



Integral University, Lucknow
Department of Mathematics & Statistics

Curriculum Structure of UG & PG Program with Statistics, Mathematics & Physics as per NEP 2020

Semester	Subject I (Statistics)	Subject II (Mathematics)	Subject III (Physics)	Subject IV	Vocational	Co-curricular**	Industrial training Survey/ Research project	Total credit of the year	Cumulative minimum credits (Required for the award of certificates/ diploma/degree)	
	Major	Major	Major	Minor Elective	Minor	Minor	Major			
	4/5/6 Credits	4/5/6 Credits	4/5/6 Credits	4/5/6 Credits	3 Credits	2	4 Credits			
	Own Faculty	Own Faculty	Any Faculty	Other Faculty	Vocational/ Skill development course	Co-curricular (Qualifying)	Inter/Intra Faculty related to main subject			
I	B060101T/MT139 Descriptive Statistics (Univariate) & Theory of Probability (T-4)	B030101T/MT136 Differential Calculus & Integral Calculus (T-4)	B010101T/ PY113 Mathematical Physics & Newtonian Mechanics(T-4)		I030103V/MT143 Introduction to LaTeX (V-3)	(Z010101T/BE105) Food Nutrition and Hygiene (T-2)		50 (36+4+6+4)	46 Certificate in Science (Statistics, Mathematics, Physics)	
	B060102P/ MT140 Descriptive Data Analysis Lab (Univariate) (P-2)	B030102P/ MT137 Practical using Mathematica /MATLAB (P-2)	B010102P/PY114 Mechanical Properties of Matter (P-2)							
II	B060201T/ MT141 Descriptive Statistics (Bivariate) & Probability Distributions (T-4)	B030201T/MT138 Matrices and Differential Equations & Geometry (T-6)	B010201T/PY115 Thermal Physics & Semiconductor Devices (T-4)	B150101T/ES125 /BM186 Basics of Environmental Science / Fundamentals of Management (T-4)	I030202V/MT144 LaTeX -Scientific Writing (V-3)	(Z020201T/NS110) First Aid and Health (T-2)				
	B060202P/ MT142 Descriptive Data Analysis Lab (Bivariate) (P-2)		B010202P/PY116 Thermal Properties of Matter & Electronic Circuits(P-2)							
III	B060301T/MT230 Theory of Estimation & Sampling Survey (T-4)	B030301T/MT228 Algebra & Mathematical Methods (T-6)	B010301T/PY207 Electromagnetic Theory & Modern Optics (T-4)		I030302V/MT234 Introduction to R (V-3)	(Z030301) Human values and Environment Studies (T-2)			50 (36+4+6+4)	92 Diploma in Science (Statistics, Mathematics, Physics)
	B060302P/ MT231 Sampling Survey Lab (P-2)		B010302P/PY208 Demonstrative Aspects of Electricity & Magnetism (P-2)							
IV	B060401T/ MT232 Testing of Hypothesis & Applied Statistics (T-4)	B030401T/ MT229 Differential Equation & Mechanics (T-6)	B010401T/PY209 Perspectives of Modern Physics & Basic Electronics (T-4)	LN104/ ME231 Essential Professional Communication / Basic Manufacturing Process (T-4)	I030402V/MT235Introduction to SPSS (V-3)	(Z040401) Physical Education and Yoga (T-2)				
	B060402P/ MT233 Test of Significance & Applied Statistics Lab (P-2)		B010402P/PY210 Basic Electronics Instrumentation (P-2)							
V	B060501T/MT327 Multivariate Analysis & Non- Parametric Methods (T-4)	B030501T/MT320 Group and Ring Theory & Linear Algebra (T-5)	B010501T/PY311 Classical & Statistical Mechanics (T-4)					(Z050501) Analytic Ability and Digital Awareness (T-2)	50 (40+4+6)	138 Bachelor of Science (Statistics & Mathematics with Physics)
	B060502T/ MT328 Analysis of Variance & Design of Experiments (T-4)	B030502T/ MT321 Number Theory & Game Theory/ B030503T/ MT322 Graph Theory & Discrete Mathematics/ B030504T/ MT323 Differential Geometry & Tensor Analysis (T-5)	B010502T/PY312 Quantum Mechanics & Spectroscopy (T-4)							
	B060503P/ MT329 Non-Parametric Methods & Design of Experiments Lab (P-2)		B010503P/PY313 Demonstrative Aspects of Optics & Lasers (P-2)							

