-requisite for taking the 2-credit course. While there is no textbook for the course, slides will be provided before each lecture via canvas. Participation is encouraged, as 10% of your final grade will be determined based on your participation.

Two exams will be given, one mid-semester and one at the end. The final is not cumulative. Exam questions will primarily be multiple choice, short answer or true or false. Each lecture will be given equal weight and 10-point assignment on the exam. Your grade will be computed at the end of the semester based on the percentage of points earned out of the total points available. This final average may or may not be scaled on a curve, depending on class performance. Presenters will be available via e-mail to answer questions students have on material. Reviews will be held throughout the semester based on student request.

Course Director:

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