

Curriculum M.Sc. Chemistry

Semester-I									
Sl. No	Course Code	Name of the Course					Credit	Course Type (Theory/Integrated/Comprehensive/Workshop)	Course Type (Theory/Integrated/Comprehensive/Workshop)
			L	T	P	C			
1	MSCH 5001	Stereochemistry & Reaction mechanisms	4	0	0	4		Theory	Workshop
2	MBS24T1105	Advanced Inorganic Chemistry and Spectroscopy	4	0	0	4			
3	MBS24T1101	Basic Concepts of Physical Chemistry	3	0	0	3	1	Workshop	Integrated
4	MBS24T1102	Basic Analytical Chemistry	3	0	0	3	0	Workshop	Integrated
5	MSCH 5005	Computer Applications for chemistry	2	0	0	2	5	Integrated	Integrated
6	MSCH 5006	Organic chemistry Lab – I	0	0	4	2	5	Integrated	Integrated
7	MSCH 5007	Inorganic chemistry Lab – I	0	0	4	2	3	Integrated	Integrated
8	MBS24T1103	Computer Applications for chemistry Lab	0	0	2	1	6	Comprehensive	Comprehensive
11	MBSUCT1001	Laboratory Operation Techniques				0	0	Workshop	Comprehensive
		Total	16	0	10	21			
Semester-II									
Sl. No	Course Code	Name of the Course					Credit	Course Type (Theory/Integrated/Comprehensive/Workshop)	Course Type (Theory/Integrated/Comprehensive/Workshop)
			L	T	P	C			
1	MSCH 5008	Organic Spectroscopy	4	0	0	4	4	Integrated	Theory
2	MBS24T1103	Reaction mechanism and Basics of group theory	3	0	0	3	3	Theory	Theory
3	MSCH 5024	Physical Chemistry-II	4	0	0	4	3	Integrated	Integrated

4	MBS24T1104	Techniques in Analytical Chemistry	3	0	0	3	5	Integrated	Integrated
5	MSCH 5012	Physical chemistry Lab – I	0	0	4	2	0	Workshop	Integrated
6	MSCH 5013	Analytical chemistry Lab – I	0	0	4	2			Integrated
7	MLLUCT1001	Professional Communication	1	0	4	3	3		Integrated
8	MBS28T2111	Research Methodology	2	0	0	2	1		Comprehensive
9	MLEUCT1003	Creativity, Innovation and Entrepreneurship & IPR	1	0	0	1	3		
10		Computational and Graphical Tools				0	1		Course Type (Theory/ Integrated/ Comprehensive/ Workshop)
		Total	18	0	12	24	4		
							3		Theory
Semester-III									
							3		Theory
							2		Theory
Sl No	Course Code	Name of the Course	L	T	P	C			
1	MBS24P3000	Project (Phase-I)	0	0	0	10	0		Integrated
		Total				10			Integrated
							3		Integrated
Semester-IV									
							1		Comprehensive
Organic Specialization									
							3		Comprehensive
							1		
Sl No	Course Code	Name of the Course	L	T	P	C			
1	MSCH6001	Photo chemistry & Pericyclic reaction	4	0	0	4	4		Course Type (Theory/ Integrated/ Comprehensive/ Workshop)

2	MSCH6002	Reagents and Heterocyclic Chemistry	4	0	0	4	3	
3	MSCH6003	Chemistry of Natural Products and Retrosynthesis	4	0	0	4	4	Integrated
4	MBS24TXXX	(Elective)	3	0	0	3	0	Integrated
5	MSCH 6005	Organic chemistry Lab – II	0	0	8	4	0	Integrated
6	MBS24P3001	Project Phase II	0	0	0	3		Integrated
	MLLUCT1003	Campus to Corporate	3	0	0	3	4	Integrated
		Start up, Innovation, Incubation and Entrepreneurship	0			0		Comprehensive
		Total	18	0	8	25		Comprehensive
InOrganic Specialization								
							Credit	
Sl No	Course Code	Name of the Course	L	T	P	C	4	Course Type (Theory/ Integrated/ Comprehensive/ Workshop)
1	MSCH 6006	Organometallic Chemistry	4	0	0	4	3	
2	MSCH 6012	Spectroscopic techniques in Inorganic Chemistry	4	0	0	4	1	Theory
3	MSCH 6009	Bio-Inorganic Chemistry	4	0	0	4	4	Theory
4	MBS24TXXX	(elective)	3	0	0	3	3	Integrated
5	MSCH 6010	Inorganic chemistry Lab – II	0	0	8	4	3	Integrated
6	MBS24P3001	Project Phase II	0	0	0	3	1	Integrated
	MLLUCT1003	Campus to Corporate	3	0	0	3	0	

