

VANITA VISHRAM WOMEN'S UNIVERSITY
SCHOOL SCIENCE AND TECHNOLOGY
DEPARTMENT OF CHEMISTRY



**VANITA VISHRAM
WOMEN'S UNIVERSITY**
— SURAT —

**MASTER OF SCIENCE (M.Sc.) ORGANIC CHEMISTRY
PROGRAMME STRUCTURE
for Post Graduate (PG) Education**

**Core Courses (CC), Ability Enhancement Compulsory Courses (AECC),
Generic Elective Courses (GE)**

Structure is applicable to the students seeking admission in the following programmes
M.Sc Organic Chemistry under LOCF w.e.f. the Academic Year 2021-2022

1. Preamble – VVWU

Vanita Vishram Women's University (VVWU) is the First-ever Women's University of Gujarat approved by the Government of Gujarat under the provisions of the Gujarat Private Universities Act, 2009. It is a university committed to achieve Women's Empowerment through Quality Education, Skill Development, and by providing employment opportunities to its girl students through its model curriculum, integration of technology in pedagogy and best-in-class infrastructure. The focus is on prioritizing practical component and experiential learning supported through academia-industry linkages, functional MoUs, skill development training, internships etc. It aims at providing opportunities to the girl students for holistic development and self-reliance.

VISION

Empowerment of women through quality education and skill development, so as to make them strong pillars of stability in the society.

MISSION

To provide Education & Professional Training to all women for their all-round development, so as to enable them to become economically independent and socially empowered citizens.

2. Introduction of the Programme

Higher study in chemistry is a current need of the competitive environment. The M.Sc. organic chemistry and chemistry programmes provides knowledge and skill-based training to the students to flourish in research and in the professional career. The course offers a deep understanding of concept, theory and experiments that make students reach knowledge of chemistry. The dissertation in the end semester provides a research environment for the student to build a career in the research field.

3. Programme Specific Objectives (PSOs)

- To motivate critical thinking and analysis skills to solve complex problems to improve human life.
- To impart the basic analytical and technical skills to work effectively in the various fields of chemistry.
- To demonstrate an ability to conduct experiments with mastery of appropriate techniques and proficiency using core chemical instrumentation.
- To provide professional services to industry, Research organization, institutes.
- To provide value based and ethical leadership in the professional and social life.

Programme Specific Outcomes (PSOs)

- In-depth and detailed functional knowledge of the fundamental theoretical concepts and experimental methods of chemistry.
- Apply/implement interface between, on the one hand, the history of chemistry and natural science and, on the other hand, issues pertaining to the areas of modern technology, health, and environment.
- Skills in planning and conducting advanced chemical experiments and applying structural-chemical characterization techniques.
- Skill in examining specific phenomena theoretically and/or experimentally
- Generation of new scientific insights or to the innovation of new applications of chemical research.

CREDIT STRUCTURE FOR PG PROGRAMMES (M.Sc.)

Semester 1	Credits	Semester 2	Credits	Semester 3 Specialization	Credits	Semester 4 Specialization	Credits	Total Credits in 4 Semesters
Core Course 1	5 (4 + 1)	Core Course 5	5 (4 + 1)	Core Course 10	5 (4 + 1)	Core Course 13	5 (4 + 1)	
Core Course 2	5 (4 + 1)	Core Course 6	5 (4 + 1)	Core Course 11	5 (4 + 1)	Core Course 14	5 (4 + 1)	
Core Course 3	5 (4 + 1)	Core Course 7	5 (4 + 1)	Core Course 12	5 (4 + 1)	Department Elective 3 (Group 2)	4 (3 + 1)	
Core Course 4	5 (4 + 1)	General Elective	4 (3 + 1)	Department Elective 1 (Group 1)	4 (3 + 1)	Core Course Practical	4	
Core Course Practical	4	Core Course Practical	4	Department Elective 2 (Group 1)	4 (3 + 1)	Dissertation	12	
Core Course Practical	4	Core Course Practical	4	Core Course Practical	4			
				Project Work	4			
Total Credits	28		27		31		30	116

- 1 Credit Theory = 1 hour
- 1 Credit Practical = 2 hours
- Theory Credits = 5
 - ü Class Hours = 4
 - ü Expected Learning Hours by students outside the class hours = 2
- Practical = 4
 - ü Class (Lab) Hours = 8
- Semester 1 and 2 will have core and practical papers common for all enrolled students.
- Semester 3 and 4 will offer subjects of selected specialization as core and elective papers.
- Semester 3 and 4 will offer Dissertation for all enrolled students.