VI	B060601T/ MT330 Statistical Computing & Introduction to Statistical Software (T-4)	B030601T/ MT324 Metric Space & Complex Analysis (T-4)	B010601T/ PY314 Solid State & Nuclear Physics (T-4)			(Z060601) Communication Skills and Personality Development (T-2)	B060604R/ MT336 Statistics Project-2 (R-3)		
	B060602T/ MT331 Operations Research (T-4)	B030602T/ MT325 Numerical Analysis & Operations Research (T-4)	B010602T/ PY315 Analog & Digital Principles & Applications (T-4)						
	B060603P/ MT332 Operations Research & Statistical Computing Lab (P-2)	B030603P/ MT326 Practical on Numerical Analysis using Mathematica /MATLAB (P-2)	B010603P/ PY316 Analog & Digital Circuits (P-2)						
VII	B030706T/ MT447 Analysis (T-4)						B060705R/ MT445 Statistics Research Project-1 (R-6)	26 (20+6)	194 Bachelor (Research) in Statistics
	B060701T/ MT422 Sample Surveys (T-4)								
	B060702T/ MT423 Probability Theory (T-4)								
	B060703T/ MT424 Reliability Theory (T-4)								
	B060704P/ MT425 Sample Surveys and R – programming Lab (P-4)								
VIII	B030807T/ MT416 Linear Algebra (T-4)			CA453 Fundamentals of Computer and C Programming (T-4)			B060805R/ MT446 Statistics Research Project-2 (R-6)	30 (20+4+6)	
	B060801T/ MT427 Linear Models & Regression Analysis (T-4)								
	B060802/ MT428 Design & Analysis of Experiments (T-4)								
	B060803T/ MT430 Non-Parametric & Order Statistics (T-4)								
	B060804R/ MT431 Data Analytics with SPSS (P-4)								
IX	B060901T/ MT548 Statistical Inference (T-4)						B060906R/ MT550S tistics Research Project-3 (R-6)	26 (20+6)	246 Master of Science in Statistics
	B060902T/ MT522 Demography (T-4)								
	B060903T/ MT523 Statistical Process & Product Control (T-4)								
	B060904T/ MT525 Basics of Python Programming (T-4)								
	B060905R/ MT526 Demography and Statistical Process & Product Control lab (P-4)								
X	B061001T/ MT528 Theory of Econometrics (T-5)						B061005R/ MT551S tistics Research Project-4 (R-6)	26 (20+6))	
	B061002T/ MT529 Multivariate Analysis (T-5)								
	B061003T/ MT530 Stochastic Processes (T-5)								



Integral University, Lucknow
Department of Mathematics & Statistics

Study & Evaluation Scheme of UG & PG Program with Statistics, Mathematics & Physics as per NEP 2020
w.e.f. Session 2022-23

Certificate in Science (Statistics, Mathematics, Physics)

Year: First / Semester: First (Odd Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics				
1	B030101T/MT136	Differential Calculus & Integral Calculus	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓								
2	B010101T/PY113	Mathematical Physics & Newtonian Mechanics	Theory		3	1	0	15	10	25	75	100	04	✓										
3	B060101T/MT139	Descriptive Statistics (Univariate) & Theory of Probability	Theory		3	1	0	15	10	25	75	100	04	✓		✓						✓		
4	B030102P/MT137	Practical using Mathematica /MATLAB	Practical		0	0	4	15	10	25	75	100	02	✓		✓								
5	B010102P/PY114	Mechanical Properties of Matter	Practical		0	0	4	15	10	25	75	100	02	✓		✓								
6	B060102P/MT140	Descriptive Data Analysis Lab (Univariate)	Practical		0	0	4	15	10	25	75	100	02	✓		✓						✓		
7	I030103V/MT143	Introduction to LaTeX	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓								
8	Z010101T	Food Nutrition and Hygiene	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓				
TOTAL					13	3	14	105	70	175	625	800	23											



Integral University, Lucknow
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Study & Evaluation Scheme of UG & PG Program with Statistics, Mathematics & Physics as per NEP 2020
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Certificate in Science (Statistics, Mathematics, Physics)

