

Course offered in Monsoon 2019

Semester I: BS-MS program

Course Code	Course Name	Instructor* & participating faculty	Credits
BIO111	Foundations of Biology I : Basic Principles	Dr. Nandini Rajamani*, Prof. B J Rao, Dr. Suchi Goel, Dr. Swarup Roy Choudhury	3
BIO112	Biology Lab I: Basic Biology	Dr. Pakala Suresh Babu*, Dr. Sanjay Kumar, Dr. Swarup Roy Choudhury	3
CHM111	General Chemistry	Prof. K. Vijayamohanan Pillai*, Dr. Shibdas Banerjee, Dr. Raghunath O Ramabhadran	3
IDC111	Mathematical Methods I	Dr. Raghunath O Ramabhadran	3
MTH111	Discrete Mathematics	Dr. Souradeep Majumder	3
PHY111	Foundations of Physics I – Mechanics	Dr. Dileep Mampallil	3
HSS110	Functional English	Dr. Lakshman Rao	0
MTH110	Basic Mathematics	Dr. Girja Shankar Tripathi	0

Semester III: BS-MS program

Course Code	Course Name	Instructor* & participating faculty	Credits
BIO211	Foundations of Biology III: Evolution and Ecology	Dr. V V Robin*, Dr. Nandini Rajamani	3
BIO213	Biology for Society	Dr. Ramkumar Sambasivan*, Dr. Annapurna Devi Allu, Dr. Raju Mukherjee, Prof. B J Rao, Dr. Suchi Goel	3
CHM211	Inorganic Chemistry	Dr. Arun Kumar Bar	3
CHM212	Chemistry Laboratory II	Dr. Rajesh Viswanathan*, Dr. Janardan Kundu, Dr. Arun Kumar Bar, Dr. Shibdas Benerjee	3
IDC212	Computational methods	Dr. Rakesh S. Singh*, Dr. Sreenivas Chavali, Dr. Padmabati Mondal, Dr. Kalidas (IIT TPT)	3
MTH211	Multivariable Calculus	Dr. H A Gururaja	3
PHY211	Foundations of Physics III - Electricity and Magnetism	Dr. Ravikumar Pujala	3
PHY212	Physics Lab II: Electricity, Magnetism and Optics	Dr. T. Kanagasekaran*, Dr. Dileep Mampallil, Dr. Ravikumar Pujala	3

Semester V & VII: BS-MS; Sem I & III: IPhD; PhD

Course Code	Course Name	Instructor* & participating faculty	Credits	Offered in semesters		
				BS MS	IPhD	PhD
BIO310	Semester Project	Dr. Annapurna Devi Allu	3	V		
BIO301	Lab Rotation	Prof. B J Rao	3		I	
BIO308	General Biology	Dr. Vasudharani Devanathan*, Dr. Sanjay Kumar	2		I	
BIO309	Evolution and Ecology	Dr. V V Robin*, Dr. Nandini Rajamani	4		I	
BIO311/611	Introductory Immunology	Dr. V Siva Kumar	4	V, VII	I	Y
BIO312/612	Biochemistry	Dr. Raju Mukherjee	4	V, VII	I	Y
BIO315/615	Molecular Plant Physiology	Dr. Annapurna Devi Allu*, Dr. Swarup Roy Choudhury	4	V, VII	III	Y
BIO316/616	Neurobiology	Dr. Vasudharani Devanathan	4	V, VII	III	Y
BIO317/617	Advanced Ecology	Dr. V V Robin	4	V, VII	III	Y
BIO318/618	Genetics	Prof. B J Rao*, Dr. Viji Subramanian	4	V, VII	I	Y
BIO319/619 (CHM314/614)	Separation Science & Techniques	Dr. Ashwani Sharma	4	V, VII	III	Y
BIO331/631	Mathematics and Statistics for Biologists	Dr. Rahul Sidharthan (IMSc) - NKN, LC - Dr. Vasudharani Devanathan*	3	V, VII	I, III	Y
BIO401	Semester Project	Prof. B J Rao	5		III	
BIO410	Semester Project	Dr. Annapurna Devi Allu	3	VII		
BIO412/712	Developmental Biology	Dr. Ramkumar Sambasivan*, Dr. Eswar Ramireddy	4	VII	III	Y
BIO415/715	Infection Biology	Dr. Suchi Goel*, Dr. Raju Mukherjee, Dr. Eswar Rami Reddy,	4	VII	III	Y
BIO416/716 (CHM415/715)	Biophysical Chemistry	Dr. Soumit S Mandal*, Prof. K.N.Ganesh	4	VII	I, III	Y
BIO431/731 (CHM431/731)	Fluorescence in Biology	Dr. Nibedita Pal	3	VII	III	Y
BIO432/732	Big data in Biology	Dr. Sreenivas Chavali	3	VII	III	Y

