

Teaching Assignment Monsoon Semester (Session: 2025-26)			
Course code	Title	Instructor	Tutor
CORE COURSES			
1xx Courses			
BIO101	The basis and diversity of life	Prof. Samrat Mukhopadhyay	
BIO111	Biology lab I	Dr. Vidya Devi Negi, Dr. Amar Deep, Dr. Sadhan Chandra Das	
CHM101	Basic inorganic chemistry	Dr. Debashis Adhikari, Dr. Suman K. Barman	
CHM111	Chemistry lab I	Prof. Santanu Kumar Pal, Dr. Raj Kumar Roy, Dr. Pritam Mondal	
MTH101	Basic linear algebra	Dr. Varadraj Ravi Srinivasan	
HSS101	Language skills	Dr. Adrene Freeda D'Cruz, Dr. Pritika Nehra	
PHY101	Mechanics	Dr. Goutam Sheet	Dr. Samir Kumar Biswas, Dr. Kinjalk Lochan
PHY111	Physics lab I	Dr. Prasenjit Das, Prof. Kavita Dorai, Dr. Dipanjan Chakraborty, Dr. Paramdeep Singh Chandi	
IDC101	Introduction to programming	Dr. K. R. Shamasundar (DCS, co-ordinator), Dr. Shane D' Mello (MTH), Dr. Debmalya Chakraborty (PHY), to be added (BIO)	To be added
2xx Courses (premajor)			
BIO201	Genes and development	Prof. Sudip Mandal, Dr. Jogender Singh	
BIO202	Cells and organismal architecture	Prof. Rajesh Ramachandran	
BIO211	Biology lab III	Dr. Hasan Mohamaad, Dr. Kritika Garg Dr. Vinesh S	
CHM201	Introduction to spectroscopic methods	Dr. Sabyasachi Rakshit	
CHM202	Chemical thermodynamics (available as IDC who do not take chemistry as a pre-major)	Dr. Samrat Ghosh	
CHM211	Chemistry lab III	Dr. Jino George, Dr. Sanchita Sengupta, Dr. Sugumar Venkataramani	
MTH201	Differential and integral calculus	Dr. Chandrakant Sharma Aribam	

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MTH202	Elementary number theory (available as IDC with same course number MTH202 who do not take mathematics as a pre-major)	Dr. Vaibhav Vaish	
MTH203	Sequences and series (available as IDC with same course number MTH203 who do not take mathematics as a pre-major)	Dr. Chetan Tukaram Balwe	
HSS201	History of science	Dr. V. Rajesh, Dr. T V Venkateswaran	
PHY201	Waves and optics	Dr. Abhishek Chaudhuri	
PHY202	Overview of mathematical methods (available as IDC with same course number PHY202 who do not take physics as a pre-major)	Prof. Sanjeev Kumar	
PHY211	Physics lab III	Dr. Sandeep K. Goyal Dr. Debmalya Chakraborty Prof. Kamal Priya Singh	
EES201	Introduction to earth sciences	Dr. Sharmila Bhattacharya, Dr. Jyotima Kanaujia, Dr. Anoop Ambili	
EES202	Introduction to atmospheric and climate sciences	Prof. Vinayak Sinha, Dr. Raju Attada	
EES211	Basic mineralogy and petrology lab	Dr. Sourabh Bhattacharya, Dr. Meenakshi Devi	Dr. Yunus Ali Pulpadan
IDC course options available for MS24 (premajors) (only one of the following to be chosen depending on the premajor)			
PHY202	Overview of mathematical methods (available as IDC with same course number PHY202 who do not take physics as a pre-major)	Prof. Sanjeev Kumar	
MTH202	Elementary number theory (available as IDC with same course number MTH202 who do not take mathematics as a pre-major)	Dr. Vaibhav Vaish	
MTH203	Sequences and series (available as IDC with same course number MTH203 who do not take mathematics as a pre-major)	Dr. Chetan Tukaram Balwe	
CHM202	Chemical thermodynamics (available as IDC who do not take chemistry as a pre-major)	Dr. Samrat Ghosh	
IDC215	Paleobiology: life through deep time	Dr. Harsha Dhiman	
IDC216	Statistics for scientists	Prof. Amit Kulshrestha	
SEMINAR COURSES (Major)			

