

FOREWORD

I am happy to present the revised curricula and syllabi of the following four M.Sc. Chemistry courses of the School of Chemical Sciences (with effect from 2017 admission onwards) for favour of approval by the Faculty and Academic Council of the University.

1. M.Sc. Chemistry (Inorganic Chemistry)
2. M.Sc. Chemistry (Organic Chemistry)
3. M.Sc. Chemistry (Physical Chemistry)
4. M.Sc. Chemistry (Polymer Chemistry)

The BOS prepared draft proposals of revised curricula and syllabi for all the four M.Sc. courses in Chemistry in conformity with the Revised CSS Regulations by the Mahatma Gandhi University to suit the Credit and Semester System. The draft curricula and syllabi for all the programmes were discussed in a very effective manner in the Board of Studies of the School of Chemical Sciences. The BOS feels that appreciable updating could be done in keeping with the current developments and trends in Chemistry education.

(Prof. Suresh Mathew)
Chairman, Board of Studies of the School of Chemical Sciences

Members of the Board of Studies of School of Chemical Sciences.

1. Prof. Suresh Mathew (Chairman)
2. Prof. Sabu Thomas
3. Prof.A.S.Padmanabhan
4. Prof.Beena Mathew
5. Prof.K.S.Devaky
6. Dr. K. Pius
7. Prof.M.R.PrathapachandraKurup
8. Dr. P.K. Radhakrishnan
9. Prof.K..K.Aravindakshan

MAHATMA GANDHI UNIVERSITY
SCHOOL OF CHEMICAL SCIENCES

PROGRAMME	M Sc Chemistry (Physical Chemistry)
DURATION	2 years (2017 Admission onwards) Total
Total credits required:	86 (for 4 semesters)
	[Core: 64; Elective: 18; Open: 4]

- * The student has to choose **three elective courses** for semester I, **three elective courses** for semester II and **two elective courses** for semester III and **one elective course** for semester IV.
- ** The student has to choose **one open course** of 4 credits for semester III from any other School under the Faculty of Science.

SEMESTER I

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMIC1701	Chemistry of Main Group Elements	2	2	-	3
SCSMIC1702	Quantum Mechanics and Atomic Structure	2	2	-	3
SCSMIC1703	Chemical Thermodynamics and Surface Chemistry	2	2	-	3
SCSMIC1704	Equilibrium Statistical Mechanics	2	2	-	3
SCSMIC1705	Molecular Spectroscopy	2	2	-	3
SCSMIC1706	Inorganic Chemistry Lab - I	-	-	6	3
<u>*Elective Courses</u>					
SCSMIE1751	Reaction Mechanisms in Organic Chemistry	2	-	-	2
SCSMIE1752	Introduction to Polymer Chemistry	2	-	-	2
SCSMIE1753	Supramolecular Chemistry	2	-	-	2
SCSMIE1754	Polymer Physics	2	-	-	2
SCSMIE1755	Stereochemistry of Organic Compounds	2	-	-	2

SEMESTER II

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMIIC1708	Coordination Chemistry	2	2	-	3
SCSMIIC1709	Structural and Solid State Chemistry	2	2	-	3
SCSMIIC1711	Chemical Bonding and Group Theory	2	2	-	3
SCSMIIC1712	Spectroscopic Methods in Chemistry	2	2	-	3
SCSMIIC1718	Non-Equilibrium Statistical Mechanics	2	2	-	3
SCSMIIC1719	Physical Chemistry Lab - I	-	-	6	3

* Elective Courses					
SCSMIIE1756	Common Reactions and Reagents in Organic Chemistry	2	-	-	2
SCSMIIE1758	Biochemistry	2	-	-	2
SCSMIIE1759	Instrumental Methods of Analysis	2	-	-	2
SCSMIIE1761	Organic Chemistry Lab-I	-	-	6	2
SCSMIIE1767	Fundamentals of Photochemistry and Pericyclic Reactions	2	-	-	2
SCSMIIE1768	Inorganic Chemistry in Biological Systems	2	-	-	2

SEMESTER III

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMIIC1714	Analytical and Nuclear Chemistry	2	2	-	3
SCSMIIC1715	Chemical Kinetics	2	2	-	3
SCSMIIC1720	Electrochemistry	2	2	-	3
SCSMIIC1721	Computational and Numerical Methods in Chemistry	2	2	-	3
SCSMIIC1722	Applied Quantum Chemistry	2	2	-	3
<u>*Elective Courses</u>					
SCSMIIE1764	Organic Synthesis	2	-	-	2
SCSMIIE1765	Surface Chemistry and Catalysis	2	-	-	2
SCSMIIE1769	Physical Chemistry Lab-II	-	-	6	2
SCSMIIE1770	Organometallics	2	-	-	2
SCSMIIE1771	Nanomaterials	2	-	-	2
<u>**Open Courses</u>					
SCSMIIO1740	Environmental Chemistry	4	-	-	4
SCSMIIO1741	Science and Creativity	4	-	-	4

SEMESTER IV

Course Code	Course Title	Hours/Week			Credit
		L	T	P	
<u>Core Courses</u>					
SCSMIVC1745	Research Project	-	-	-	7
SCSMIVC1746	Project Seminar	-	-	-	3
SCSMIVC1747	Comprehensive Viva-Voce	-	-	-	3
<u>*Elective Courses</u>					
SCSMIVE1798	Review Report	-	-	-	2
SCSMIVE1799	Industry Visit Report	-	-	-	2