

Sant Baba Bhag Singh University, Jalandhar
Department of Physical Sciences

Ref. No. SBBSU/UIS/PS/2021/ 80a

Date: 8/7/2021

Proceeding of Departmental Academic/Curriculum Development Committee (CDC) for curriculum revision of different courses of UG & PG programmes offered by Department of Physical Sciences for Academic session 2021-2022

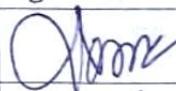


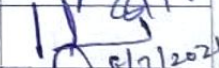
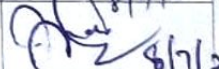


For curriculum revision, meeting of Departmental Academic/Curriculum development committee of Physical Sciences was held on 6/7/2021 at 3:20pm in the office of COD, Physical Sciences.

Agenda for the Meeting:

- Revision in course curriculum of various courses of UG & PG programmes offered by Department of Physical Sciences for Academic session 2021-2022 on the basis of feedback from stakeholders and need of the programmes.
- Finalization of schedule & Experts for BOS for different disciplines

Following members have discussed and approved the agenda.


Members present:

Name	Designation	Position	Signature
Dr Vikas Sharma	Dean UIS	Chairperson	
Dr. Nisha Sharma	COD, Physical Sciences Associate Professor Chemistry	Convener	 8/7/2021
Dr Mithu Maiti Jana	Associate Professor Chemistry	Member	 8/7/2021
Dr. Anju Sood	Associate Professor Mathematics	Member	 8/7/2021
Dr. Inderdeep Singh	Assistant Professor Mathematics	Member	 8/7/21
Dr. Ashima Kanwar	Assistant Professor Mathematics	Member	 8/7/21
Dr. Honey Sharma	Assistant Professor Physics	Member	 8/7/21

Sr. No.	Agenda	Decision
1	Feedback of stakeholders	<p>1.1 Feedback on curriculum has been received from different stakeholders (Students, Alumni, Teachers, Employers) and have been analysed.</p> <p>1.2 Analysis report of feedback on curriculum have been discussed and action taken of the feedback have been discussed and finalized.</p>

2	Revision in course curriculum	<p>2.1 On the basis of feedback , various aspects of revision to be carried out in course curriculum have been discussed.</p> <p>2.2 Keeping in view the online mode of teaching since last session & availability of instruments/chemicals in various lab, it has been suggested to incorporate some experiments from virtual labs resources in various practical courses of UG/PG programmes so that students could be benefited in this pandemic scenario via online virtual experiments.</p> <p>2.3 Syllabus for various courses could be revised keeping in view current needs of industry, technological aspects as well as to provide better employability & skills in concerned discipline.</p> <p>2.4 Suggestions on syllabus revision have been collected from subject especially on subjects taught by them in last academic year.</p> <p>2.5 Detailed recommended syllabus revision for each discipline (Chemistry, Physics, and mathematics) has been discussed by CDC so that it could be approved through Board of Studies 2021 and could be implemented from next academic session 2021-2022.</p>
3	BOS meeting	<p>3.1 Meeting of Board of studies for approval of syllabus revision have to be conducted before the commencement of next academic session.</p> <p>3.2 Expert panel for different disciplines viz: Chemistry, Physics, Mathematics have been discussed and finalized.</p>

The meeting ended with thanks to the chair.


 Coordinator (Physical Sciences)


 Dean(Institute)

Points of Revision/Addition in Syllabi & Schemes of Chemistry, Batch-2021 onwards