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IDC451 (Mandatory for 4 th BSMS year students)	Seminar delivery	BSMS: Dr. Suman Kumar Barman (CHM), Prof. Anand Kumar Bachhawat (BIO), Dr. Dipanjan Chakraborty (PHY), Dr. Mihir Sheth (MTH) and Dr Arghya Mondal (MTH)	Dr. Mihir Sheth (MTH) and Dr. Arghya Mondal (MTH)
IDC451 (Mandatory for Int-PhD students of BIO, MTH, PHY) Not mandatory for CHM Int- PhD (from Aug 2025 onwards)	Seminar delivery	Prof. Anand Kumar Bachhawat (BIO), Dr. Dipanjan Chakraborty (PHY), Dr. Mihir Sheth (MTH) and Dr Arghya Mondal (MTH) Not needed for CHM Int-PhD (from Aug 2025 onwards).	
IDC601 (a) (Mandatory for PhD students of BIO, MTH, PHY, HSS) (b) Not mandatory for CHM and EES PhD students from Aug 2025	Seminar delivery	Prof. N. G. Prasad (BIO) and Prof. Lolitika Mandal (BIO), Dr. Varadharaj R Srinivasan (MTH) Instructor to be added (PHY) Instructor to be added (HSS)	
MAJOR COURSES			
Biology Major Courses (BIO3XX) (from MS22 batch onwards (Monsoon Semester 2024 onwards) all theory BIO3XX and BIO4XX and BIO6XX courses are electives but a practical/lab course is mandatory)			
BIO301	Animals: form and function	Prof. Samarjit Bhattacharyya	
BIO302	Advanced cell biology	Dr. Shravan Kumar Mishra	
BIO303	Experimental design and hypothesis testing	Prof. N. G. Prasad	
BIO304	Essential biochemistry	Prof. Kausik Chattopadhyay	
BIO308	Fundamentals of microbiology	Dr. Indranil Banerjee	
BIO311A [#]	Molecular methods in biology	Prof. Mahak Sharma, Dr. Santosh B. Satbhai	
BIO311B [#]	Principles and techniques of cell biology	Prof. Arunika Mukhopadhaya, Dr. Ravi, Prof. Samarjit Bhattacharyya	
[#] Students would be choosing one of the BIO311 practical.			
Biology Major Courses (BIO4XX) (from MS22 batch onwards (Monsoon Semester 2024 onwards) all theory BIO3XX and BIO4XX and BIO6XX courses are electives but a practical/lab course is mandatory)			
BIO401	Structure and function of genomes	Dr. Ram Yadav	
BIO402	Microbial physiology and microbial genetics	Prof. Rachna Chaba	

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BIO411	Bioinformatics lab	Dr. Shashi Bhushan Pandit	
BIO453	Principles underlying instrumental biomacromolecular analyses	Prof. Purnananda Guptasarma	
BIO461	Advanced neuroscience	Dr. Hasan Mohammad	
Chemistry Major Courses (CHM3XX) (New syllabus of CHM3XX will be applicable to MS23 and MP25 onwards. Students of other batch with pending F grades need to contact HoD)			
CHM301	Quantum chemistry-I	Dr. Priyakumari C P	
CHM302	Organic chemistry - reactions and mechanism	Prof. S. S. V. Rama Sastry	
CHM303	Main group chemistry	Dr. Kuduva R. Vignesh	
CHM311	Organic chemistry lab	Prof. R. Vijaya Anand	
Mandatory for 1st year Int-PhD of CHM			
CHM634 (Mandatory for Int-PhD of CHM)	Research methodology (2 credits)	Prof. N. Sathyamurthy, Dr. Angshuman Roy Choudhury, Dr. Sugumar Venkataramani	Dr. Arijit K De, Prof. R. Vijaya Anand, Dr. Raj Kumar Roy, Dr. Ujjal K. Gautam
Chemistry Major Courses (CHM4XX) (old syllabus of CHM4XX will be applicable for MS22 and MP24)			
CHM401	Molecular spectroscopy	Dr. Balanarayan Pananghat	
CHM402	Chemistry of materials	Dr. Ujjal K. Gautam	
CHM411	Physical chemistry lab	Dr. Arijit Kumar De	
Mathematics Major Courses (MTH3XX)			
MTH301	Real analysis	Prof. Chanchal Kumar	
MTH302	Linear algebra	Dr. Tanusree Khandai	
MTH303	Set theory and logic	Dr. Shane D'Mello	
MTH304	Group theory	Dr. Yashonidhi Pandey	
Mathematics Major Courses (MTH4XX)			
MTH401	Ordinary differential equations	Dr. Lingaraj Sahu	
MTH402	Functional analysis	Dr. Jotsaroop Kaur	
MTH403	Fields and Galois theory	Dr. Santhosh Kumar Pamula	
Physics Major Courses (PHY3XX)			

