

CRITERION 1- CURRICULAR ASPECTS

Number of changes made in BOS meeting, followed by faculty meeting and school board meetings that is ratified by Academic Program committee, Academic council and Executive council respectively. Meeting details can be found departmental minutes book and APC minutes in DOAA office/Univ. website.

Courses Offered- (Choice Based Credit System)

The department currently offers four degree programs: B.Sc., B.Sc.-B.Ed, M.Sc. and PhD.

Undergraduate- (6 semester)

The B.Sc. and B.Sc.-B.Ed. degree programme are the undergraduate programs designed to impart a thorough fundamental knowledge in all fields of chemistry and its application for the advancement of society. The course layout is demanding and is constantly upgraded to incorporate current advances in chemistry. During the first two years, all students are introduced to basic chemical concepts via lecture and laboratory courses.

Postgraduate (4 semester)

Students who decide to major in chemistry undergo a thorough training in advanced concepts of chemistry for the next degree level i.e., M. Sc. Final year master students participate in research activities of the group of their choice and undertake a project introducing them to the rigours of chemistry research. The department also provides opportunities to its undergraduate students for pursuing internships at private companies so that they can also gain the “industry” experience.

PhD Chemistry

In addition to the bachelor and master programs, the department provides a very vibrant Ph.D. program that is followed by a rigorous coursework in advanced topics in chemistry. Graduate students undertake challenging research projects towards their thesis. The aim is to produce independent, creative scientists who are ready to take on the scientific challenges of the future.

The focus of our bachelor and master’s degree program is to inspire and provide the spark and scientific impetus for students to pursue a career in chemistry. Many of our graduates are

currently pursuing PhD at renowned institutions worldwide. The institute also has a fully functional placement cell for assisting students who want to join the industry.

1.1 Curriculum design and Development

1.1.1 Programmes for which syllabus revision was carried out during the academic year:

Bachelor of Science (Chemistry)

Semester	Course N0.	Course Title	Credits
B.Sc. I Semester	CHE-CC-111	Inorganic & Organic Chemistry	4
	CHE-CC-112	Chemistry Laboratory	2
		AECC	2
		Total Credit	8
B.Sc. II Semester	CHE-CC-211	Physical & Organic Chemistry	4
	CHE-CC-212	Chemistry Laboratory	2
		AECC	2
		Total Credit	8
B.Sc. III Semester	CHE –SEC-311	Basic Analytical Chemistry	2
	CHE-CC-311	Physical & Organic Chemistry	4
	CHE-CC-312	Chemistry Laboratory	2
		Total Credit	8
B.Sc. IV Semester	CHE-SEC-411	Green Methods in Chemistry	2
	CHE-CC-411	Inorganic & Physical Chemistry	4
	CHE-CC-412	Chemistry Laboratory	2
		Total Credit	8
B.Sc. V Semester	CHE-SEC-511	Pharmaceutical Chemistry	2
	CHE-DSE-511	Chemistry of d-block elements, Quantum Chemistry and Spectroscopy	4
	CHE-DSE-512	Chemistry Laboratory	2
		Total Credit	8
B.Sc. VI Semester	CHE -SEC- 611	Pesticide Chemistry	2
	CHE-DSE-611	Organometallics, Bioinorganic chemistry, Polynuclear hydrocarbons and UV, IR Spectroscopy	4
	CHE-DSE-612	Chemistry Laboratory	2
		Total Credit	8
Bachelor of Science (Chemistry) (total Six Semesters) Credits			48

Master of Science (Chemistry)

Semester	Course N0.	Course Title	Credits
M.Sc. I Semester	CHE-CC-121	Inorganic Chemistry	4
	CHE-CC-122	Organic Chemistry	4
	CHE-CC-123	Physical Chemistry	4
	CHE-CC-124	Spectroscopy and Group Theory	3
	CHE-CC-125A	Mathematics for Chemists	2
	CHE-CC-125B	Biology for Chemists	
	CHE-CC-126	Laboratory Course -Inorganic Chemistry	2
	CHE-CC-127	Laboratory Course -Organic Chemistry	2
	CHE-CC-128	Laboratory Course -Physical Chemistry	2
	Total Credit		23
M.Sc. II Semester	CHE-CC-221	Inorganic Chemistry	4
	CHE-CC-222	Organic Chemistry	4
	CHE-CC-223	Physical Chemistry	4
	CHE-CC-224	Spectroscopy and Diffraction Methods	3
	CHE-CC-225	Computer for Chemists	2
	CHE-CC-226	Laboratory Course -Inorganic Chemistry	2
	CHE-CC-227	Laboratory Course -Organic Chemistry	2
	CHE-CC-228	Laboratory Course -Physical Chemistry	2
	CHE-CC-229	Laboratory Course – Computers for Chemists	1
	CHE- OE- 2210	Environmental Chemistry (open Elective)	2
	Total Credit		26
M.Sc. III Semester	Compulsory		
	CHE-CC-321	Spectroscopy, Photochemistry, Solid state Chemistry	4
	CHE-CC-322	Bioinorganic, Bioorganic, Biophysical Chemistry	3
	CHE-CC-323	Environmental Chemistry	2
	CHE-EC-3211	Laboratory Course -Inorganic Chemistry	1
	CHE-EC-3212	Laboratory Course -Organic Chemistry	1
	CHE-EC-3213	Laboratory Course -Physical Chemistry	1
	ELECTIVE (Any Two)		
	CHE-EC-324	Organo-transitional chemistry	3×2
	CHE-EC-325	Bio inorganic & Supramolecular chemistry	
	CHE-EC-326	Heterocyclic chemistry	
	CHE-EC-327	Chemistry of Natural Products	
	CHE-EC-328	Chemistry of Materials	
	CHE-EC-3210	Analytical Chemistry	
	CHE-EC-3214	Applied Chemistry (Open Elective)	2
	Total Credit		20
M.Sc. IV Semester	Compulsory		
	CHE-CC-421	Spectroscopy, Photochemistry, Solid state Chemistry	4
	CHE-CC-422	Bioinorganic, Bioorganic, Biophysical	3
	CHE-CC-423	Environmental Chemistry	2
	CHE-CC-4212	Project in Chemistry	6
	ELECTIVE (Any Two)		
	CHE-EC-424	Photo Inorganic chemistry	3×2
	CHE-EC-425	Organic Synthesis	
	CHE-EC-426	Medicinal chemistry	
	CHE-EC-428	Chemistry of Nanomaterials	
	CHE-EC-429	Electro Chemistry	
	CHE-EC-4210	Advanced Analytical Chemistry	
	Total Credit		21

