

Fall 2024 – Biology of Stem Cells MCDB 5615 (3cr) Course Syllabus

Tuesday/Thursday 9:30-10:45am, Porter Biosciences B121

Instructor: Bradley Olwin

MCDB 5615 has an extra 1hr meeting per week prior to class on Tuesday where we discuss the paper to present in depth and formulate questions to ask the class.

Description:

Stem cells have received considerable notice in both the scientific and social arena. Examines the stem cell concept by a critical examination of primary scientific literature. Topics will include pluripotency and plasticity, environment, technology, self-renewal, transdifferentiation, molecular signature, epigenetic programming and stem cell versus cancer cell.

Date	Topic	Reading	Group
8/27/24	Introduction/Group Assignments/PubMed	Lecture	Prof. Olwin
8/29/24	Cell Biology Review of Important Concepts	Lecture	Prof. Olwin
9/3/24	Manuscript Selections		Class
9/5/24	Totipotency Questions and Manuscript	Manuscript	Prof. Olwin
9/10/24	Reprogramming Questions	Questions	Group 1
9/12/24	Reprogramming	Manuscript	Group 1
9/17/24	Invertebrate Regeneration Questions	Questions	Group 2
9/19/24	Invertebrate Regeneration	Manuscript	Group 2
9/24/24	The Stem Cell Niche Questions	Questions	Group 3
9/26/24	The Stem Cell Niche	Manuscript	Group 3
10/1/24	Germ Line Stem Cells Questions	Questions	Group 4
10/3/24	Germ Line Stem Cells	Manuscript	Group 4
10/8/24	Workshop 1		Class
10/10/24	Workshop 1		Class
10/15/24	Stem Cell Self-Renewal Questions	Questions	Group 5
10/17/24	Stem Cell Self-Renewal	Manuscript	Group 5
10/22/24	Stem Cell Lineage Tracing Questions	Questions	Group 6
10/24/24	Stem Cell Lineage Tracing	Manuscript	Group 6
10/29/24	Workshop 2		Class
10/31/24	Workshop 2		Class
11/5/24	Regeneration Questions	Questions	Group 7
11/7/24	Regeneration	Manuscript	Group 7
11/12/24	Stem Cell Aging Questions	Questions	Group 8
11/14/24	Stem Cell Aging	Manuscript	Group 8
11/19/24	Clinical Stem Cell Application Questions	Questions	Group 9
11/21/24	Clinical Stem Cell Application	Manuscript	Group 9
12/2/24	Workshop 3		Class
12/4/24	Workshop 3		Class
12/10/24	Synthetic Embryo Questions	Questions	Group 10
12/12/24	Synthetic Embryos	Manuscript	Group 10