Year: First / Semester: Second (Even Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)				
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics					
1	B030201T/MT138	Matrices and Differential Equations & Geometry	Theory	Core Major (Compulsory)	4	2	0	15	10	25	75	100	06	✓		✓									
2	B010201T/PY115	Thermal Physics & Semiconductor Devices	Theory		3	1	0	15	10	25	75	100	04	✓											
3	B060201T/MT141	Descriptive Statistics (Bivariate) & Probability Distributions	Theory		3	1	0	15	10	25	75	100	04	✓		✓						✓			
4	B010202P/PY116	Thermal Properties of Matter & Electronic Circuits	Practical		0	0	4	15	10	25	75	100	02	✓											
5	B060202P/MT142	Descriptive Data Analysis Lab (Bivariate)	Practical		0	0	4	15	10	25	75	100	02	✓		✓						✓			
6	B150101T/EVS125	Basics of Environmental Sciences	Theory	Minor	3	1	0	15	10	25	75	100	04	✓	✓	✓		✓	✓	✓	✓	✓	✓		
7	I030202V/MT144	LaTeX – Scientific Writing	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓									
8	Z020201	First Aid and Health	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓	✓	✓	✓		
TOTAL					17	5	10	105	70	175	625	800	27												



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Department of Mathematics & Statistics

Study & Evaluation Scheme of UG & PG Program with Statistics, Mathematics & Physics as per NEP 2020
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Diploma in Science (Statistics, Mathematics, Physics)

Year: Second / Semester: Fourth (Even Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics				
1	B030401T/MT229	Differential Equation & Mechanics	Theory	Core Major (Compulsory)	4	2	0	15	10	25	75	100	06	✓		✓								
2	B010401T/PY209	Perspectives of Modern Physics & Basic Electronics	Theory		3	1	0	15	10	25	75	100	04	✓										
3	B060401T/MT232	Testing of Hypothesis & Applied Statistics	Theory		3	1	0	15	10	25	75	100	04	✓		✓					✓			
4	B010402P/PY210	Basic Electronics Instrumentation	Practical		0	0	4	15	10	25	75	100	02	✓		✓								
5	B060402P/MT233	Test of Significance & Applied Statistics Lab	Practical		0	0	4	15	10	25	75	100	02	✓		✓					✓			
6	LN104T/ME231	Essential Professional Communication / Basic Manufacturing Process	Theory	Minor elective	3	1	0	15	10	25	75	100	04	✓	✓	✓				✓	✓			
7	I030402V/MT235	Introduction to SPPSS	Theory+ Practical	Vocational	2	0	2	-	-	-	100	100	03	✓		✓								
8	Z040401	Physical Education and Yoga	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓				
TOTAL					17	5	10	105	70	175	625	800	27											



Integral University, Lucknow
Department of Mathematics & Statistics

Study & Evaluation Scheme of UG & PG Program with Statistics, Mathematics & Physics as per NEP 2020
w.e.f. Session 2022-23

B.Sc. in PMS (Mathematics, Physics)

Year: Third / Semester: Fifth (Odd Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics				
1	B030501T/MT320	Group and Ring Theory & Linear Algebra	Theory	Core Major (Compulsory)	4	1	0	15	10	25	75	100	05	✓		✓								
2	(a) B030502T/MT321	Opt any one of the following: (a) Number Theory & Game Theory (b) Graph Theory & Discrete Mathematics (c) Differential Geometry & Tensor Analysis	Theory	Major(Elective)	4	1	0	15	10	25	75	100	05	✓		✓								
	(b) B030503T/MT322																							
	(c) B030504T/MT323																							
3	B010501T/PY311	Classical & Statistical Mechanics	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓										
4	B010502T/PY312	Quantum Mechanics & Spectroscopy	Theory		3	1	0	15	10	25	75	100	04	✓										
5	B010503P/PY313	Demonstrative Aspects of Optics & Lasers	Practical		0	0	4	15	10	25	75	100	02	✓		✓								
6	Z050501	Analytic Ability and Digital Awareness	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓	✓	✓	✓	
7	B030503R/MT333	Mathematics Project-1	Practical	Core Major	0	0	6	0	0	0	100	100	03	✓		✓		✓			✓			
TOTAL					16	4	10	90	60	150	550	700	25											



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B.Sc. in PMS (Mathematics, Statistics)

