

**NIFA-USDA-TCRGP Undergraduate Student Internship Program (USIP) Fall 2021
Preliminary Agenda August 26 – November 05, 2021 (10 Weeks)**

Date	Time (MDT)	Presenter	Presentation Title	email
Week One: Orientation to the Program				
August 31, 2021	Live Sessions 9-10 am	Prof. Herman Cody, Diné College Join Zoom Meeting https://dinecollege.zoom.us/j/93650925957 Meeting ID: 936 5092 5957	Blessing Ceremony (recording) https://dinecollege.zoom.us/rec/share/HGh4T496COIALTr83EnTA7UrA_ILkP1_aOZY_hq_vt8OoT2o58jqciUNGRap7BI.Zbaj9CifDDZEjEwK Passcode: MyW0=5?W	hcody@dinecollege.edu
	3-4 pm and then 4:30 -5 pm	Dr. Shazia Hakim Diné College Join Zoom Meeting https://dinecollege.zoom.us/j/91234685757 Meeting ID: 912 3468 5757 Bacterial Culture Media (recording) https://dinecollege.zoom.us/rec/share/GwvqPGas1wCB4_TqkkX-xvX-rrbO8tcgs6DbuP86x3uR7QwxODpHLGGrgZKUSmk6.17yq5EjMNSVxmQxF Passcode: ?eSmY.f2 Bacterial Identification (recording) https://dinecollege.zoom.us/rec/share/0vxcK_A_u9Y5NPgOiwzH8DntR6_ABfoUcssHU31J2D_StI2WORSwPGe-OtpEamqg.byvq0BgsIEc9vEJl Passcode: 7.LPGTAJ	<ul style="list-style-type: none"> • Introduction to Molecular Biology & Microbiology Techniques • Supply of and Demand for Colorado River Water (Recording) https://dinecollege.zoom.us/rec/share/sUU0QJjgaz4Nj1JW8ZR9QTYVMpuS01gaA9cy3kwOq1LhwRVuWrWxy58oTV7HOfDO.N0eLhKNrkuI5s-W Passcode: @E=7HBft	stabassum@dinecollege.edu
	4-4:30 pm	Dr. Bob Arnold, University of Arizona (TBC) Join Zoom Meeting https://dinecollege.zoom.us/j/91234685757 Meeting ID: 912 3468 5757		rga@arizona.edu

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Week One: Orientation to the Program				
Sep. 02, 2021 Thursday	9 – 10 am NN time	Dr. Franklin Sage, Diné College Time: Sep 2, 2021 09:00 AM Mountain Time (US and Canada) Join Zoom Meeting https://dinecollege.zoom.us/j/95236538488 Meeting ID: 952 3653 8488	<ul style="list-style-type: none"> Ethics and Research Conduct with reference to Navajo teaching Introduction to Water Quality & Sewage: biology & chemical composition (Recording) 	fsage@dinecollege.edu
	10-11 am NN time	Dr. Gerba, University of Arizona Time: Sep 2, 2021 10:00 AM Mountain Time (US and Canada) Join Zoom Meeting https://dinecollege.zoom.us/j/95236538488 Meeting ID: 952 3653 8488	https://dinecollege.zoom.us/rec/share/q_ixxY4HG0L45e7w06yJeZfn1ltvkvQXr3z6p0kLswixiM6oAqMNOg0BguKQX6Sm.9GbhXvCOYFJDD_oy Password: 9AECb0.E	gerba@ag.arizona.edu
Week Two: Proposal Design & Writing				
Time: Sep 3, 2021 03:00 PM to 6:00 pm Mountain Day Time (US and Canada) (NN time) same link for all sessions below				
Join Zoom Meeting				
https://dinecollege.zoom.us/j/99444305426				
Meeting ID: 994 4430 5426				
Sep. 03, 2021 Friday	3-4pm	Dr. Shazia Hakim, Diné College,	<ul style="list-style-type: none"> Elements of proposal preparation Identification of key research questions Definition of objectives, description of methodology and justification 	stabassum@dinecollege.edu