		Start up, Innovation, Incubation and Entrepreneurship	0			0			Course Type (Theory/ Integrated/ Comprehensive/ Workshop)
							3		
		Total	18	0	8	25			
Physical Specialization							3		Theory
							1		Theory
Sl No	Course Code	Name of the Course							
			L	T	P	C	4		Theory
							3		Theory
1	MSCH6021	Applied Electrochemistry	4	0	0	4			
2	MSCH6022	Chemical Kinetics and Surface Chemistry	4	0	0	4	1		Integrated
3	MSCH6023	Molecular Spectroscopy	4	0	0	4	4		Project
4	MBS24TXXX	(Elective)	3	0	0	3	3		
5	MSCH6025	Physical chemistry Lab –II	0	0	8	4	0		
6	MBS24P3001	Project Phase II	0	0	0	3			
	MLLUCT1003	Campus to Corporate	3	0	0	3			Course Type (Theory/ Integrated/ Comprehensive/ Workshop)
		Start up, Innovation, Incubation and Entrepreneurship	0			0		Credit	
							3		Theory
		Total	18	0	8	25			
Analytical Specialization							4		Theory
									Theory
Sl No	Course Code	Name of the Course	L	T	P	C			
1	MSCH6031	Electroanalytical methods	4	0	0	4			Integrated
2	MSCH6032	Quality control and quality assurance	4	0	0	4			Integrated

3	MSCH6033	Advanced Instrumentation methods	4	0	0	4	Credit		
4	MBS24TXXX	(Elective)	3	0	0	3	4	Course Type (Theory/ Integrated/ Comprehensive/ Workshop)	
7	MSCH6034	Analytical chemistry Lab -II	0	0	8	4	3		
6	MBS24P3001	Project Phase II	0	0	0	3	4	Theory	
	MLLUCT1003	Campus to Corporate	3	0	0	3	3	Theory	
		Start up, Innovation, Incubation and Entrepreneurship	0			0	3	Theory	
		Total	18	0	8	25	1	Integrated	
List of Electives	VSBA5001	Academic Report writing and Funding Opportunities	Value-added	2	0	0	0	Integrated	
								Project	
Sl No	Course Code	Name of the Electives	L	T	P	C	4		
1	MBS24T5101	Polymer chemistry	3	0	0	3	1		
2	MBS24T5102	Industrial chemistry	3	0	0	3	3		
3	MBS24T5103	Solid State chemistry	3	0	0	3	4		
4	MBS24T5104	Environmental analytical chemistry	3	0	0	3	3		
5	MBS24T5105	Bio-organic Chemistry	3	0	0	3	1		
6	MBS24T5106	Advanced Green Chemistry	3	0	0	3	4		
7	MBS24T5107	Carbon Materials	3	0	0	3	3		
8	MBS24T5108	Advance Metallurgical Sciences	3	0	0	3	0		

9	MBS24T5109	Industrial Biochemistry	3	0	0	3		
	Course Code	Course Name	Course Type	Teaching Scheme				
				L	T	P	Credit	
Sem VII	B030701T	Linear Algebra	Major	3	1	0	4	
Sem VII	B030702T	Real Analysis	Major	3	1	0	4	
Sem VII	B030703T	Ordinary Differential Equations	Major	3	1	0	4	
Sem VII	B030704T	Mathematical Statistics	Major	3	1	0	4	
Sem VII	B030705P	Mathematical Statistics Lab using R	Major	0	2	1	1	
Sem VII		Ability Enhancement Course	University core				3	
Sem VII	B010721T	Research Methodology	University core	2	0	0	2	
Total credit=22								
Sem VIII	B030801T	Abstract Algebra	Major	3	1	0	4	
Sem VIII	B030802T	Partial Differential Equations	Major	3	1	0	4	
Sem VIII	B030803T	Topology	Major	3	1	0	4	
Sem VIII	B030801R	Research Project	PBL	0	0	12	6	

Total credit=18

Total credits for BSc (Hons) Degree in Mathematics =160

List of Ability Enhancement Courses

Sl No	Course Code	Name of the Ability Enhancement Courses				
			L	T	P	C
1		Professional Communication-II	1	0	4	3
2		Campus to Corporate	3	0	0	3

Vocational Courses List- SBAS

Semester	Bucket -I (Physics)	Bucket -II (Chemistry)	Bucket -III (Math)	Bucket -IV (Forensic)	Bucket -V (Bio)
Sem IV	Vocational Minor-I	Vocational Minor-I	Probability and Statistics+ Lab	Vocational Minor-I	Vocational Minor-I
Sem V	Vocational Minor-II	Vocational Minor-II	Statistical Methods and Design of Experiment	Vocational Minor-II	Vocational Minor-II
Sem VI	Vocational Minor-III	Vocational Minor-III	Financial Mathematics	Vocational Minor-III	Vocational Minor-III