

KEY	Overview Overview	Ecology Ecology	Discussions/Exercises/Hands-on Discussions/Exercises/Hands-on
	Fundamentals Fundamentals	Physiology Physiology	Presentations Presentations
		Genetics and systems biology Genetics and systems biology	Conclusion Conclusion

Summer Course on Environmental Life Sciences Engineering (25Jun - 12 Jul 2019)

	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	Closing			
	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday				
09:00AM - 09:30AM	Welcome Breakfast	Biofouling	Biofilm Matrix	Imaging Biological Structures	Cultural Tour	Free Day	Gene Expression and Regulation	Metagenomics Day Genomics Principles	Signalling / Cell-Cell Communication In Biofilms	Ecological Principles I	Holobionts Day Marine Holobionts	Data Analysis-Hands-On Session	Free Day	Bioprocesses In Wastewater Treatment	NUS DAY Metabolomics And Its Applications In Microbial Ecology	Numericals/ Exercises II	Ecology And Functioning Of Tropical Peatlands	Overview Discussion				
09:30AM - 10:00AM																						
10:00AM - 10:30AM	Course Overview	Coffee Break					Coffee Break				Coffee Break											
10:30AM - 11:00AM	Coffee Break						Coffee Break				Coffee Break											
11:00AM - 11:30AM	Biofilm Concepts	Biocorrosion	Biogeochemical Transformations	Electro-conductivity			Gene Expression and Regulation	Metagenomics	Research Approaches To Comparative Genomics	Ecological Principles II	Human Microbiome	Coffee Break		Visualization of Matrix	Coffee Break	Nitrogen Removal From Waste Water	Synthetic Biology	Some Basic Physics For Understanding Bacterial Motility And Early Biofilm Development			Type VI Secretion System (T6SS) in Biofilm and Microbiota	Concluding Session; Feedback
11:30AM - 12:00PM																						
12:00PM - 12:30PM				Media Sources						Experimental Design	Lunch	Lunch		Lunch								
12:30PM - 1:00PM																						
01:00PM - 01:30PM	Lunch						Lunch				Lunch											
01:30PM - 02:00PM	Lunch						Lunch				Lunch											
02:00PM - 02:30PM	Lunch						Lunch				Lunch											
02:30PM - 03:00PM	Environmental Life Sciences @ SCELSE: An Overview	Genomics Principles	Biogeochemical Transformations: Interactive session	Media Sources			Waterways	Metagenomics Using MEGAN Hands-On Session	Comparative Genomics On Photosynthesis	Data Analysis Hands-On Session	Plant Microbiome	Aquatic Microbial Ecology		Numericals/ Exercises I	Rapid Detection Of Viable Fecal Indicator Bacteria In Recreational Water	Biofilm Kinetics And Modelling	Antimicrobials, Immune Responses And Biofilms	Photo Session				
03:00PM - 03:30PM																						
03:30PM - 04:00PM	Biofilms on Earth			Coffee Break			Student Presentations	Student Presentations	Student Presentations	Data Analysis-Hands-On Session	Student Presentations	Discussion		Coffee Break	Student Presentations	Visit To NERI	Student Presentations	Resource Recovery in a Circular Economy				
04:00PM - 04:30PM																						
04:30PM - 05:00PM	Coffee Break				Coffee Break				Coffee Break													
05:00PM - 05:30PM	Student Presentations	Student Presentations	Student Presentations	Electrochemistry	Student Presentations	Metagenomics Using MEGAN Hands-On Session	Student Presentations	Data Analysis-Hands-On Session	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations				
05:30PM - 06:00 PM	Student Presentations	Student Presentations	Student Presentations	Electrochemistry	Student Presentations	Metagenomics Using MEGAN Hands-On Session	Student Presentations	Data Analysis-Hands-On Session	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations	Student Presentations				
6 PM Onwards	Dinner																					