BIO434 (PHY434)	Data Science	Prof. G. Ambika*, Dr. Sreenivas Chavali, Dr. R Lakshmi Lavanya, Dr. Sai Kranthi, Dr. Arunima Banerjee & Guest Faculty	3	VII	III	
CHM310	Semester Project	Dr. Ashwani Sharma	3	V		
CHM301	Lab Rotation	Dr. Raghunath O Ramabhadran	3		I	
CHM311/611	Quantum Chemistry	Dr. Padmabati Mondal	4	V, VII	I, III	Y
CHM312/612	Physical Organic Chemistry	Dr. Gopinath Purushothama	4	V, VII	I, III	Y
CHM313/613	Chemistry of Main Group Elements	Dr. Sudipta Roy	4	V, VII	I, III	Y
CHM314/614 (BIO319/619)	Separation Science & Techniques	Dr. Ashwani Sharma	4	V, VII	I, III	Y
CHM315/615	Forensic Science	Dr. Rajesh Viswanathan	4	V, VII	I, III	Y
CHM331/631	Solid State Chemistry	Dr. V Aravindan	3	V, VII	I, III	Y
CHM410	Semester Project	Dr. Ashwani Sharma	3	VII		
CHM401	Lab Rotation	Dr. Raghunath O Ramabhadran	5		III	
CHM411/711	Molecular Symmetry and Spectroscopy	Dr. Jatish Kumar*, Dr. Janardan Kundu	4	VII	I, III	Y
CHM412/712	Medicinal Chemistry	Dr. Shibdas Banerjee*, Dr. Rajesh Viswanathan	4	VII	I, III	Y
CHM413/713	Bioinorganic Chemistry	Dr. Pankaj Kumar Koli	4	VII	I, III	Y
CHM414/714	Transition Metal Chemistry	Dr. Balaraman E	4	VII	I, III	Y
CHM415/715 (BIO416/716)	Biophysical Chemistry	Dr. Soumit S Mandal*, Prof. K. N. Ganesh	4	VII	I, III	Y
CHM416/716 (PHY411/711)	Advanced Statistical Mechanics	Dr. Rakesh S. Singh	4	VII	I, III	Y
CHM431/731 (BIO431/731)	Fluorescence in Biology	Dr. Nibedita Pal	3	VII	III	Y
CHM432/732 (PHY 432/732)	Materials Science	Dr. Janardan Kundu*, Dr. Jatish Kumar	3	VII	III	Y
ECS310	Semester Project	Dr. Sai Kranthi	3	V		
ECS411/711	Atmospheric Thermodynamics and Cloud Physics	Dr. Sai Kranthi	4	VII		Y

ECS412/712	Advanced Mineral Science	Dr. Aniket Chakrabarty	4	VII		Y
ECS410	Semester Project	Dr. Aniket Chakrabarty	3	VII		
MTH310	Semester Project	Dr. Shalini Bhattacharya	3	V		
MTH311	Group Theory	Dr. Arnab Mitra	4	V, VII	I, III	
MTH312	Real Analysis	Dr. B Subhash*, Dr. Repaka Subha Sandeep	4	V, VII	I, III	
MTH313	Topology	Dr. Souradeep Majumder*, Dr. Gunja Sachdev	4	V, VII	I, III	
MTH314	Linear Algebra	Dr. Girja Shankar Tripathi	4	V, VII	I, III	
MTH331	Elementary Number Theory	Dr. Shalini Bhattacharya	3	V, VII	I, III	
MTH410	Semester Project	Dr. Shalini Bhattacharya	3	VII		
MTH411	Fields and Galois Theory	Dr. Venketasubramanian C G	4	VII	III	
MTH412	Functional Analysis	Dr. B Subhash	4	VII	III	
MTH413	Introduction To Algebraic Topology	Prof. D S Nagaraj	4	VII	III	
MTH414	Ordinary Differential Equations	Dr. Anilatmaja Aryasomayajula	4	VII	III	
MTH611	Algebra 1	Dr. Venketasubramanian C G	4		III	Y
MTH612	Analysis 1	Dr. R Lakshmi Lavanya	4		III	Y
MTH613	Topology 1	Prof. D S Nagaraj	4		III	Y
MTH501**	Masters Project	Dr. Gururaja H A	14		III	
PHY310	Semester Project	Prof. G. Ambika	3	V		
PHY311/611	Classical Mechanics	Prof. G. Ambika	4	V, VII	I, III	Y
PHY312/612	Electrodynamics	Dr. Tapan Chandra Adhyapak	4	V, VII	I, III	Y
PHY313	Quantum Mechanics I	Dr. Sunil Kumar S	4	V, VII	I, III	
PHY316/616	Mathematical Methods in Physics	Dr. Arunima Banerjee	4	V, VII	I, III	Y
PHY331	Electronics	Dr. T. Kanagasekaran	3	V	I, III	
PHY335	Advanced Physics Lab I: Electronics	Dr. Chitrasen Jena	3	V	I	
PHY401	Semester Project	Dr. Sunil Kumar S	8		III	
PHY410	Semester Project	Prof. G. Ambika	3	VII		
PHY411/711 (CHM416/716)	Advanced Statistical Mechanics	Dr. Rakesh S. Singh	4	VII	III	Y

PHY413	Solid State Physics	Dr. Sasmita Mohakud	4	VII	III	
PHY414/714	Astrophysics	Dr. Jessy Jose	4	V, VII	I, III	Y
PHY415	Advanced Physics Lab III	Dr. Sunil Kumar S.*, Dr. Jessy Jose	4	VII	III	
PHY416/716	Experimental Methods in Physics	Dr. Chitrasen Jena	4	VII	III	Y
PHY417/717	Computational Methods in Physics	Dr. Sudipta Dutta	4	VII	III	Y
PHY432/732 (CHM432/732)	Materials Science	Dr. Janardan Kundu*, Dr. Jatish Kumar	3	VII	III	Y
PHY433/733	Quantum Field Theory	Dr. Sachin Jain (IISERP) - NKN LC - Dr. Sudipta Dutta	3	VII	III	Y
PHY434 (BIO434)	Data Science	Prof. G. Ambika*, Dr. Sreenivas Chavali, Dr. R Lakshmi Lavanya, Dr. Sai Kranthi, Dr. Arunima Banerjee & Guest Faculty	3	VII	III	