

2007 Foundations of Chemical Biology Syllabus

Date	Topic	Instructor	Reading/Homework
Jan.	10	Introduction to Chemical Biology	<i>Bachmann</i>
	12	Intro/Methods of studying biosynthesis	<i>Bachmann</i>
	15	MLK DAY OFF	<i>N/A</i>
	17	Method of studying biosynthesis	<i>Bachmann</i>
	19	Methods	<i>Bachmann</i>
	22	Methods: Binding determinants, target identification	<i>Marnett</i>
	24	Methods: target identification	<i>Marnett</i>
	26	Polyketides: biosynthetic chemistry	<i>Bachmann</i>
	29	Polyketides: fatty acids and type I	<i>Bachmann</i>
Feb.	31	Target identification: Rapamycin	<i>Bachmann</i>
	2	Pathway context: mTOR	<i>Bachmann</i>
	5	Polyketides: type II, others and structure/function	<i>Bachmann</i>
	7	Student Presentations	<i>N/A</i>
	9	Student Presentations	<i>N/A</i>
	12	Terpenoids: biosynthetic chemistry	<i>Bachmann</i>
	14	Terpenoids: classes	<i>Bachmann</i>
	16	Terpenoids: cyclases structure/function	<i>Bachmann</i>
	19	Exam 1	<i>N/A</i>
	21	Mode of action and pathways: Taxol	<i>Bachmann</i>
	23	Aflatoxin and molecular carcinogenesis	<i>Marnett</i>
	26	Teucricin A and molecular toxicology	<i>Marnett</i>
	28	Salicylates as anti-inflammatory agents	<i>Marnett</i>
Mar.	2	Cyclooxygenase inhibitors	<i>Marnett</i>
	5	SPRING BREAK	<i>N/A</i>
	7	SPRING BREAK	<i>N/A</i>
	9	SPRING BREAK	<i>N/A</i>
	12	Nonribosomal Peptide Synthetases: biosynthetic chemistry	<i>Bachmann</i>
	14	Nonribosomal Peptide Synthetases: biosynthesis	<i>Bachmann</i>
	16	Nonribosomal Peptide Synthetases: structure/function	<i>Bachmann</i>
	19	Penicillin/vancomycin MOA in cell wall biosynthesis pathways	<i>Bachmann</i>
	21	Natural products as drugs - geldanamycin	<i>Marnett</i>
	23	Discovery of bioactive molecules - screening	<i>Marnett</i>
	26	Discovery of bioactive molecules - redesign and fragment optimization	<i>Marnett</i>
	28	Systems approaches to studying kinase function - chemical genetics	<i>Marnett</i>
	30	Systems approaches to studying kinase function - chemical genetics	<i>Marnett</i>
	Apr.	2	Systems approaches to studying kinase function - chemical genomics
4		Systems approaches to studying protease function	<i>Marnett</i>
6		Metabolomics	<i>Marnett</i>
9		Tracking protein movement	<i>Marnett</i>
11		Targeted imaging agents	<i>Marnett</i>
13		Small molecule natural product synthesis	<i>Sulikowski</i>
16		Diversity-oriented synthesis	<i>Sulikowski</i>
18		Parallel syntheses	<i>Lindsey</i>
20		Student Presentations	<i>N/A</i>
23		Student Presentations	<i>N/A</i>

Hour exam