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Sep. 03, 2021	4-5pm	Ms. Benita Litson, Diné College	<ul style="list-style-type: none"> Structure of a work plan, timeline, and budget Selection of Presentation Topic & review articles (recording) https://dinecollege.zoom.us/rec/share/Fvr23eVAa-DtNNLulLzuoQy4bEBQ751BlmwGi15iOWcMYQcnBiEBZMUO93Pageej.3zQA-eN4yMYeCvga Password: \$y0zi?^V	blitson@dinecollege.edu
	5-6pm	Dr. Shazia Hakim, Diné College		stabassum@dinecollege.edu
Date	Time	Presenter	Presentation Title	email
Week Three: Measurement of Chemicals and trace organics in effluent: reclaimed vs. potable water September 07 – 10, 2021				
Sep/ 07, 2021	Watch the video	You are not alone. How you will correlate the information in the video with water crises in Navajo Nation?	Explained World's Water Crisis, 17 Apr 2020 https://www.youtube.com/watch?v=C65iqOSCZOY	stabassum@dinecollege.edu
	Watch the video	Summarize the information in the video. Generally describe the relationship between uranium and water in the Navajo Nation. Include barriers and problems that get in the way of providing solutions.	Vice News, "Living Without Water: Contamination Nation", November 24, 2015 https://www.youtube.com/watch?v=qjMLyISKoT0	stabassum@dinecollege.edu
Sep. 08, 2021	2:00 pm Navajo Nation time	DR. Robert Arnold, University of Arizona Join Zoom Meeting at https://dinecollege.zoom.us/j/97318777879 Meeting ID: 973 1877 7879	Lower Colorado River Basin and Water Rights of Native American Tribes (Recording) https://dinecollege.zoom.us/rec/share/5B4wLYy-XTDM9t-KNU3462VF-ujz7ik1zcgln6b8Ab69HjpufJ6nBYsawqNfZmrT.-zq-gRqIMeqAQoo Passcode: 3Sn*&+Ub	rga@arizona.edu

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Sept. 09, 2021	5:00 pm Navajo Nation time	<p>Dr. Rajneesh Verma, Diné College</p> <p>Join Zoom Meeting https://dinecollege.zoom.us/j/98060110500</p> <p>Meeting ID: 980 6011 0500</p> <p>Suggested video links:</p> <p>1a, Basic of Chromatography (Video) https://www.youtube.com/watch?v=SnbXQTTHGs4</p> <p>1b. Liquid Chromatography (Text) https://chem.libretexts.org/Bookshelves/Analytical_Chemistry/Supplemental_Modules_(Analytical_Chemistry)/Instrumental_Analysis/Chromatography/Liquid_Chromatography</p> <p>2. High Performance Liquid Chromatography (Video) https://www.youtube.com/watch?v=Qf6060arkqM</p> <p>3. Mass spectroscopy (Video) https://www.youtube.com/watch?v=mBT73Pesiog</p> <p>4. GC MS (Video) https://www.youtube.com/watch?v=4Xaa9WdXVTM</p> <p>5. LCMS (Video) https://www.youtube.com/watch?v=7NEWdmT1sCo</p>	<p>Introduction to LCMS/ HPLC/ MS techniques (Recording) https://dinecollege.zoom.us/rec/share/KmbWVLO3r6SIZ-b6yd2m9Aly1voeIY7Gg5xUI1FOwFCXs9JZ4tGpuYgGNhK_Cmk7.MK26s2CeDgS0G6NO</p> <p>Passcode: Xw?8=7@T</p>	September 09, 2021
Sep. 09, 2021		<p>Dr. Karanikola, University of Arizona</p> <p>Here is the presentation of the TrOC, what they are? Where we find them? Why do we care treating them? Detection methods and treatments. Added are supplementary readings for the students at the end of the presentation.</p> <p>The link below is the PowerPoint with the recording. But the attached power point has also playback at every slide (on bottom right corner there is a little arrow)</p>	<p>TrOC :Techniques & methodologies</p> <p>For recording Adobe Acrobat has been used so You can view "TROCs Presentation_2 (1).mp4" at:</p> <p>https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:5448bb5c-6ea1-455a-afda-515e93357c6f</p>	ykaranik@arizona.edu

