

SYLLABUS: BICD 158 - Active Genetics

Professor: Ethan Bier

IAs:

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Time: 11:00 AM - 12:20 PM

Location: Tata Hall 3201

SPRING 2024

<u>DATE</u>	<u>LECTURE</u>	<u>TOPIC</u>	<u>Instructor</u>
April 2	1	Course overview	Bier
April 4	2	Mendel to McClintock	Bier
April 9	3	Transposons, integrases, & recombinases	Bier
April 11	4	Homing endonucleases & meiotic drives	Bier
April 16	5	DNA Repair: pathways and cell context	Bier
April 18	6	CRISPR bacterial defenses & gene-editing	Bier
April 23		MIDTERM 1 (25% of grade)	
April 25	7	Gene-drives: suppression vs. modification	Bier
April 30	8	Split-drive systems	Bier
May 2	9	Allelic-drives	Bier
May 7	10	Neutralization-drives	Bier
May 9	11	CRISPR-based genome engineering	Bier
May 14	12	Genome-wide CRISPR screens & gene-editors	Bier
May 16		MIDTERM 2 (25% of grade)	
May 21	13	<i>In vivo</i> genome-editing: gene therapy	Alexis Komor
May 23	14	Somatic gene conversion	Bier
May 28	15	Antibiotic resistance, horizontal gene transfer	Bier
May 30	16	Pro-active genetics in bacteria	Bier
June 4	17	Ethical implications of genetic modification	John Evans
June 6	18	Ethics of gene-drives and genome-editing	Bier

June 11 (Tuesday, 11:30AM - 2:30 PM)

FINAL EXAM (30% of grade)

Weekly Problem Sets (10 total) = 20% of grade

COURSE WEBSITE: <https://canvas.ucsd.edu/courses/54558>