Recommended syllabus Revision (Chemistry) by Departmental CDC for BOS 2021

S. No	Programme /sem	Course Name	Course Code	Remark
New courses to be introduced				
1	B.Sc Non Medical/Medical 5th	Molecules of Life	CHM301	New course introduced as Discipline specific Elective for B.Sc Non Medical/B.Sc Medical 5th sem
2	B.Sc Non Medical/Medical 5th	Molecules of Life Practical	CHM303	New course introduced as Discipline specific Elective for B.Sc Non Medical/B.Sc Medical 5th sem
3	MSc Hons Chemistry	Main group Chemistry	CHM501	As per the specification aspects of Chemistry, A core course of Main group Chemistry (Inorganic specification) is incorporated in 1st semester in M.Sc Hons. Chemistry)
4	MSc Hons Chemistry	Coordination Chemistry	CHM502	As per the specification aspects of Chemistry, A core course of Main group Chemistry (Inorganic specification) is incorporated in 1st semester in M.Sc Hons. Chemistry)
5	MSc Hons Chemistry	Advanced Solid state Chemistry	CHM615	New course of Advanced solid state Chemistry has been introduced as an elective course in 3rd semester of M.Sc Hons. Chemistry as specialization oriented subject.
6	MSc Hons Chemistry	Analytical Chemistry	CHM621	New course of analytical chemistry has been introduced as elective course in 3rd semester of M.Sc Hons. Chemistry to enhance the experimental ability and employable skills
7	MSc Hons Chemistry	Chemical Kinetics & Chemical Equilibrium	CHM623	New course of Chemical Kinetics & Chemical Equilibrium has been introduced as an elective course in 4th semester of M.Sc Hons. Chemistry as specialization oriented subject as well as important for UGC -NET examination.
8	MSc Hons Chemistry	Organic reaction & Reagents	CHM622	New course of Organic reaction & Reagents has been introduced as an elective course in 4th semester of M.Sc Hons. Chemistry as specialization oriented subject as well as important for UGC -NET examination.

Revision in Syllabus

S. No	Programme /sem	Course Name	Course Code	Remark
1	MSc Hons Chemistry	Quantum Chemistry	CHM506	Introduction of some relevant content as per UGC/CSIR-NET point of view.
2	MSc Hons Chemistry	Organometallics Chemistry and Metal Clusters	CHM605	Introduction of some relevant content as per UGC/CSIR-NET point of view.

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3	MSc Hons Chemistry	Environmental Chemistry	CHM607	Content in Environmental Chemistry is revised so as to improve the environmental awareness and propose some solutions through analysis of environmental pollutants.
4	MSc Hons Chemistry	Symmetry & Group Theory	CHM621	Major revision is carried out to maintain the core content of Symmetry and group theory and its applications. Content related to transition metals is shifted to coordination chemistry.
5	MSc Hons Chemistry	Seminar & Summer Training	CHM625	To enhance the laboratory skills and provide outdoor exposure to students, summer training as a credit based course is incorporated along with seminar.
6	MSc Hons Chemistry	Chemistry of Biological Systems	CHM528	Content is rearranged in unit 2 & 3 to maintain the continuity of interrelated topics.
7	MSc Hons Chemistry	Bio Inorganic Chemistry	CHM604	Content of Inorganic chemistry of Enzyme II is added, Minor revision in Unit II & IV.
8	MSc Hons Chemistry	Instrumental methods of Analysis	CHM606	Unit I content on data analysis is shifted to analytical Chemistry.
9	MSc Hons Chemistry	Pericyclic Reactions & Photochemistry (Organic & Inorganic)	CHM507	Content of photochemistry of inorganic complexes is shifted to CHM609 (Recent trends in Inorganic chemistry due to relevance & content repetition).
10	MSc Hons Chemistry	Organic Chemistry Practical-II	CHM510	Some new experiments on estimation and extraction of natural compounds is added
11	B.Sc Non Medical	Solutions, Phase Equilibrium, conductance, electrochemistry and functional group organic chemistry-II	CHM201	Subject content is too large and some of topic is not relevant
12	B.Sc Non Medical	Solutions, Phase Equilibrium, conductance, electrochemistry and functional group organic chemistry-II	CHM203	Four new experiments added in Physical section as per the availability in virtual labs
13	B.Sc Non Medical	Transition Metal & Coordination Chemistry, States of Matter and Chemical Kinetics	CHM 202	Subject name is updated from Coordination Chemistry, States of Matter and Chemical Kinetics to Transition Metal & Coordination Chemistry, States of Matter and Chemical Kinetics as per nomenclature of CBCS model for BSc Physical Sciences
14		Transition Metal & Coordination Chemistry, States of Matter and Chemical Kinetics Practical	CHM 204	Subject name is updated from Coordination Chemistry, States of Matter and Chemical Kinetics to Transition Metal & Coordination Chemistry, States of Matter and Chemical Kinetics Practical as per nomenclature of CBCS model for BSc Physical Sciences
15	B.Sc Non Medical	Organometallics, Bioinorganic Chemistry, Polynuclear Hydrocarbons and UV, IR Spectroscopy	CHM 307	Experiments based on UV and IR spectroscopy have been added in organic section due to relevance with theory content as well as availability in virtual lab

