


# Penn Chemistry Research Academy 2023 Syllabus/Schedule

ma	Monday 7/10		Tuesday 7/11		Wednesday 7/12		Thursday 7/13		Friday 7/14				
8:30-9:00	Pick up students Welcomes, intros, ice-breakers		Lab Check-in	Background Quizzes on Canvas	Pre-lab AuNP ~45 minutes Techniques and a little concept		AgNano Prisms Synthesis Lab	3A Karen Derek Chirality Intro Lecture –	3B Karen Derek Chirality Intro Lecture –	AgNano Prisms Synthesis Lab			
9:00-9:30			Glue lab – How questions drive research								Analysis of Glue Lab	AuNP Lab (extra time here for set-up)	Debrief on Glue Lab
9:30-10:00	Research Project Intro and Brainstorm session			Organic Intro	Finish discussing project and research	Finish discussing project and research							
10:00-10:30								Background Quizzes on Canvas	Lab Safety w/ Ryan Kubanoff				
10:30-11:00													
11:00-11:30													
11:30-12:00													
12:00-1:00													
12:30-1:00	Scale Sorting Activity and Intro to Nano	Lab Check-in	Glue Lab final session	Scale Sorting Activity and Intro to Nano	Organic Intro	AuNP Lab	Olivia DMSO & Fentanyl Case Study		Research Time and Open Q&A	Ag Nano Prisms Catalysis			
1:00-1:30		Glue lab – How questions drive research									Making Sense of Color Spectrophotometry Intro and use of SpectroVis+		Judith Currano Using Penn Library Resources Then students use the resources to gather the research for Friday's Project Due Date
1:30-2:00	1A Karen/ Derek Journal		Research Project Brainstorming Continued										
2:00-2:30		Lab Safety w/ Ryan Kubanoff			1B Karen/ Derek Journal								
2:30-3:00													
3:00-3:30													
					HW: research topic		HW: Case Studies due		Phase I Due 11:59pm				

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	Monday 7/17			Tuesday 7/18		Wednesday 7/19		Thursday 7/20	Friday 7/21					
8:30-9:00	Olivia 2 <sup>nd</sup> Set of Med Chem Case Studies			5A1 Kalyana Research Talk		Intro orbitals	Conf. Rm Nano Data Analysis	5B1 Kalyana Research Talk		Space Mining Activity and Debate	Open Q&A Polarim, Ligands, and AgNP	6B Karen Derek Chirality Assay Lab Gen Chem Lab		
9:00-9:30				5A2a Amy ↕	Intro orb stuff ↕	How Many Ligands?	How Many Ligands?	5B2a Amy Conf. Nano	Singh Center Tour		5B2b Amy Conf. Nano	Dr. James Petersson Protein Folding, etc	6A Karen Derek Chirality Assay Lab Gen Chem Lab	Open Q&A Polarim, Ligands, and AgNP
9:30-10:00														
10:00-10:30	How are the research projects?	↕	↕	↕	↕			↕		↕				
10:30-11:00	Polarimetry Intro			↕	↕	↕	↕	↕	↕	↕	↕	↕		
11:00-11:30	DLS Intro			Intro orbitals	5A2b Amy	How Many Ligands?	Singh Center Tour	Conf. Nano	5B2b Amy	Dr. James Petersson Protein Folding, etc	6A Karen Derek Chirality Assay Lab Gen Chem Lab	Open Q&A Polarim, Ligands, and AgNP		
11:30-12:00								Ligands Talk						
12:00-12:30							Ligands		Singh Center Tour					
12:30-1:00	Polarimetry (and steal for DLS)		4A Amy Lab Tour	4A Canning Lab Tour		Gumdrops/Marshmallows and all things Coordination complex		Talk	Singh Center Tour	Petersson Group Students Rotations through labs and activities	Dr. Dan Mindiola Methane			
1:00-1:30								LUNCH	LUNCH					
1:30-2:00														
2:00-2:30	4A Canning Lab Tour	4A Amy Lab Tour	Polarimetry (and steal for DLS)		Dr. Eric Schelter Rare Earth Metals		Demos (DRL A2 at 2:30)		This starts at the Gen Chem Lab	Debrief on Assay lab	Ice Cream			
2:30-3:00														
3:00-3:30														
	Polarimetry post-lab & Olivia Reflection			Schelter Reflection		Start on the AgNP analysis		JP Gp Reflection Phase II		Phase II due midnight AgNP due Sun midnight				

# Penn Chemistry Research Academy 2023 Syllabus/Schedule

	Monday 7/24		Tuesday 7/25		Wednesday 7/26		Thursday 7/27		Friday 7/28			
8:30-9:00	Olivia NMR	NMR Tour 2 rotations	10A Diels Alder Lab Canning/ Austin Karen, Derek	Co-M-P Lab Part 1	Co-M-P Lab Part 1	10B Diels Alder Lab Canning/ Austin Karen, Derek	Canning/Austin DA Post-Lab (15-20 minutes)		Lab Check-out and Clean-Up Post-Program Survey			
9:00-9:30	NMR Tour 2 rotations	Olivia NMR		9A Aaliyah/ Xianfei Talk/ Lesson	9B Aaliyah/ Xianfei Talk/ Lesson		Co-M-P LAB, Part 2	Student Q & A and help or work on project				
9:30-10:00	7A Olivia/Canning/ Austin NMR full group problem-solving activity (2 hours)								9A Aaliyah/ Xianfei Comput./ Theor. Chem	9B Aaliyah/ Xianfei Comput./ Theor Chem	Student Q & A and help or work on project	Co-M-P LAB, Part 2
10:00-10:30												
10:30-11:00												
11:00-11:30												
11:30-12:00									Closing remarks, etc...			
12:00-12:30												
12:30-1:00	Pre-pre-lab Diels Alder	Pogil Coord Colors/ Co-M-P Prelab	Pogil Coord Colors/ Co-M-P Prelab	Pre-pre-lab Diels Alder	SHI Field Trip and Tour Bus pick up Chem Bldg 12:30 From SHI 3:00		Co-M-P Post-Lab What did you make and how do you know?					
1:00-1:30							Neurochemicals in Psychology					
1:30-2:00												
2:00-2:30	Dr. Ivan Dmochowski "How to Capture an Atom"		VIPER Presentations Discussion Break-outs Final Panel									
2:30-3:00												
3:00-3:30												
	Dmochowski reflection		DA post lab/Reflection Comp Chem			Final pres tomorrow!						