

DEPARTMENTAL CURRICULUM

9.1 Curriculum for B.Sc. Degree in Mathematics

100 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Total Units	Status
BIO 101	Basic Biology I	-	3	C
BIO 107	Experimental Biology I	-	1	C
CHM 101	General Chemistry I	-	3	C
CHM 107	Experimental Chemistry I	-	1	C
MTH 101	General Mathematics I (Algebra & Trigonometry)	-	3	C
PHY 101	General Physics I	-	3	C
PHY 107	Experimental Physics I	-	1	C
STA 101	Introduction to Statistics		2	C
GNS 101	Use of English I		2	R
GNS 103	Use of Library		1	R
	TOTAL		20	

100 LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-requisite	Total Units	Status
CHM 102	General Chemistry II	-	3	C
CHM 108	Experimental Chemistry II	-	1	C
MTH 102	General Mathematics II (Calculus)	MTH101	3	C
MTH 104	General Mathematics III (Vectors, Geometry & Dynamics)	MTH101	3	C
STA 112	Probability I		2	C
STA 114	Statistical Computing		2	C
PHY 102	General Physics II	-	3	C
PHY 108	Experimental Physics II	-	1	C
GNS 102	Use of English II		2	R
GNS 104	Nigeria Peoples and Culture		2	R
	TOTAL		22	

200 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Total Units	Status
MTH 203	Linear Algebra I	MTH101	2	C
MTH 207	Real Analysis I	MTH101, MTH102	3	C
MTH 211	Mathematical Methods I	MTH101, MTH102	3	C
MTH 213	Sets, Logic and Algebra	MTH101	3	C
PHY 213	Analytical Mechanics I		3	C
CSC 201	Structured Programming	CIT111	3	C
GNS 203	Introduction to Entrepreneurial Studies	-	2	R
GNS 211	Basic French	-	2	R
	TOTAL		21	

200 LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-Requisite	Units	Status
MTH 204	Linear Algebra II	MTH101	2	C
MTH 206	Introduction to Numerical Analysis	MTH101, MTH102	3	C
MTH 210	History of Mathematics	-	2	C
MTH 212	Vector Analysis	MTH104	3	C
MTH 222	Elementary Differential Equation I	MTH102	3	C
STA 202	Probability II	STA201	2	C
GNS 204	Logic and Philosophy	-	2	R
GNS 212	Introduction to Information and Communication Technology		2	R
	TOTAL		19	

300 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-Requisite	Units	Status
MTH 301	Abstract Algebra I	MTH101, MTH205	3	C
MTH 303	Elementary Differential Equation II	MTH201	3	C
MTH 305	Vector and Tensor Analysis	MTH212	3	C
MTH 307	Complex Analysis I	MTH205, MTH207	3	C
MTH 319	Operations Research I	MTH 207, MTH201, MTH202,	2	C
Electives: Two of the following				
MTH 309	Dynamics of a rigid body	-	3	E
MTH 311	Discrete Mathematics	MTH203	3	E
STA 311	Probability III	STA202	3	E
STA 313	Statistical Inference III	-	3	E
	TOTAL		20	

300 LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-Requisite	Units	Status
MTH 332	Mathematical Methods II	MTH201	3	C
MTH 334	Metric Space Topology	MTH202	3	C
MTH 336	Real Analysis II	MTH207	3	C
MTH 338	Complex Analysis II	MTH307	3	C
MTH 340	Abstract Algebra II	MTH301	3	C
MTH 342	Introduction to Mathematical Modelling	MTH201, MTH202, MTH203	3	C
MTH 320	Operations Research II	MTH 319	2	C
Electives: One of the following				
MTH 318	Geometry	-	2	E
MTH 322	Numerical Analysis	-	2	E
MTH 324	Differential Geometry	-	2	E
	TOTAL		22	

400 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-Requisite	Units	Status
MTH 401	Theory of Ordinary Differential Equation	MTH303	3	C
MTH 403	Lebesgue Measure and Integration	MTH306	3	C
MTH 405	Fluid Dynamics	-	3	C
MTH 427	Mathematical Methods III	MTH302	3	C
MTH 497	Project 1	-	2	C
Electives: Two of the following				
MTH 409	Analytical Dynamics I	-	3	E
MTH 411	Quantum Mechanics	-	3	E
MTH 413	General Relativity Theory	-	3	E
MTH 415	Elasticity	-	3	E
MTH 417	Electromagnetism	-	3	E
MTH 419	Optimization Theory	MTH305	3	E
	TOTAL		20	

400 LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-Requisite	Units	Status
MTH 402	General Topology	MTH305	3	C
MTH 404	Theory of Partial Differential Equation	MTH303	3	C
MTH 410	Functional Analysis	MTH310	3	C
MTH 412	Distribution Theory	STA 202	2	C
MTH 498	Project II	-	4	C
Electives: One of the following				
MTH 408	Measure Theory	-	3	E
MTH 416	Analytical Dynamics II	MTH409	3	E
MTH 424	Systems Theory	-	3	E
MTH 426	Numerical Analysis II	MTH321	3	E
MTH 430	Vector Field Theory	MTH305	3	E
MTH 432	Fluid Mechanics	MTH405	3	E
	Total		18	

9.2 Curriculum for B.Sc. Degree in Physics with Electronics

100 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
BIO 101	Basic Biology I	-	3	C
BIO 107	Experimental Biology I	-	1	C
CHM 101	General Chemistry I	-	3	C
CHM 107	Experimental Chemistry I	-	1	C
MTH 101	General Mathematics I	-	3	C
PHY 101	General Physics I	-	3	C
PHY 107	Experimental Physics I	-	1	C
STA 101	Introduction to Statistics	-	2	C
GNS 101	Use of English I	-	2	R
GNS 103	Use of Library	-	1	R
Total			20	

