

K. R. MANGALAM UNIVERSITY, GURUGRAM

SBAS		SCHEME OF STUDIES AS PER CBCS (YEAR 2019 - 2021)				M.SC. PHYSICS								
ODD SEMESTER						EVEN SEMESTER								
YEAR	SN	COURSE TYPE	COURSE CODE	COURSE TITLE	C	SN	COURSE TYPE	COURSE CODE	COURSE TITLE	C				
FIRST	1	CC	BSPH701A	MATHEMATICAL METHODS OF PHYSICS-I	4	1	CC	BSPH702A	MATHEMATICAL METHODS OF PHYSICS-II	4				
	2	CC	BSPH703A	ELECTRONICS-I	6	2	CC	BSPH704A	ELECTRONICS-II	6				
	3	CC	BSPH705A	CLASSICAL MECHANICS-I	4	3	CC	BSPH706A	CLASSICAL MECHANICS-II	4				
	4	CC	BSPH707A	NUCLEAR AND PARTICLE PHYSICS	4	4	CC	BSPH708A	ADVANCED SOLID STATE PHYSICS-I	6				
	5	SEC	B SMA811A	ADVANCED MATLAB PROGRAMMING	3	5	SEC	B SMA714A	LATEX LAB	1				
	TOTAL					21	TOTAL					21		
SECOND	1	CC	BSPH801A	ATOMIC AND MOLECULAR PHYSICS-I	4	1	CC	BSPH802A	ATOMIC AND MOLECULAR PHYSICS-II	4				
	2	CC	BSPH803A	ADVANCED QUANTUM MECHANICS-I	4	2	CC	BSPH804A	ADVANCED QUANTUM MECHANICS-II	4				
	3	CC	BSPH805A	ADVANCED SOLID STATE PHYSICS-II	4	3	CC	BSPH806A	NANOTECHNOLOGY	4				
	4	CC	BSPH851A	ADVANCED SOLID STATE PHYSICS-II LAB	2	4	DSE		ELECTIVE	4				
	5	CC	BSPH807A	ELECTRODYNAMICS	4	5	SEC	BSPH812A	DISSERTATION	6				
		CC	BSPH809A	THERMODYNAMICS AND STATISTICAL PHYSICS	4									
	TOTAL					22	TOTAL					22		
Total Credits [C] = 86						Elective Course (Choose any one)								
						1	DSE	BSPH 808A	FABRICATION OF ELECTRONIC DEVICES	4				
						2	DSE	BSPH 810A	LASER FUNDAMENTALS	4				



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M.Sc Physics

BSPH812A	DISSERTATION	L	T	P	C
Version 1.0		0	0	0	6
Total Contact Hours	90				
Pre-requisites/Exposure	Practical exposure				
Co-requisites	--				

Course Objectives

1. To learn how to carry out literature survey
2. To be associated with an area of research/research project and contribute towards domain knowledge.
3. To learn the art of technical report writing
4. To learn the art of verbal communication with the help of modern presentation techniques.

Course Outcomes

On completion of this course, the students will be able to

CO1. Carry out the extensive literature survey.

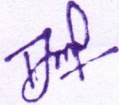
CO2. Learn to write and present technical reports/articles.

CO3. Learn to analyze various methods and techniques applicable to the topic to study and contribute to domain knowledge.

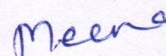
CO4. Learn to analyze/evaluate the result of the experiment carried out and present the results using data visualization methods.

Catalog Description

1. Students will be divided among faculty members of the Department for the supervision of the research work.
2. In the first week of Semester IV, each faculty member will assign a suitable research topic to the students from the selected topics in the areas of chemical sciences.
3. The student will work on the assigned research topic during semester VI in regular consultation with his/her assigned teacher.
4. The student will write a dissertation based on the research work carried out during Semester IV and prepare two copies to be submitted to the office of the Head of the Department duly signed by the student and the supervisor in the sixth week of IV semester or a date decided by the HOD of the department.


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5. Before preparing power point presentation and submission of dissertation, each student has to deliver a seminar talk on his/ her research project work on a date fixed by HOD, necessary suggestions has to be incorporated in the final draft of dissertation.

6. The student will make a power point presentation based on the work carried out and mentioned in the dissertation to the board of examiners appointed by the University.

Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination
Examination Scheme:

Components	Internal (Interaction of Student with Supervisor)	External			Total
		Relevance of topic (20)	Presentation (20)	viva (10)	
Weightage (%)	50	20	20	10	100

Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

Mapping between COs and POs		
	Course Outcomes (COs)	Mapped Program Outcomes
CO1	Carry out the extensive literature survey.	PO1, PO3
CO2	Learn to write and present technical reports/articles.	PO1, PO5, PO8, PO9
CO3	Learn to analyze various methods and techniques applicable to the topic to study and contribute to domain knowledge.	PO2, PO3, PO4, PSO1, PSO4
CO4	Learn to analyze/evaluate the result of the experiment carried out and present the results using data	PO5, PO6, PSO3, PSO3

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visualization methods.

Course Code	Course Title	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PS O1	PS O2	PS O3	PS O4
BSPH8 12A	Dissertation	3	3	3	3	3	3	3	3	3	3	3	3	3	3

1=weakly mapped

2= moderately mapped

3=strongly mapped

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PSO1	PSO2	PSO3	PSO4
CO1	3		3								2			
CO2	3				3			3	3			3		
		3	3	3		3				3				3
											3			

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CO3														
CO4						3	3	3	3		1		3	3
		1=lightly mapped				2= moderately mapped				3=strongly mapped				

RELEVANCE OF THE COURSE TO VARIOUS INDICATORS

Unit	Dissertation
Local	-
Regional	-
National	-
Global	-
Employability	Choice Based Credit System having field projects / research projects / internships (1.3.4) Courses on employability/ entrepreneurship/ skill development (1.1.3); Student centric methods, such as experiential learning, participative learning and problem-solving methodologies (2.3.1)
Entrepreneurship	Entrepreneurship; Team work/ Creativity by designing research problem
Skill Development	Disciplinary knowledge; Research related skills; scientific skills,
Professional Ethics	-
Gender	-
Human Values	-
Environment & Sustainability	-
SDG	Equal Access to TVET and Higher Education (SDG 4.3), Quality Education and skills for employability 4.4
NEP	Higher Education System through scientific temper (9.1.1) India's Higher Education System through scientific temper (9.1.1) Towards a More Holistic and Multidisciplinary Education opportunities for cross-disciplinary and interdisciplinary thinking (11.6); strong culture of research and knowledge creation (17.6) "

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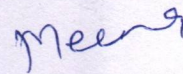
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POE/4th IR

Employability, Project, Hands on Experience, Entrepreneurship; Team
work



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