Year: Third / Semester: Fifth (Odd Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics				
1	B030501T/MT320	Group and Ring Theory & Linear Algebra	Theory	Core Major (Compulsory)	4	1	0	15	10	25	75	100	05	✓		✓								
2	(d) B030502T/MT321	Opt any one of the following: (a) Number Theory & Game Theory (b) Graph Theory & Discrete Mathematics (c) Differential Geometry & Tensor Analysis	Theory	Major(Elective)	4	1	0	15	10	25	75	100	05	✓		✓								
	(e) B030503T/MT322																							
	(f) B030504T/MT323																							
3	B060501T/MT327	Multivariate Analysis & Non-Parametric Methods	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓								
4	B060502T/MT328	Analysis of Variance & Design of Experiments	Theory		3	1	0	15	10	25	75	100	04	✓		✓						✓		
5	B060503P/MT329	Non-Parametric Methods & Design of Experiments Lab	Practical		0	0	4	15	10	25	75	100	02	✓		✓						✓		
6	Z050501	Analytic Ability and Digital Awareness	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓	✓	✓	✓	
7	B030503R/MT335	Statistics Project-1	Practical	Core Major	0	0	6	0	0	0	100	100	03	✓		✓		✓			✓	✓		
TOTAL					16	4	10	90	60	150	550	700	25											



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B.Sc. in PMS (Mathematics, Physics)

Year: Third / Semester: Sixth (Even Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes								United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics					
1	B030601T/MT324	Metric Space & Complex Analysis	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓									
2	B030602T/MT325	Numerical Analysis & Operations Research	Theory		3	1	0	15	10	25	75	100	04	✓		✓									
3	B010601T/PY314	Solid State & Nuclear Physics	Theory		3	1	0	15	10	25	75	100	04	✓											
4	B010602T/PY315	Analog & Digital Principles & Applications	Theory		3	1	0	15	10	25	75	100	04	✓											
5	B030603P/MT326	Practical on Numerical Analysis using Mathematica /MATLAB	Practical		0	0	4	15	10	25	75	100	02	✓		✓									
6	B010603P/PY316	Analog & Digital Circuits	Practical		0	0	4	15	10	25	75	100	02	✓											
7	Z060601	Communication Skills and Personality Development	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓					
8	B030604R/MT334	Mathematics Project-2	Practical	Core Major	0	0	6	0	0	0	100	100	03	✓		✓		✓			✓				
TOTAL					14	4	14	105	70	175	625	800	25												



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B.Sc. in PMS (Mathematics, Statistics)

Year: Third / Semester: Sixth (Even Semester)

S. N.	Course Code	Course Title	Theory / Practical	Course Type	Periods/ Per week			Continuous Assessment			End Semester Examination (ESE)	Subject Total	Total Credits	Attributes							United Nations Sustainable Development Goals (SDGs)			
					Lecture (L)	Tutorial (T)	Practical (P)	Class Test (CT)	Teacher Assessment (TA)	Total				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics				
1	B030601T/MT324	Metric Space & Complex Analysis	Theory	Core Major (Compulsory)	3	1	0	15	10	25	75	100	04	✓		✓								
2	B030602T/MT325	Numerical Analysis & Operations Research	Theory		3	1	0	15	10	25	75	100	04	✓		✓								
3	B060601T/MT330	Statistical Computing & Introduction to Statistical Software	Theory		3	1	0	15	10	25	75	100	04	✓		✓								
4	B060602T/MT331	Operations Research	Theory		3	1	0	15	10	25	75	100	04	✓	✓	✓								
5	B030603P/MT326	Practical on Numerical Analysis using Mathematica /MATLAB	Practical		0	0	4	15	10	25	75	100	02	✓		✓								
6	B060603P/MT332	Operations Research & Statistical Computing Lab	Practical		0	0	4	15	10	25	75	100	02	✓	✓	✓								
7	Z060601	Communication Skills and Personality Development	Theory	Co-curricular (Compulsory)	2	0	0	15	10	25	75	100	02	✓	✓	✓		✓	✓	✓				
8	B030604R/MT336	Statistics Project-2	Practical	Core Major	0	0	6	0	0	0	100	100	03	✓		✓		✓		✓				
TOTAL					14	4	14	105	70	175	625	800	25											