RAIN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
BIO 102	Basic Biology II	-	3	C
BIO 108	Experimental Biology II	-	1	C
CHM 102	General Chemistry II	-	3	C
CHM 108	Experimental Chemistry II	-	1	C
MTH 102	General Mathematics II	-	3	C
MTH 104	General Mathematics III	-	3	C
PHY 102	General Physics II	-	3	C
PHY 108	Experimental Physics II	-	1	C
STA 112	Probability I		2	C
GNS 102	Use of English II	-	2	R
GNS 104	Nigerian Peoples and Culture	-	2	R
Total			24	

200 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 207	Experimental Physics IIA	PHY107, PHY108	1	C
PHY 213	Analytical Mechanics I	MTH102, PHY101	3	C
PHY 215	Elementary Modern Physics I	PHY102, MTH102	3	C
PHY 217	Thermal Physics	PHY102, MTH102	3	C
CSC 201	Structured Programming	CIT111	3	C
MTH 211	Mathematical Methods I	-	3	C
STA 221	Statistics for Physical Science & Engineering	-	3	C
GNS 203	Introduction to Entrepreneurial Skills	-	2	R
GNS 211	Basic French	-	2	R
Total			23	

200 LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 204	Elementary Modern Physics II	MTH102, PHY203	2	C
PHY 206	Electric Circuit & Electronics	MTH102, PHY102	3	C
PHY 208	Experimental Physics IIB	MTH102, PHY102, PHY207	1	C
PHY 210	Workshop Practice	-	2	C
PHY 212	General Physics III (Energy & Environment)	-	1	C
PHY 214	Physics of the Solid Earth	-	2	C
PHY 216	Analytical Mechanics II	PHY201, MTH201	3	C
MTH 222	Elementary Differential Equation I	-	3	C
GNS 204	Logic and Philosophy	-	2	R
GNS 212	Introduction to Information & Communication Technology	-	2	R
Total			21	

300 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 309	Electronics	PHY206	2	C
PHY 311	Mathematical Methods in Physics I	MTH202, PHY202	3	C
PHY 319	Electromagnetic Waves and Optics	PHY201, PHY203	3	C
PHY 321	Quantum Physics	PHY204, MTH202	3	C
PHY 323	Solid State Physics I	PHY202, PHY203	3	C
PHY 325	Experimental Physics III	PHY208	2	C
PHY 327	Introduction to Space Science	-	2	C
Electives: One of the following				
PHY 315	Nuclear and Particle Physics I	-	2	E
PHY 317	Vector and Tensor Analysis	-	2	E
Total			20	

300LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 399	Student Industrial Work Experience Scheme (SIWES)	-	6	C
Total			6	

400 LEVEL HARMATTAN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 401	Quantum Mechanics I	PHY 303	3	C
PHY 405	Mathematical Methods in Physics II	PHY 313	3	C
PHY 409	Experimental Physics IV	PHY 207	1	C
PHY 411	Computational Physics	PHY 202, ICT 201	3	C
PHY 423	Solid State Physics II	PHY 305	3	C
PHY 425	Digital Electronics	PHY 309	2	C
PHY 497	Project I	-	2	C
Electives: One of the following				
PHY 417	Electrodynamics I	-	2	E
PHY 419	Measurement and Instrumentation	-	2	E
PHY 427	Medical Physics	-	3	E
PHY 431	Geophysics	-	3	E
Total			19/20	

400LEVEL RAIN SEMESTER

Course Code	Course Title	Pre-requisite	Units	Status
PHY 402	Quantum Mechanics II	PHY 401	3	C
PHY 408	Atomic and Molecular Spectroscopy	PHY 403	3	C
PHY 422	Statistical and Thermal Physics	STA 201, PHY 209	3	C
PHY 424	Electromagnetism	-	3	C
PHY 426	Vibration and Waves	PHY101, PHY102	3	C
PHY 498	Project II	-	4	C
Electives: One of the following				
PHY 410	Nuclear and Particle Physics II	PHY 315	2	E
PHY 412	Reactor Physics	PHY 102, MTH 102, PHY 207	2	E
PHY 414	Electronic Communication Theory	-	2	E
PHY 416	Solar and Atmospheric Physics	PHY 102, MTH 102	2	E
PHY 418	Biophysics	-	2	E
PHY 420	Astronomy	-	2	E
Total			21	

B.Sc. Mathematics CCMAS Curriculum

100 LEVEL HARMATTAN SEMSETER

Course Code	Course Title	Unit	Status	LH	PH
GST 111	Communication in English	2	C	15	45
CHM 101	General Chemistry I	2	C	30	–
CHM 107	General Chemistry Practical I	1	C	–	45
COS 101	Introduction to Computing Sciences	3	C	30	45
MTH 101	Elementary Mathematics I	2	C	30	–
MTH 103	Elementary Mathematics III	2	C	30	–
PHY 101	General Physics I	2	C	30	–
PHY 107	General Physics Practical I	1	C	–	45
	Total	15			

100 LEVEL RAIN SEMESTER

Course Code	Course Title	Unit	Status	LH	PH
GST 112	Nigerian Peoples and Culture	2	C	30	-
CHM 102	General Chemistry II	2	C	30	-
CHM 108	General Chemistry Practical II	1	C	-	45
MTH 102	Elementary Mathematics II	2	C	30	-
PHY 102	General Physics II	2	C	30	-
PHY 108	General Physics Practical II	1	C	-	45
STA 112	Probability I	3	C	45	0
UNIOSUN – MTH 104	Elementary Mathematics IV	2	C	30	-
UNIOSUN – MTH 106	Introduction to Mathematical Packages	1	C	15	-
	Total	16			