

Penn CRA 2024 Syllabus/Schedule

Every 3-hour session has a break, even if not noted!

	Monday 7/8	Tuesday 7/9 (no JW)	Wednesday 7/10	Thursday 7/11	Friday 7/12	
8:30-9:00	Welcomes, intros, ice-breakers Project Intro and Brainstorm BREAK Round robin to discuss 45min Lab Safety BREAK Lab Check-in	Debrief yesterday, Agenda for today, etc Project Intro and Brainstorm BREAK Round robin to discuss?	Debrief/Agenda How Read Journal Pogil – Read Journal BREAK	Debrief/Agenda Making Sense of Color BREAK Lesson: Intro Nano BREAK Lesson: Intro Nano Redox demo/lesson & Pre-lab AuNP	AgNP Pre-Lab Dye Goggles (in other lab) and Instructors work with students on research Phase II	
9:00-9:30		Lesson: Matter/Light Interactions (Dusty)	Lesson: Energy Levels & Spec then Scale Sorting	Lesson: Intro Nano Making Sense of Color	AgNP Lab Instructors work with students on research Phase II	
9:30-10:00		LUNCH	LUNCH	LUNCH		LUNCH
10:00-10:30		LUNCH	LUNCH	LUNCH		LUNCH
10:30-11:00		Canvas Quizzes + BREAK Start next if all finished	Canvas Quizzes BREAK	Judith Currano Using Penn Library Resources BREAK		AuNP Lab Research Time in Groups Post-Lab and advanced NP AuNP Lab Post-Lab and advanced NP
11:00-11:30	Pre-lab Glue Part I & Part II Groups BREAK as approp	Pre-lab Glue Part I & Part II	Then Instructor breakouts w/ students to work on research for Phase I project (classrooms)	Research Time in Groups Post-Lab and advanced NP		AgNP Lab AgNP Post-Lab
11:30-12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
12:00-12:30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
12:30-1:00	How Read Journal Glue Part III	Dr. Ivan Dmochowski: <i>Engineering Better Molecules for Biomedical Applications</i>	Research topic due Fri	Phase I Due 8:00am		
1:00-1:30	1 st day wrap-up	Reflection Dmochowski	Research topic due Fri	Phase I Due 8:00am		
1:30-2:00	HW to assign	Reflection Dmochowski	Research topic due Fri	Phase I Due 8:00am		
2:00-2:30	How Read Journal Pogil- Read Journal	Dr. Ivan Dmochowski: <i>Engineering Better Molecules for Biomedical Applications</i>	Research topic due Fri	Phase I Due 8:00am		
2:30-3:00	How Read Journal Pogil- Read Journal	Dr. Ivan Dmochowski: <i>Engineering Better Molecules for Biomedical Applications</i>	Research topic due Fri	Phase I Due 8:00am		
3:00-3:30	1 st day wrap-up	Reflection Dmochowski	Research topic due Fri	Phase I Due 8:00am		


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	Monday 7/15	Tuesday 7/16 (no ZM)	Wed 7/17 (no ZM)	Thursday 7/18	Friday 7/19			
8:30-9:00	Debrief/Agenda	Dr. Christopher Murray – Nanomaterials and Engineering	Nickel demo Lessons/worksheets on Coord Complexes Post-lab is to write up something about their lab based on what they learned in lessons.	Space Mining Activity/ Debate	Debrief/Agenda EDTA Post-Lab			
9:00-9:30	Share-out – What did you learn about NP synthesis?				Organic Intro			
9:30-10:00	Summarize NP DLS Brief Talk w/ sample analysis							
10:00-10:30	BREAK	BREAK	BREAK	BREAK				
10:30-11:00	Brief review PT Then Coord Nomenclature POGIL	Gumdropommarshmallows Then Pre-lab for Ni Spectrochemical series	Dr. James Petersson <i>Working at the intersection of chemistry and biology</i>	BREAK Wrap up Coordination Lessons Pre-Lab EDTA Lab	Grad Student Olivia – MedChem Stereochemistry			
11:00-11:30	LUNCH	LUNCH				LUNCH	LUNCH	
11:30-12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH			
12:00-12:30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH			
12:30-1:00	Grad Student Olivia – MedChem 1	Research Time	Lab – Ni Spectroche m Inquiry	Leave 12:45	Research time with instructors			
1:00-1:30						BREAK	Singh Center Tour	EDTA lab
1:30-2:00								
2:00-2:30	Dr. Eric Schelter – <i>Critical Metals Research</i>	Lab – Ni Spectroche m Inquiry	Research Time	Leave 2:10	LN2 Ice Cream!			
2:30-3:00						EDTA lab	Penn Museum Tour	
3:00-3:30								
HW to assign	Reflection-Schelter	Reflection-Murray	Reflection-Petersson	Research Phase II due Fri				

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	Monday 7/22	Tuesday 7/23	Wednesday 7/24	Thursday 7/25	Friday 7/26				
8:30-9:00	Organic, Part II Funct. Groups and all the things that affect GC	Post-Lab GC Pre-Lab Polarim	Everything related to the Ethyl Acetoacetate lab...	Review NMR	Lab Clean-Up and Check-out				
9:00-9:30		<i>Break here or later</i>		Review NMR					
9:30-10:00		LAB Intro to GC		LAB Intro to Polarim.		Time to finish Phase III	Time to finish Phase III	Everything related to the Ethyl Acetoacetate lab...	
10:00-10:30				Practice and demos					
10:30-11:00				Practice and demos					LAB Intro to Polarim.
11:00-11:30				Practice and demos					LAB Intro to Polarim.
11:30-12:00	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH				
12:00-12:30	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH				
12:30-1:00	Dr. Dirk Trauner <i>Restoring Vision w/ Photoswitchable Molecules</i>	Grad Student Olivia – NMR lesson w/ practice	Science History Institute (Septa Keys in Lab Prep)	Post-Lab Ethyl Acetoacetate					
1:00-1:30				BREAK?					
1:30-2:00	BREAK			Dr. Dan Mindiola Research Talk					
2:00-2:30	LAB Intro to GC	Post-Lab Polarim							
2:30-3:00		Grad Student Sebastian Research Talk							
3:00-3:30		Debrief		End of Prog. Surveys					
HW to assign	Trauner Reflection		Post-Lab Analysis	Be ready to present Phase III tomorrow!	Have a great summer!				