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Sep. 10, 2021		Dr. Karanikola, University of Arizona Using Adobe Acrobat. You can view "PFAS Presentation for University 1.mp4" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:f6429dd6-faeb-4fc6-a69b-b047be943799	PFAS	vkaranik@arizona.edu
Sep. 10, 2021	6:00 pm Navajo Nation time	Dr. Shazia Tabassum Hakim, Diné College Join Zoom Meeting https://dinecollege.zoom.us/j/99881508956 Meeting ID: 998 8150 8956	Final Topic selection for presentation	stabassum@dinecollege.edu
Date Time Presenter Presentation Title email				
Week Four: Microbial screening of wastewater samples September 13 – 17, 2021				
Sep. 14, 2021	10:00 am Navajo Nation time	DR. Robert Arnold, University of Arizona Time: Sep 14, 2021 10:00 AM Mountain Time (US and Canada) Join Zoom Meeting https://dinecollege.zoom.us/j/92565957206 Meeting ID: 925 6595 7206 Reading Assignment:	Presentation 3--Trace organics in wastewater	rga@arizona.edu
Sep. 14, 2021	6:00 pm Navajo Nation time	Dr. Shazia Hakim, Diné College Time: Sep 14, 2021 06:00 PM Mountain Time (US and Canada) Join Zoom Meeting https://dinecollege.zoom.us/j/99355358406	Microbial identification and biochemical characterization: spot tests, API strips https://www.youtube.com/watch?v=BDVpQLyktkk	stabassum@dinecollege.edu
			Isolation of coliforms, non-coliforms and ESKAPE pathogens	

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		Meeting ID: 993 5535 8406	Test for coliforms (MPN) using Quanti-tray method https://www.youtube.com/watch?v=YQbYOPkVVpc	
Sep. 17, 2021		Dr. Shazia Hakim, Diné College	Antimicrobial susceptibility testing: Kirby and Bauer disk diffusion & E-test strips https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=172394&section=4.1 https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=172394&section=2.1 https://www.youtube.com/watch?v=K1b9-gJTRkw	
Week Five: Introduction to Molecular Bio-techniques Lab & laboratory safety				
Date	Time	Presenter	Presentation Title	Email
Sep. 21, 2021	6:00 to 8:00 pm Navajo Nation time	Dr. Shazia Hakim, Diné College <ul style="list-style-type: none"> Lab. Safety/ chemical safety/ biosafety https://www.youtube.com/watch?v=FFNtlmC4xqs&list=PLMqYvV22wXlAb3FZ9fgleq6ejcyJtHT4w https://www.youtube.com/watch?v=acRXhnCi3dc https://www.youtube.com/watch?v=GjAD83B4JaY https://www.youtube.com/watch?v=33t1_h9MSWo https://www.youtube.com/watch?v=q_C6xq7j-kg Measuring Volume/ Mass/ Solutions 	Join Zoom Meeting https://dinecollege.zoom.us/j/98284729487 Meeting ID: 982 8472 9487	stabassum@dinecollege.edu

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		<p>https://sciencing.com/make-one-percent-bsa-solution-8623641.html</p> <p>https://chem.libretexts.org/Courses/University_of_Arkansas_Little_Rock/Chem_1402%3A_General_Chemistry_1_(Belford)/Text/4%3A_Stoichiometry%3A_Quantitative_Information_about_Chemical_Reactions/4.4%3A_Measuring_Concentrations_of_Solutions</p> <ul style="list-style-type: none"> • Preparation of Stock Solutions and Biological Buffers, Preparing Agarose Gels. <p>https://www.sigmaaldrich.com/US/en/technical-documents/protocol/genomics/nucleic-acid-gel-electrophoresis/nucleic-acid-electrophoresis</p> <p>https://www.sigmaaldrich.com/US/en/technical-documents/protocol/protein-biology/gel-electrophoresis/tae-and-tbe-running-buffers-recipe</p>		
Sep. 23 & 24, 2021	6:00 to 8:00 pm Navajo Nation time	<p>Dr. Shazia Hakim, Diné College</p> <p>Studying DNA/ RNA, Primer designing, FASTA, BLAST DNA/ RNA Extraction PCR of extracted DNA/ RNA, Run Agarose Gel for PCR product, Analysis of Agarose Gel</p> <p>Recording link for the session</p> <p>https://dinecollege.zoom.us/rec/share/F6AeJZKiGybKNPQH1ACTgid7sFvQMnb6bq3MLHylnRcqnKxbty8trmr2VJEcjXN.Wgbinal-xQnAixdS</p> <p>Passcode: @Y1aLLEi</p>	<p>Time: Sep 23, 2021 06:30 PM Mountain Time (US and Canada)</p> <p>Join Zoom Meeting https://dinecollege.zoom.us/j/98284729487</p> <p>Meeting ID: 982 8472 9487</p>	stabassum@dinecollege.edu
Date	Time	Presenter	Presentation Title	Email
Week Six: Continuation of Week Five				