Master of Science (Chemistry) (total Six Semesters) Credits			90
Ph.D. Programme Single Semester			
Semester	Course NO.	Course Title	Credits
Ph.D. I Semester (only Semester)	Compulsory		
	CHE-CC-141	Research Methodology	04
	CHE-CC-142	One Core Course (Researches in Chemistry)	04
	CHE-CC-146	Review of Published Research (in relevant field)	04
	ELECTIVE		
	CHE-EC-143	Advanced Research in Inorganic Chemistry : Synthesis & structural Inorganic Chemistry	04
	CHE-EC-144 CHE-EC-145	Advanced Research Course in Organic Chemistry Advanced Research Course in Physical Chemistry : Nano-Materials and Technology	
Total Credit			16

1.1.2 Programmes/ courses focused on employability/ entrepreneurship/ skill development during the Academic year

Course Code	Course Title
CHE –SEC-311 (B.Sc. III semester)	Basic Analytical Chemistry
CHE-SEC-411 (B.Sc. IV semester)	Green Methods in Chemistry
CHE-SEC-511 (B.Sc. IV semester)	Pharmaceutical Chemistry
CHE-SEC-611 (B.Sc. IV semester)	Pesticide Chemistry
CHE-CC-125A (M.Sc. I Semester)	Mathematics for Chemists
CHE-CC-125B (M.Sc. I Semester)	Biology for Chemists
CHE-CC-225 (M.Sc. II Semester)	Computer for Chemists
CHE- OE- 2210 (M.Sc. II Semester)	Environmental Chemistry
CHE-CC-323 (M.Sc. III Semester)	Environmental Chemistry
CHE-CC-423 (M.Sc. IV Semester)	Environmental Chemistry
CHE-EC-3210 (M.Sc. III Semester)	Analytical Chemistry
CHE-EC-426 (M.Sc. IV Semester)	Medicinal chemistry
CHE-EC-4210 (M.Sc. IV Semester)	Advanced Analytical Chemistry

1.2.2 Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the University level during the Academic year

Name of Programmes adopting CBCS	UG	PG	PhD	Date of implementation of CBCS / Elective Course System	UG	PG	PhD
Already adopted (mention the year)	B.Sc.	M.Sc.	Ph.D	CBCS / Elective Course System	CBCS – YEAR- 2009	CBCS – YEAR- 2009	CBCS – YEAR- 2009
Already adopted (mention the year)	B.Sc.	M.Sc.	Ph.D	CBCS / Elective Course System	CBCS – YEAR2009/ELECT IVE YEAR2016	CBCS – YEAR2009/ELECT IVE YEAR2016	CBCS – YEAR2009/ELECT IVE YEAR2016

1.3 Curriculum Enrichment

1.3.1 Value-added courses imparting transferable and life skills offered during the year

Value added Courses	Date of Introduction	No. of students enrolled
GIAN Program : Green and Sustainable Chemistry Coordinator: Dr. Kalpataru Das	January 25, 2016 to January 30, 2016	34
GIAN Program : Substances of Abuse: Pre and Postnatal Exposure: Pharmacological Effects and Analytical Methods Coordinator: Dr. Abhilasha Durgbanshi	September 05, 2016 to September 10, 2016	100
National Workshop on Conceptual Quantum Chemistry Coordinator: Dr. Milind M. Deshmukh	January 16 to January 20, 2017	40
GIAN Program : "Pharmacology and Toxicology of Doping agents and International Overview in the Field of Doping Control" Coordinator: Dr. Abhilasha Durgbanshi	September 16, 2019 to September 21, 2019	30

1.3.2 Research Projects / Internships under taken during the year

Year	Programme Title	No. of students enrolled for Research Projects / Internships
2019-2020	Dissertation (M.Sc. IV Sem)	60
2020-2021	Dissertation (M.Sc. IV Sem)	60