

Emerging Techniques in Protein and Genetic Engineering Oncology 675-002 July 25-29, 2022

This course will have four unique components. To successfully complete this course, students will need to submit pre-work assignments and evaluations in a timely fashion and engage with asynchronous course materials. We will meet face to face the week of July 25-29, 2022 and will make efficient use of our time by completing laboratory activities, including analyses as well as other relevant activities.

The four components of the course are:

1. **Pre-work**–Asynchronous material will be posted to the course Canvas site at least one week prior to July 25. You may watch lectures and complete quizzes, worksheets, and other evaluation materials beginning July 18. Please note that some items will have deadlines associated with the in-person content. If you are not taking this course for credit you will not have access to Canvas, so I will create a Box folder to share information with you.

2. **Evaluation** – Evaluation of your engagement and learning will include quizzes, worksheets, data analyses, and in person attendance and contributions to class. As noted above, some items will be bound to deadlines associated with our in-person modules. If you are not taking this course for credit, evaluation materials are optional.

3. **In-person** – Several hours per day have been designated for in-person attendance the week of July 25-29, 2022. Please review the schedule and plan to be on the Promega campus during that time.

4. **Office hours/Individual Consultations** – These can be scheduled as needed throughout the week of July 25-29, 2022; suggested times have been designated on the schedule.

Date	Time	Module	Instructor
Monday,			
July 25			
Asynchronou	s Pre-work and Evaluation Materials	•	
Please check C	Canvas for recordings and evaluation mate	rials, which must be completed <mark>prior to a</mark>	<mark>ttending</mark> in
person on eac	h designated day.		
	https://canvas.wisc.edu/courses/3025	Lecture	Andrew
	96/pages/epigenetics-and-assessing-	Assessing cell health: The cellular	Niles
	<pre>cell-health ("Cell Health Seminar")</pre>	consequences of HDAC inhibition	
	https://canvas.wisc.edu/courses/3025	Lecture: Studying protein degradation	Elizabeth
	96/pages/genome-editing-and-		Caine
	protein-degradation-analysis		
Additional	TBD		•
Assignments:			
In-person Sch	edule		
These speaker	s, activities, discussion sessions, laboratory	y sessions, and data analyses that will tak	ke place in
the Feynman I	building on the Promega campus.		

Schedule:

	9:00a – 9:30a	Welcome and Introductions	Amy
			, Prevost,
			Erica
			Golueke
	9:30a – 10:30a	Lecture: Using cells as reagents.	Terry Riss
	10:30a – 1:30p	Laboratory:	Andrew
		HDAC laboratory – Set up	Niles,
		experiments; HDAC selective assays -	Erica
		HDAC2 and HDCACIIa, test HDAC	Golueke
		inhibitor potencies.	
		Dose cells for cell health assessment.	
	1:30 – 3:00p	Laboratory: Create CRISPR pools for	Erica
		studying protein degradation	Golueke
Asynchrono	us Pre-work and Evaluation Materials		
Please check	Canvas for recordings and evaluation mat	erials, plus additional pre-work which mus	st be
completed <mark>p</mark>	r <mark>ior to attending</mark> in person on each designa	ited day.	
Tuesday,			
July 26			
Additional			
Additional Assignments In-person Sc			
Assignments In-person Sc These speake		ry sessions, and data analyses that will ta	·
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Assignments In-person Sc These speake	hedule rs, activities, discussion sessions, laborato building on the Promega campus.	<i>Lecture:</i> Epigenetics overview; DNA modifiers,	·
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	prior to attending in person on each designat	rials, plus additional pre-work which mus ted day.	
Wednesday			
July 27			
	https://canvas.wisc.edu/courses/3025	Lecture:	Thomas
	96/pages/epigenetics-and-assessing-	HDAC biology, isoenzymes and	Kirkland
	<u>cell-health</u>	methods for measuring activity	
Additional			
Assignments	5:		
In-person S	chedule		
•	ers, activities, discussion sessions, laborator	y sessions, and data analyses that will tal	ke place in
the Feynmai	n building on the Promega campus.		
	9:00a – 10:00a	Lecture: Studying protein degradation	Elizabeth Caine
	10:00a – 10:30a	Laboratory: CRISPR lab - add	Erica
		Endurazine compound (2.5-hour incubation)	Golueke
	10:30a – 1:00p	Laboratory: Cell health assessment	Andrew Niles, Erica
			Golueke
	1:00p -1:30p	Laboratory:	Erica
		PROTAC serial dilution, add to plate	Golueke
		and start kinetic read for PROTACs	
		during incubation	
	1:30p – 3:00p	Discussion: Cell health data discussion	Andrew
			Niles,
			Erica
			Golueke
•	ous Pre-work and Evaluation Materials		
	kCanvas for recordings and evaluation mate		t be
· · ·	<mark>prior to attending</mark> in person on each designat	ed day.	
Thursday,			
luly 28			
	https://eenvice.utice.edu/eeurcec/202E	Lecture:	Jeff
	https://canvas.wisc.edu/courses/3025		
	96/pages/guest-lectures	MSI screening for cancer and prognostic use.	Bacher
Additional		-	Bacher
	96/pages/guest-lectures	-	Bacher
Assignment In-person S These speak	96/pages/guest-lectures s: chedule ers, activities, discussion sessions, laborator	prognostic use.	
	96/pages/guest-lectures s: chedule ers, activities, discussion sessions, laborator n building on the Promega campus.	prognostic use. y sessions, and data analyses that will tak	ke place in
Assignment In-person S These speak	96/pages/guest-lectures s: chedule ers, activities, discussion sessions, laborator	prognostic use.	

		Discussion: PROTAC data analysis	
	10:00a – 11:00a	Lecture: Immunoaffinity and bead-	Richard
		based capture of proteins.	Burgess
	11:00a – 2:00p	Lecture and Laboratory	Jeff
		Demonstration:	Olsen,
		Next Gen Sequencing using iSeq	Illumina
	2:00p – 3:00p	Lecture: IP and Patent Law	David
			Casimir,
			Casimir 8
			Jones,
			LLC
Asynchron	ous Pre-work and Evaluation Mat	erials	
-		ation materials, plus additional pre-work which mus	t be
	prior to attending in person on eac		
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Friday, July	,		
29			
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Additional			
Additional Assignment	ts:		
Assignment		·	
Assignment	Schedule	laboratory sessions, and data analyses that will tak	e nlace in
Assignment In-person S These speak	Schedule kers, activities, discussion sessions,	laboratory sessions, and data analyses that will tak	e place in
Assignment In-person S These speak	Schedule kers, activities, discussion sessions, an building on the Promega campu	IS.	
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