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Sep. 28, 2021	9:00 to 10:00 am Navajo Nation time	Dr. Shazia Hakim, Diné College Join Zoom Meeting https://dinecollege.zoom.us/j/99332957215 Meeting ID: 993 3295 7215	1. DNA finger printing: How does it work? 2. Restriction Fragment Length Polymorphism (RFLP) https://dinecollege.zoom.us/rec/share/YOiYjdD6ldvM6G-h6_Dybd4YC3hp2_3N9OKiKcxqy2ZRqG6HClGmnYLXRkRwFcb1.IUMdi5pgRLGHEK-Z Passcode: ^v!uFA0A	stabassum@dinecollege.edu
Oct. 01, 2021	6:00- 8:00 pm Navajo Nation time	Dr. Shazia Hakim, Diné College Join Zoom Meeting https://dinecollege.zoom.us/j/97930150991 Meeting ID: 979 3015 0991 Recommended videos https://www.youtube.com/watch?v=tJjXpiWKMyA https://www.youtube.com/watch?v=4b3ywwMqCQ4 https://www.youtube.com/watch?v=0ATUjAxNf6U	1. Recombinant DNA molecules, Genetic Shifts & Drifts with reference to COVID variants & sewage/ wastewater 2. SNPs Recording link https://dinecollege.zoom.us/rec/share/hyJi3c5ImWe29spo87Fz9J0NMPieA3CWmlvmOfD9dCpP24YrmMbljatZrBiabSpw.hkzeGvyNTW1AE_Sv Passcode: JUy88+=f	stabassum@dinecollege.edu
Date Time Presenter Presentation Title E mail				
Week Seven: Wastewater /Sewage Treatment background with reference to Navajo Reservation, locations				
October 05, 2021	10:00 to 11:00 am Navajo Nation Time	Dr. Bob Arnold Question & Answer session from Presentation 1, 2 & 3 Join Zoom Meeting https://dinecollege.zoom.us/j/93763890132 Meeting ID: 937 6389 0132	Live session Recording link for October 05: https://dinecollege.zoom.us/rec/share/4SvluWKnPq62lz7F4cLwTI2xRiRYqtvHWRMDCBOdZ9rs71X8VRqfcBqwKQopCvCl.efXtrN5mBD5s3Tc0	rga@arizona.edu

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			Passcode: eR2X.TqB	
October 08, 2021	2:00 to 3:00 pm Navajo Nation time	Dr. Bob Arnold Question & Answer session from Presentation 1, 2 & 3 Join Zoom Meeting https://dinecollege.zoom.us/j/97209299526 Meeting ID: 972 0929 9526	Recording link for October 08: https://dinecollege.zoom.us/rec/share/ij4RyzXhfH2MfY2S-hlQ1owYfcfhvZ5eTsu_nbg-n1nvwUu0XIJfmoWWFB51YyCh.jiQXN7Kv iqOKT7dD Passcode: i+@91jP0	
Date	Time	Presenter	Presentation Title	<u>email</u>
Week Eight: Water treatment unit & Effluent polishing				
October 11 - 15, 2021	Recorded Lectures	Dr. Karanikola, University of Arizona	Wastewater Quality Control, Treatment, rapid sand or carbon filtration	vkaranik@arizona.edu Recorded video lectures
		Wastewater Quality Control: "Wastewater Treatment recorded lecture.mp4" at: https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:c1986318-5172-4b0d-8259-247b4a0ea4c0	Water reuse treatment, reclamation	
		Water reuse Treatment recorded lecture.mp4" at: https://arizona.zoom.us/rec/share/8vfvKCBolezM6wMBSKZ6pwUBguHWw6-wl3aFubGktsdtIsQUXhYyomUpYUa-ptg.70_w2Ep2uomuZMSL	Nanofiltration (NF), Combination of microfiltration/nanofiltration (MF/NF)	
		Membrane Process recorded lecture at: https://arizona.zoom.us/rec/share/vYsrkYSTJGfMqb5Lw4zruRlxtVBB31S7PdClczmfisxa0KikNMmQzqRTbQQK2Vs.00VmneUh_9LQ6gpA		
October 14, 2021	2:00 to 3:00 pm Navajo Nation time	Dr. Bob Arnold' presentation and Q & A session on trace organic metals in wastewater Join Zoom Meeting https://dinecollege.zoom.us/j/98100766686 Meeting ID: 981 0076 6686		rga@arizona.edu

