

SYLLABUS: BICD 158 - Active Genetics

Professor: Ethan Bier

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Time: 11:00 AM - 12:20 PM Location: Tata Hall 3201 SPRING 2023

<u>DATE</u>	<u>LECTURE</u>	<u>TOPIC</u>	<u>Instructor</u>
April 4	1	Course overview	Bier
April 6	2	Mendel to McClintock	Bier
April 11	3	Transposons, integrases, & recombinases	Bier
April 13	4	Homing endonucleases & meiotic drives	Bier
April 18	5	DNA Repair: pathways and cell context	Bier
April 20	6	CRISPR bacterial defenses & gene-editing	Bier
April 25		MIDTERM 1 (25% of grade)	
April 27	7	Gene-drives: suppression vs. modification	Bier
May 2	8	Split-drive systems	Bier
May 4	9	Allelic-drives	Bier
May 9	10	Neutralization-drives	Bier
May 11	11	CRISPR-based genome engineering	Bier
May 16	12	Genome-wide CRISPR screens & gene-editors	Bier
May 18		MIDTERM 2 (25% of grade)	
May 23	13	<i>In vivo</i> genome-editing: gene therapy	Alexis Komor
May 25	14	Somatic gene conversion	Bier
May 30	15	Antibiotic resistance, horizontal gene transfer	Bier
June 1	16	Pro-active genetics in bacteria	Bier
June 6	17	Ethical implications of genetic modification	John Evans
June 8	18	Ethics of gene-drives and genome-editing	Bier
June 13 (Tuesday)		FINAL EXAM (30% of grade)	
		Weekly Problem Sets (10 total) = 20% of grade	

COURSE WEBSITE: <https://canvas.ucsd.edu/courses/44905>