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16	B.Tech (All Braches)	Engineering Chemistry	CHM105	Revision in Syllabus has been carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
17	B.Tech (All Braches)	Engineering Chemistry Lab	CHM107	Revision in Syllabus has been carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
18	Proposed			
19	B.Sc Non Medical	Practical training		As per UGC guidelines and NEP 2021, practical training have to be included in course curriculum of UG programmes to improve their technical skills and employability and competence. Students have to complete 72 Hour training during the three year degree tenure of

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Points of Revision/Addition in Syllabi & Schemes of Physics, Batch-2021 onwards

Recommended syllabus Revision (Physics) by Departmental CDC for BOS 2021

S.N o.	Programme/sem	Course Name	Course Code	Remarks
New courses to be introduced				
1	M.Sc (Hons.) Physics /3rd sem	Fabrication of Electronic Devices	PHY615	Elective for M.Sc (Hons.) Physics in 3rd sem as per the aspect of specialization & employability & industrial skills
2	M.Sc (Hons.) Physics /4th sem	Nuclear Accelerator and Radiation Physics	PHY616	New course introduced in Elective pool for M.Sc (Hons.) Physics in 4th sem as per the aspect of specialization & employability & industrial skills
3	M.Sc (Hons.) Physics /4th sem	Seminar & Summer Training	PHY625	To enhance the laboratory skills and provide outdoor exposure to students, summer training as a credit based course is incorporated along with seminar.
4	M.Sc (Hons.) Physics /4th sem	Analytical techniques for materials	PHY624	New course introduced as Elective pool for M.Sc (Hons.) Physics in 4th sem as per the aspect of specialization & employability & industrial skills
Revision in Syllabus				
S.N o.	Programme/sem	Course Name	Course Code	Remark
1	MSc Hons Physics /Ist	Electronics	PHY501	Introduction of some relevant content as per UGC/CSIR-NET point of view.
2	MSc Hons Physics/Ist	Computational Techniques	PHY507	Introduction to FORTRAN basics in unit 4
3	MSc Hons Physics/Ist	Electronics lab	PHY511	Some more experiments to be added as per their availability in virtual lab
4	MSc Hons Physics/IIInd	Quantum Mechanics -II	PHY502	WKB approximation is added in unit-I from the view point of UGC NET.
5	MSc Hons Physics/IInd	CMP Lab	PHY510	Some more experiments are added as per their availability in virtual lab.
6	MSc Hons Physics/IInd	Atomic and molecular spectroscopy lab	PHY512	Some more experiments to be added as per their availability in virtual lab
7	MSc Hons Physics/IIIrd	Experimental Techniques	PHY609	Revision in the content of Unit I-III
8	MSc Hons Physics/IIIrd	Nuclear Physics Labs	PHY617	Some more experiments are added as per their availability in virtual lab
9	MSc Hons Physics/IVth	Plasma Physics	PHY608	Shifted from Elective pool to Discipline specific Elective pool.
10	MSc Hons Physics/IVth	Physics of Materials	PHY610	Major revision in the content of Unit I-III
11	B.Sc Non Medical/Ist	Mechanics	PHY101	More relevant topics are added in unit I-IV
12	B.Sc Non Medical/Ist	Mechanics(Practical)	PHY103	Some more experiments to be added as per their availability in virtual lab

