

Courses For
BS Chemistry Semester I, II, III, IV (Morning & Evening)
(January 2012)

BS (Major Chemistry)	
<p><u>Semester I</u></p> <p>CHEM-171 Physical Chemistry (3+1)</p>	<p><u>Semester III</u></p> <p>CHEM-161 Organic Chemistry (3+1)</p> <p>CHEM-141 Environmental Chemistry (2+0)</p>
<p><u>Semester II</u></p> <p>CHEM-151 Inorganic Chemistry (3+1)</p>	<p><u>Semester IV</u></p> <p>CHEM-111 Analytical Chemistry (3+1)</p> <p>CHEM-121 Applied Chemistry (2+0)</p>

BS (Subsidiary)	
<p><u>Semester I</u></p> <p>CHEM-171 Physical Chemistry (3+1) (Physics, Math, Micro-Biology, Bio-Chemistry)</p> <p>CHEM-151 Inorganic Chemistry (3+1) (Zoology, Botany, Geology, Geography, Environmental Sc.)</p>	<p><u>Semester III</u></p> <p>CHEM-161 Organic Chemistry (3+1) (Physics, Math, Micro-Biology, Bio-Chemistry)</p> <p>CHEM-111 Analytical Chemistry (3+1) (Zoology, Botany, Geology, Geography, Environmental Sc.)</p>
<p><u>Semester II</u></p> <p>CHEM-171 Physical Chemistry (3+1) (Zoology, Botany, Geology, Geography, Environmental Sc.)</p> <p>CHEM-151 Inorganic Chemistry (3+1) (Physics, Math, Micro-Biology, Bio-Chemistry)</p>	<p><u>Semester IV</u></p> <p>CHEM-161 Organic Chemistry (3+1) (Zoology, Botany, Geology, Geography, Environmental Sc.)</p> <p>CHEM-111 Analytical Chemistry (3+1) (Physics, Math, Micro-Biology, Bio-Chemistry)</p>

Courses For
BS Chemistry Semester V, VI (Morning & Evening)
&
M.Sc. (Previous) Semester I, II (Morning & Evening)

Course Title	Credit hours	
	Theory	Practical
Semester - V / M.Sc. (P) I		
CHEM-251 Inorganic Chemistry	3	1
CHEM-261 Organic Chemistry	3	1
CHEM-271 Physical Chemistry	3	1
CHEM-211 Analytical Chemistry	3	1
CHEM-221 Applied Chemistry	3	1
Total	15	5
Semester - VI / M.Sc. (P) II		
CHEM-351 Inorganic Chemistry	3	1
CHEM-361 Organic Chemistry	3	1
CHEM-371 Physical Chemistry	3	1
CHEM-311 Analytical Chemistry	3	1
CHEM-321 Applied Chemistry	3	1
Total	15	5

Courses For
BS Chemistry Semester VII, VIII (Morning & Evening)
&
M.Sc. (Final) Semester I, II (Morning & Evening)

Semester – VII / M.Sc. (F) I		
Specialization (Inorganic/ Organic/ Physical/ Analytical)	Theory	Practical
Paper-I	4	0
Paper-II	4	0
Paper-III	4	0
Ad. Practical-I or Research Thesis	0	4
Total	12	4
Semester – VIII / M.Sc. (F) II		
Specialization (Inorganic/ Organic/ Physical/ Analytical)	Theory	Practical
Paper - IV	4	0
Paper - V	4	0
Paper - VI	4	0
Ad. Practical - II or Research Thesis	0	4
Total	12	4

4 th year Specialization in Organic Chemistry							
7 th Semester				8 th Semester			
Course code	Course type	Subject	Credit hours	Course code	Course type	Subject	Credit hours
CHEM-462	core	Reaction mechanism-I	4+0	CHEM-562	core	Organic Synthesis	4+0
CHEM-463	core	Spectroscopy	4+0	CHEM-563	core	Reaction mechanism-II	4+0
CHEM-464	core	Nitrogenous compounds	4+0	CHEM-564	core	Pharmaceutical Chemistry	4+0
CHEM-461	core	Advanced Practical / Research Thesis	0+4	CHEM-561	core	Advanced Practical / Research Thesis	0+4
4 th year Specialization in Analytical Chemistry							
7 th Semester				8 th Semester			
Course code	Course type	Subject	Credit hours	Course code	Course type	Subject	Credit hours
CHEM-412	core	Molecular spectroscopy	4+0	CHEM-512	core	Atomic spectroscopy	4+0
CHEM-413	core	Separation techniques	4+0	CHEM-513	core	Environmental analytical Chemistry and sampling	4+0
CHEM-414	core	Electroanalytical techniques	4+0	CHEM-514	core	Automated methods of analysis and evaluation of analytical data	4+0
CHEM-411	core	Advanced Practical / Research Thesis	0+4	CHEM-511	core	Advanced Practical / Research Thesis	0+4
4 th year Specialization in inorganic Chemistry							
7 th Semester				8 th Semester			
Course code	Course type	Subject	Credit hours	Course code	Course type	Subject	Credit hours
CHEM-452	core	Solid state chemistry & magnetochemistry	4+0	CHEM-552	core	Kinetic & mechanism of inorganic reactions	4+0
CHEM-453	core	Group theory and basics of IR	4+0	CHEM-553	core	Applications of instrumental techniques	4+0
CHEM-454	core	Organometallic Chemistry	4+0	CHEM-554	core	Bio-inorganic chemistry	4+0
CHEM-451	core	Advanced Practical / Research Thesis	0+4	CHEM-551	core	Advanced Practical / Research Thesis	0+4
4 th year Specialization in Physical Chemistry							
7 th Semester				8 th Semester			
Course code	Course type	Subject	Credit hours	Course code	Course type	Subject	Credit hours
CHEM-472	core	Chemical kinetics / Polymer chemistry	4+0	CHEM-572	core	Electrochemistry	4+0
CHEM-473	core	Spectroscopy / Quantum chemistry	4+0	CHEM-573	core	Radio / Radiochemistry	4+0
CHEM-474	core	Surface chemistry / Surfactants	4+0	CHEM-574	core	Chemical thermodynamics / statistical mechanics	4+0
CHEM-471	core	Advanced Practical / Research Thesis	0+4	CHEM-571	core	Advanced Practical / Research Thesis	0+4