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PHY301	Classical mechanics	Prof. Sudeshna Sinha	
PHY302	Quantum mechanics	Dr. Manabendra Nath Bera	
PHY303	Electrodynamics	Dr. Harvinder Kaur Jassal	
PHY310	Mathematical methods for physicists I	Dr. Anil Kumar Dasanna	
PHY311	Advanced optics and spectroscopy lab	Dr. Mandip Singh	Dr. Samir Kumar Biswas
Physics Major Courses (PHY4XX)			
PHY401	Nuclear and particle physics	Dr. Satyajit Jena	
PHY402	Solid state physics	Prof. Yogesh Singh	
PHY403	Atomic and molecular physics	Dr. Pankaj Kushwaha	
PHY411	Nuclear physics lab	Dr. Vishal Bhardwaj	Prof. Shashi Dugad
EES Major courses (EES3XX)			
EES301	Global biogeochemical cycles and climate change	Dr. Sunil A. Patil, Prof. Baerbel Sinha	
EES311	Air, water and soil lab	Prof. Vinayak Sinha, Dr. Anoop Ambili, Dr. Sunil A. Patil	Prof. Baerbel Sinha, Dr. Arvind Kumar Shakya, Dr. Manoj Kumar
PHD COURSES			
Mathematics PhD Courses (MTH6XX) (Mandatory)			
MTH601	Topics in algebra	Dr. Mihir Sheth	
MTH602	Topics in topology	Dr. Arghya Mondal	
Physics PhD Courses (PHY6XX) (Mandatory)			
PHY601	Review of classical mechanics	Dr. Ananth Venkatesan	
PHY602	Review of electrodynamics	Dr. Eswariah Chakali	
ELECTIVES			
IDC courses			
IDC401	Theoretical biology	Prof. Somdatta Sinha (Instructor) Dr. Anil Dasanna (co-ordinator)	

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IDC409	Introduction to data science and artificial intelligence	Dr. Vishal Bharadwaj	
IDC412	Field experience in science education	Dr. T.V. Venkateswaran to be added	
IDC414	Data analysis using R	Dr. Kuljeet Sandhu	
IDC636	Pedagogy of science	Dr. T.V. Venkateswaran,	
IDC637	Science communication	Dr. T.V. Venkateswaran	
Earth and Environmental Sciences Courses (EES4XX)			
EES304	Sedimentology and concepts in stratigraphy	Dr. Sharmila Bhattacharya	
EES403	Advanced remote sensing and GIS	Dr. Chandrakant Ojha	Dr. Meenakshi Devi
EES404	Basic meteorology	Dr. Raju Attada, Dr. Chandrakant Ojha	
EES418	Solid earth geophysics	Dr. Jyotima Kanaujia	
EES407	Environmental impact and risk assessment	Dr. Manoj Kumar	
EES413	Geomorphology and earth surface processes	Dr. Yunus Ali Pulpadan, Dr. Meenakshi Devi	
EES417	Fundamentals of water and wastewater treatment	Dr. Arvind Kumar Shakya	
CHM634 (Mandatory for EES PhD)	Research methodology (2 credits)	Prof. N. Sathyamurthy, Dr. Angshuman Roy Choudhury, Dr. Sugumar Venkataramani	Dr. Arijit K De, Prof. R. Vijaya Anand, Dr. Raj Kumar Roy, Dr. Ujjal K. Gautam
Humanities & Social Sciences			
HSS602	Social theory: concepts and debates	Prof. Anu Sabhlok, Dr. Ritajyoti Bandyopadhyay	
HSS611 (only for PhD)	Literary appreciation	Dr. Adrene Freeda D'Cruz	
HSS616	Bones, stones and chromosomes: the story of our evolution	Dr. Parth R. Chauhan, Dr. Rhitoban Raychoudhury	
HSS619 (only for PhD)	Ancient Greek theatre: aeschylus, sophocles and euripides	Dr. Adrene Freeda D'Cruz	
HSS627 (for PhD and 5 th year MS)	The idea of India: intellectual imaginary of nation	Dr. V. Rajesh	