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13	B.Sc Non Medical/IInd	Electricity and Magnetism(Practical)	PHY104	new experiments added
14	B.Sc Non Medical/IIIrd	Thermal physics and statistical mechanics	PHY201	Some relevant topics of Thermal physics and statistical mechanics has to be added in Unit II,IV
15	B.Sc Non Medical/IIIrd	Thermal physics and statistical mechanics	PHY203	More experiments added
16	B.Sc Non Medical/IVth	Waves and optics	PHY202	Revision of content of UNIT I-IV to be carried out
17	B.Sc Non Medical/Vth	circuits and instrumentation	PHY301	In UNIT II topic of Amplifier is added
18	B.Sc Non Medical/Vth	circuits and instrumentation (Practical)	PHY303	Some more experiments to be added as per their availability in virtual lab
19	B.Sc Non Medical/Vth-VI th	physics(Practical), Solid state physics(Practical), Quantum mechanics(Practical),	PHY307,P HY304,PH Y308, PHY312	Some more experiments to be added as per their availability in virtual lab
20	B.Tech (All Braches)	Engineering Physics	PHY105	Revision in Syllabus has to be carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
21	B.Tech (All Braches)	Engineering Physics Lab	PHY107	Revision in Syllabus has to be carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
22	B.Tech(CSE)	Semiconductor Physics	PHY115	Revision in Syllabus has to be carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
23	B.Tech(CSE)	Introduction to Electromagnetic	PHY205	Revision in Syllabus has to be carried out as per the request of UIET and As per model curriculum provided by AICTE for B.Tech.
24	Proposed			
25	B.Sc Non Medical	Practical training		As per UGC guidelines and NEP 2021, practical training have to be included in course curriculum of UG programmes to improve their technical skills and employability and competence. Students have to complete 72 Hour training during the three year degree tenure of programme

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Points of Revision/Addition in Syllabi & Schemes of Mathematics, Batch-2021 onwards

Recommended syllabus Revision (Mathematics) by Departmental CDC for BOS 2021

S. No	Programme/sem	Course Type	Course Name	Course Code	Remark
New courses to be introduced					
1	M.Sc.(Hons.) Mathematics/3rd sem	DSE	Fundamentals of Python	MAT629	New course introduced as Discipline specific Elective for M.Sc.(Hons.) Mathematics, 3rd sem
2	M.Sc.(Hons.) Mathematics/3rd sem	DSE	Fractional Calculus	MAT631	New course introduced as Discipline specific Elective for M.Sc.(Hons.) Mathematics, 3rd sem
3	M.Sc.(Hons.) Mathematics/4th sem	DSE	Introduction to R Programming	MAT630	New course introduced as Discipline specific Elective for M.Sc.(Hons.) Mathematics, 4th sem
4	M.Sc.(Hons.) Mathematics/4th sem	DSE	Coding Theory	MAT632	New course introduced as Discipline specific Elective for M.Sc.(Hons.) Mathematics, 4th sem
5	B.Sc Non Medical/5th	DSE	Numerical Methods	MAT301	New course introduced as Discipline specific Elective for B.Sc Non Medical, 5th sem
6	B.Sc Non Medical/5th	DSE	Theory of Equations	MAT307	New course introduced as Discipline specific Elective for B.Sc Non Medical, 5th sem
7	B.Sc Non Medical/6th	DSE	Introduction to Operation Research	MAT308	New course introduced as Discipline specific Elective for B.Sc Non Medical, 6th sem
8	B.Sc Non Medical/6th	SEC	Probability and Statistics	MAT310	New course introduced as Skill Enhancement Course for B.Sc Non Medical, 6th sem
9	B. Tech./1	CR	Engineering Mathematics-I	MAT151 (ME/EE/CE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.
10	B. Tech./1	CR	Engineering Mathematics-I	MAT153 (CSE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.
11	B. Tech./2	CR	Engineering Mathematics-II	MAT152 (ME/EE/CE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.
12	B. Tech./2	CR	Engineering Mathematics-II	MAT154 (CSE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.
13	B. Tech./3	CR	Engineering Mathematics-III	MAT251 (ME/EE/CE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared. (common syllabus has been prepared for ME/EE/CE as recommended by Dean UIET)
14	B. Tech./3	CR	Engineering Mathematics-III	MAT253 (CSE)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.
15	B.Tech./4	CR	Discrete Mathematics	MAT212(CS E)	On the recommendations of UIET, adopting AICTE Model Curriculum 2018, new syllabus has been prepared.