DEPARTMENT ELECTIVES

Department of Chemistry offers 3 electives out of which students will choose 2 electives in Semester 3 and 1 elective in Semester 4 to promote choice-based learning of the said specialization through the programme.

GENERAL ELECTIVES

The Department of Chemistry offers 2 electives out of which students will choose 1 elective in Semester 2.

It could be a Core Paper from other departments or could be a General Elective Paper like IPR or some General Component

Sr. No.	Name of Papers	Total No. of Papers	Credits	Total Credits
1	Core Course	12	5	60
2	Elective Course (Specialization)	3	4	12
3	General Elective	1	4	04
3	Practical/ Field Work/Seminar/Workshop/SDP*	6	4	24
4	Dissertation + Project Work	--	12 + 4	16
Total Credits				116

* Student Development Programme (SDP) & Research Methodology component should be incorporated.

5. Structure of the Programme

M.SC. ORGANIC CHEMISTRY STRUCTURE AND DISTRIBUTION OF COURSES

Semester	CC Total Credits (60)	DSE Total Credits (12)	GE Total Credits (4)	CC Practical (24)	Dissertation /Project Work/ Seminar (16)	Total Credits
1	CH21010 CH21020 CH21030 CH21040	-	-	CH21050 CH21060	-	60 + 12 + 4 + 24 + 16 = 116
2	CH21070 CH21080 CH21090	-	CH32010	CH21100 CH21110	-	
3	CH21120 CH21130 CH21140	Group-I CH24010 Group-II CH24020 OR CH24030 (Any two)	-	CH21150	Project work CH21160	
4	CH21220 CH21230	Group-III CH24060 CH24080 (Any one)	-	CH21240	Dissertation CH21250	

6. Structure of the Course

M.Sc. Organic Chemistry (SEMESTERS 1 & 2)					
Sem.	Core Course	Discipline Specific Elective Courses	General Elective	Core Course Practical	Dissertation/ Project Work/ Seminars
1	Core Course Inorganic Chemistry (CH21010)	--	--	Core Course Practical A. Inorganic Chemistry B. Organic Chemistry (CH21050)	--
	Core Course Organic Chemistry (CH21020)				
	Core Course Physical Chemistry (CH21030)			Core Course Practical C. Physical Chemistry D. Analytical Chemistry (CH21060)	
	Core Course Analytical Chemistry (CH21040)				
2	Core Course Inorganic Chemistry (CH21070)	--	General Elective (Group 1) Analytical Chemistry (CH32010)	Core Course Practical A. Inorganic Chemistry B. Organic Chemistry (CH21100)	
	Core Course Organic Chemistry (CH21080)			Core Course Practical C. Physical Chemistry D. Analytical Chemistry (CH21110)	
	Core Course Physical Chemistry (CH21090)				

M.Sc. Organic Chemistry (SEMESTERS 3 & 4)

Sem.	Core Course	Discipline Specific Elective Courses	General Elective	Core Course Practical	Dissertation/ Project Work/ Seminars
3	Core Course Advanced Organic Chemistry (CH21120)	Department Elective 1 (Group 1) Industrial Organic Chemistry (CH24010)	--	Core Course Practical Organic Chemistry Practical (CH21150)	Project Work (CH21160)
	Core Course Advanced Organic Synthesis (CH21130)	Department Elective 2 (Group 2) Medicinal Chemistry (CH24020)			
	Core Course Organic Chemistry Specific Topics-I (CH21140)	OR Dyes intermediates (CH24030)			
4	Core Course Organic Chemistry Specific Topics-II (CH21220)	Department Elective 3 Chemistry of Natural Products and Biomolecules (CH24060)	--	Core Course Practical Organic Chemistry Practical (CH21240)	Dissertation (CH21250)
	Core Course Modern Organic Reactions (CH21230)	OR Heterochemistry (CH24070)			