Virtual Research Cruise Student Syllabus – Part 1

(Track your progress during the 2-week research cruise.)

Video #1 View Live heading out are! (ocean ocean Answer the log Video #2 Video #4 Video #4 Video #4 Video #3, Video #5, Video #6, & Video #7 Video #7 View Live Converted the log Video #6, & View Live CTD). to coll PUPCYCLE Log Day 3 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 View Live observe an PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 View PUP The lab? Of labs set up PUPCYCLE Log Day 7		COMPLETED				
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Video #2 Video #4 Video #4 Video #4 Video #4 Video #4 PUPCYCLE Log Day 2 Video #3, Video #5, Video #6, & Video #7 PUPCYCLE Log Day 3 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 7 PUPCYCLE Log Day 7 PUPCYCLE Log Day 7	currents in this region.					
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Video #4 (Optional) onboard. To Oceanus re PUPCYCLE Log Day 2	Feed Friday from Newport, Oregon. Bon voyage, Y'all! Observe some of the					
PUPCYCLE Log Day 3 Video #3, Video #5, Video #6, & Video #7 PUPCYCLE Log Day 3 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 4, Day 5, & Day 6 PUPCYCLE Log Day 7 PUPCYCLE Log Day 7 PUPCYCLE Log Day 7	challenges researchers might face during the 2-week expedition at sea.					
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The log Video #3, View	eyor Belt Cycle (UCBC) and the equipment being used on the ship.					
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Video #6, & View / View / View / CTD). to coll PUPCYCLE	PUPCYCLE 2019 1 st CTD cast/retrieval for samples;					
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Log Day 3 being	lect their study samples.					
Video #8 View Live observe an PUPCYCLE Log Day 4, Pead 6 Day 6 Day 6 Video #11 View PUP the lab? Of labs set up PUPCYCLE Log Day 7	The Phytoplankton Players to explore the various types of phytoplankton investigated during the arrives					
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PUPCYCLE Log Day 4, Day 5, & Read 6 Day 6 Pupcycle Log Day 4, Read 6 Read 6 Exploid highlig Answeringe Video #11 View PUP the lab? Of labs set up PUPCYCLE Log Day 7 Read 6 Read 7 Read 7 Read 7	observe another method used to collect water samples.					
Log Day 4, Day 5, & Read 6 Day 6 Day 6 Exploid highlig Answer image Video #11 View PUP the lab? Of labs set up PUPCYCLE Log Day 7 Read 6 Read 7 Read 7	Express Yourself, Bacteria;					
Day 5, & Read 6 Day 6 Day 6 Explore highlig end of highlighten end of highlig	Insights into PUPCYCLE 2019; and					
Day 6 Exploid highlight of the lab? Of labs set up PUPCYCLE Log Day 7 Exploid highlight of the lab? Of labs set up unique.	On the Cutting Edge of Metabolomics.					
highlig	re and discuss the various topics being researched by each of the scientists					
Video #11 View PUP the lab? Of labs set up PUPCYCLE Log Day 7 Read 2 unique	ghted in the logs.					
image: Video #11	er the Challenge Questions for each day's log based on the information and					
Video #11 View PUP the lab? Of labs set up PUPCYCLE Log Day 7 Read 2 unique	es provided.					
the lab? Of labs set up PUPCYCLE Log Day 7 the lab? Of labs set up Read 2 unique	PCYCLE 2019 Live Feed Update: What happens to the water once it reaches					
PUPCYCLE tog Day 7 labs set up Read 2 unique	bserve the pathways the water samples follow from the CTD to the various					
PUPCYCLE • Read 2 unique	on the ship by the different research teams.					
Log Day 7 unique	The Bubble Lab to discover how scientists "inside the bubble" address the					
	e challenges presented by their research topic.					
	er the Challenge Question based on the information and images provided in					
the log						
<u> </u>	Day 8 Aboard the R/V Oceanus (Progress Assessment)					
	, ,					
	ay 8: Halftime at PUPCYCLE 2019. Review the knowledge you have gained					
and assessed your progress	by completing the Halftime Assessment posted in the log.					





Virtual Research Cruise Student Syllabus – Part 2

(Track your progress during the 2-week research cruise.)

MEDIA	TITLE: Description				
Virtual Reso	earch Cruise: Days 9 – 14 Aboard the R/V Oceanus				
Video #9	View <i>PUPCYCLE Log Update – Cellular service returns to the R/V Oceanus</i> . Observe and discuss some of the lifestyle challenges that face scientists who research at sea.				
Video #10	View <i>R/V Oceanus takes on the heavy seas near Cape Mendocino, CA</i> . Observe and discuss some of the environmental challenges that face scientists who research at sea.				
PUPCYCLE Log Day 9	 Read <i>Micrometers, Nanometers, Picometers, Oh My</i> to gain a better perspective on the size of the organisms being investigated by the scientists. Answer the Challenge Question based on the information and images provided in the log. 				
PUPCYCLE Log Day 10	 Read <i>Game of Iron</i>. Explore the relationship between iron (Fe) and diatoms. Answer the Challenge Question based on the information and images provided in the log. 				
PUPCYCLE Log Day 11	 Read <i>Heavy Seas, Anyone?</i> Observe the technology used to photograph microscopic plankton. Answer the Challenge Question based on the information and images provided in the log. 				
Video #12	 View <i>This is the visible "line" in the ocean where today's active upwelling was occurring</i> to observe the changes formed on the ocean's surface by an active upwelling zone. Compare and contrast the ocean's surface in this video with the ocean action displayed in Video #10. 				
PUPCYCLE Log Day 12	 Read <i>Building Glass Houses</i> and explore how researchers are using the diatoms' physiology to track their reproductive cycles under various environmental conditions. Answer the Challenge Question based on the information and images provided in the log. 				
PUPCYCLE Log Day 13	 Read <i>Going with the Flow</i> and review the importance of upwelling to the phytoplankton and the aquatic food web. Answer the Challenge Question based on the information and images provided in the log. 				
PUPCYCLE Log Day 14 PUPCYCLE (Read <i>PUPCYCLE 2019 Returns to Port</i> and discuss the various skills and collaborative efforts required to conduct scientific research at sea. Certification - Follow the link to the PUPCYCLE Certification Google Form and				
	orm to receive your certificate.				
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