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Date	Time	Presenter	Presentation Title	email
Week Nine: Water Resources Impact				
October 18, 2021	12 noon Navajo Nation time	Dr. Karletta, University of Arizona (live session) Join Zoom Meeting https://dinecollege.zoom.us/j/91331470231 Meeting ID: 913 3147 0231	Water Scarcity in Navajo Nation Possible ways of fighting drought (recording link) https://dinecollege.zoom.us/rec/share/2gEksZOsyh_F42_Dd9vhh7c3wTkW93I3v84e3nZB3kdIBrg-IOYqkxUhmQis18jF.HWFWNZmJJrqluxhl Passcode: d^ZJ8SQA	kchief@arizona.edu
October 19, 2021	2:00 pm Navajo Nation time	Dr. Arnold's Lab., University of Arizona Join Zoom Meeting https://dinecollege.zoom.us/j/94233013231 Meeting ID: 942 3301 3231 Virtual Tour of Regional Recycled Water Program & Advanced Purification System (a discussion) https://www.youtube.com/watch?v=6O4zBPI7iUE	Wastewater as a source of water pollution	rga@arizona.edu Presentation recording link https://dinecollege.zoom.us/rec/share/AnEAb8Y8Fg2RO1txhxrOGTT2JeUwXTwwwri1BvS34XVm13W5SXi5NxGO2omk5u4.06xYz1aexsYRqCmb Passcode: d#XyyF7C
October 19, 2021	3:00 pm Navajo Nation time	Wendell Murphy, Operations Engineer, NTUA Join Zoom Meeting https://dinecollege.zoom.us/j/94233013231 Meeting ID: 942 3301 3231	Navajo Nation and other indigenous communities: how they are fighting with water scarcity	
October 21, 2021	4:00 pm Navajo	Ms. Benita Litson, Diné College,	Effects of drought and water scarcity on our agriculture/ irrigation land vs	blitson@dinecollege.edu

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	Nation time	Join Zoom Meeting https://dinecollege.zoom.us/j/93806176678 Meeting ID: 938 0617 6678	availability of healthy food for the communities Potential economic impact of unavailability of water for agriculture in the Navajo Nation and possible alternative ways	https://dinecollege.zoom.us/room/share/eq4udtyPg_UNjP99XS9xoaKTsbBNYCQd-EbRTJF8vZOWtu3e9sP-zXO1WUZrsL_d.pSvxlDICJ8VQa34b Passcode: HRBy?2bG
Date	Time	Presenter	Presentation Title	email
Week Ten: Hypothesis-driven presentations on research experiences				
October 26, 2021	6:00 pm Navajo Nation time	Faylene Begay		faybegay@dinecollege.edu
		Tori Fulton		tfulton@dinecollege.edu
		Alexandra Thompson		alex_thompson115@yahoo.com
October 28, 2021	6:00 pm Navajo Nation time	Leitegrah Wilson		litegrahwilson@dinecollege.edu
		Tania Begay		Taniabegaye@outlook.com
Nov. 02, 2021		Dr. Shazia Hakim, Diné College, Ms. Benita Litson, Diné College	Wrap up & Final Assessment Due	
Nov. 05, 2021		All students, Instructors & Investigators	Concluding Remarks	

- Most of the presentations will be recorded presentations, while, time and zoom links for the live sessions will be shared separately.
- Time and dates can slightly shuffle.
- All text material and link to the appropriate resources will be provided by the presenter(s) before/ during their presentation