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HSS634	Themes in infrastructure studies	Prof. Anu Sabhlok, Dr. Ritajyoti Bandyopadhyay	
HSS637	Reading records	Dr. Ritajyoti Bandyopadhyay	
HSS639	Advanced theory and method in paleoanthropology	Dr. Parth R. Chauhan	
HSS641 (Mandatory for PhD)	Research methods in the humanities and social sciences (4 credits)	To be added	
HSS648	Development economics: theory, policy and practice	Dr. Debdulal Saha	
HSS656	Self and modernity	Dr. Philose Koshy	
HSS655	Logic	Dr. Philose Koshy	
HSS652	Select themes in contemporary global political thought	Dr. Pritika Nehra	
Chemical Sciences			
CHM601	Advanced inorganic chemistry	Prof. Sanjay Mandal	
CHM602	Magnetic resonance	Prof. Ramesh Ramachandran	
CHM606	Bio-organic and medicinal chemistry	Dr. Subhabrata Maiti	
CHM607	Chemical crystallography	Dr. Angshuman Roy Choudhury	
CHM610	Chemistry of natural products	Prof. S. Arulananda babu	
CHM615	Kinetics and dynamics of chemical reactions	Prof. N. Sathyamurthy Dr. Balanarayan Pananghat	
CHM618	Bioinorganic chemistry	Dr. Pritam Mondal	
CHM619	Numerical methods in chemistry	Dr. Shamasundar K R, Dr. Sajal Kumar Giri	
CHM631	Contemporary main group chemistry	Prof. Sanjay Singh	
CHM634 (Mandatory for PhD and Int-PhD)	Research methodology (2 credits)	Prof. N. Sathyamurthy, Dr. Angshuman Roy Choudhury, Dr. Sugumar Venkataramani	Dr. Arijit K De, Prof. R. Vijaya Anand, Dr. Raj Kumar Roy, Dr. Ujjal K. Gautam
Physical Sciences			
PHY422	Computational methods in physics I	Prof. Rajeev Kapri	
PHY424	Relativistic quantum mechanics and quantum field theory	Dr. Ambresh Shivaji	
PHY637	Astrophysics I: astrophysical processes and stars	Prof. Biman B Nath	
PHY639	Topics in biophysics	Dr. Tripta Bhatia	

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PHY649	Advanced experiments in physics: lasers and optics	Prof. Kamal Priya Singh	
PHY661	Selected topics in classical and quantum mechanics	Prof. Arvind	
PHY668	Soft condensed matter	Prof. Ramandeep Singh Johal	
PHY670	Astrostatistics	Prof. Jasjeet Singh Bagla	
PHY674	Experimental implementations of quantum information processing	Prof. Arvind	
Mathematical Sciences			
Directed Electives to be offered compulsorily			
MTH404	Commutative and homological algebra	Dr. Abhik Ganguli	
MTH405	Probability theory	Dr. Neeraja Sahasrabudhe	
MTH406	Manifolds	Dr. Pranab Sardar	
Electives			
MTH408	Riemannian geometry	Dr. Soma Maity	
MTH419	Number theory	Prof. Kapil Hari Paranjape	
MTH422	Representations of finite groups	Prof. Mahender Singh	
Biological Sciences			
BIO609	Immunology	Dr. Sharvan Sehrawat	
BIO615	Developmental biology	Prof. Lolitika Mandal	
BIO616	Animal behaviour: proximate mechanism, ultimate causes	Dr. Manjari Jain	
BIO636	Molecular tools for ecology and evolution (practical)	Dr. Rhitoban Ray Choudhury, Dr. Kritika G.	

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