Revision in Syllabus

S.N o.	Programme/sem		Subject Name	Subject Code	Remark
1	M.Sc.(Hons.) Mathematics/3rd sem	CR	Numerical Analysis LAB	MAT625	Content Revised

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2	B.Sc Non Medical/1st	CR	Calculus and Matrices	MAT101	Subject name is updated from Calculus to Calculus and Matrices and added some important concepts form matrices topic in 4th unit in the syllabus
3	B.Sc Non Medical/2nd	CR	Differential Equations	MAT102	One unit related to Laplace Transform is added in 4th unit in the syllabus
4	B.Sc Non Medical/3rd	CR	Real analysis	MAT201	A very important topic named Metric Space is added in the previous syllabus
5	B.Sc Non Medical/4th	CR	Algebra	MAT202	Added the topic of De-Moivre's theorems and Expansion of trigonometric functions in 4th unit
6	B.Sc Non Medical/3rd	SEC	Logics and Graph theory	MAT207	Subject name is updated from Logics and Sets to Logics and Graph theory and included the basic concepts from Graph theory in 4th Unit
7	B.Sc Non Medical/4th	SEC	Number theory	MAT208	The syllabus of this course is just revised by adding some basic concept related to number theory
8	B.Sc Non Medical/5th	SEC	Vector Calculus	MAT305	Topics are added in detailed form in each unit as comparsion with the previous one.
9	B.Sc Non Medical/6th	DSE	Integral Calculus	MAT302	Added two important topics like Riemann Integral in 3rd unit and improper Integrals in 4th Unit
10	M.Tech. (CSE)/2		Mathematical Foundation of Computer Science	CSE502(old) of/MAT554(New)	The syllabus was splitted into 8 units and keeping in view the pattern of splition syllabus in the university, it has been divided into 4 units (the syllabus remains same) and the New Code is MAT554
11	MCA		Mathematical Foundation of Computer Science	MAT609(Old) of/MAT551(New)	On recommendations from concerned department, The paper is shifeted from 3rd sem to 1st semester and hence revised code is MAT551
12	BCA/MCA/B.Tech./M.Tech./B.Sc.Agr.(Hons.)/M.Sc(Hons.)Botany/M.Sc.(Agro.)/M.Sc.(Hort.)		All Interdisciplinary Courses (Mathematics)	Course Objectives and course Outcome along with typo errors noticed, were updated

Courses Removed

S.N o.	Programme/sem	Subject Name	Subject Code	Remark
1	B.Sc.IT/2	Discrete Mathematics	MAT106	Teaching load for these courses have not been given to Mathematics faculty for the last two years and as per the information received from the concerned departments, these are not supposed to be taken up by Mathematics faculty.
2	BBA/B.COM/2	Business Mathematic s	MAT211	
3	B.Com and BBA/2	Business Statistics	MAT110	
4	MBA/1	Quantitative Techniques	MAT521	
5	MBA/MCOM/M.Tech(CSE)/2	Research Methodology and IPR	MAT524-19	
6	BBA/B.COM/B.TECH(ME)7th SEM &4th sem	Introduction of Operational research	MAT204	
7	BBA/4	Basics of Research Methodology	MAT206	
8	MBA and M.Tech./B.Tech. (ME,ECE,CE,EE)/M.COM/3	Operational Research	MAT611	

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9	B.Tech(CSE, ECE, ME, EE, CIVIL)/6	Numerical and statistical methods	MAT304
10	B.Tech./7	Optimization techniques	MAT401
11	BCA/3	Mathematical techniques in computer science	MAT203

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