

Jaypee University, Anoopshahr

**Bachelor of Science (BSc) (H) Physics
Course Curriculum**

(Applicable to batches admitted in 2024-25)



**Faculty of Mathematical and Physical Sciences
July 2024**

**BSc -2024-27/28 Batch
As per UGC FYUGP Guidelines Dec 2022**

Credit Distribution

Summer Training=4	MSC=24	DSCC =48	DSE =16	MDC=9	AEC=8	SEC=9	Value Added=6
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First Semester

Sr.No	Category	Course		Contact Hours				Credit	Course Type univ.
		Code	Name	L	T	P	Total		
1	DSCC	24H11PH101	Mechanics	3	0	0	3	3	Core
2	DSCC	24H11PH102	Electricity and Magnetism	3	0	0	3	3	Core
3	SEC	24H17ME161	Mechanical Design and Prototyping	0	1	4	5	3	Core
4	VAC	24H11GE101	Constitution and Development	3	0	0	3	3	Core
5	MSC	24H11MA105	Mathematical Problem Solving-I	4	0	0	4	4	Core
6	AEC	24H11HS103	Fundamentals of Communication	2	0	0	2	2	Core
7	DSCC	24H17PH361	Physics Lab-I	0	0	4	4	2	Core
Total							24	20	

Second Semester

Sr.No	Category	Course		Contact Hours				Credit	Course Type univ.
		Code	Name	L	T	P	Total		
1	DSCC	24H11PH201	Waves and Optics	3	0	0	3	3	Core
2	DSCC	24H11PH202	Mathematical Problem solving-II	3	0	0	3	3	Core
3	SEC	24H11HS211	English Enhancement-I	3	0	0	3	3	Core
4	VAC	24H11VA103	Yoga and Wellness	2	0	0	2	2	Core
5	MSC	24H11CS202	Computer Application	3	0	0	3	3	Core
6	AEC	24H11BB206	Business Communication	3	0	0	3	3	Core
8	DSCC	24H17PH262	Physics Lab-II	0	0	4	4	2	Core
9	MSC	24H17CS263	Computer Application Lab	0	0	2	2	1	Core
Total							23	20	

Third Semester									
Sr.No	Category	Course		Contact Hours				Credit	Course Type univ.
		Code	Name	L	T	P	Total		
1	DSCC	24H11PH301	Modern Physics	3	0	0	3	3	Core
2	DSCC	24H11PH302	Solid State Physics	3	0	0	3	3	Core
3	SEC	24H11PH303	Basic Electronics	3	0	0	3	3	Core
4	VAC	24H11GE301	Environmental Science	3	0	0	3	3	Core
5	MSC	23H17CA303	Python Programming	3	0	0	3	3	Core
6	AEC	24H11HS306	English Enhancement-II	2	0	0	2	2	Core
7	DSCC	24H17PH361	Physics Lab-III	0	0	2	2	1	Core
8	DSCC	24H17PH362	Basic Electronics Lab	0	0	2	2	1	Core
9	MSC	23H17CA393	Python Programming Lab	0	0	2	2	1	Core
Total							23	20	

Fourth Semester									
Sr.No	Category	Course		Contact Hours				Credit	Course Type univ.
		Code	Name	L	T	P	Total		
1	DSCC	24H11PH401	Thermodynamics	3	0	0	3	3	Core
2	DSCC	24H11PH402	Quantum Mechanics	3	0	0	3	3	Core
3	DSCC	24H11PH403	Electromagnetic theory	3	1	0	4	4	Core
4	MDC	24H11PH404	Digital Electronics	2	0	0	2	2	Core
5	MSC	24H11MA402	Numerical Methods	3	0	0	3	3	Core
6	AEC	24H11HS406	Academic Writing	2	0	0	2	2	Core
7	DSCC	24H17PH461	Physics Lab-IV	0	0	4	4	2	Core
8	MDC	24H17PH464	Digital Electronics Lab	0	0	2	2	1	Core
9	MSC	24H11MA462	Numerical Methods Lab	0	0	2	2	1	Core
Total							25	21	

Summer Internship

		Course		Contact Hours						Course Type univ.
Sr.No	Category	Code	Name	L	T	P	Total	Credit		
1	DSCC	24H19GE491	Summer Internship	0	0	8	8	4	Core	
Total							8	4		

Fifth Semester

		Course		Contact Hours						Course Type univ.
Sr.No	Category	Code	Name	L	T	P	Total	Credit		
1	DSCC	24H11PH501	Statistical Physics	3	0	0	3	3	Core	
2	DSCC	24H11PH502	Nuclear and Particle Physics	3	0	0	3	3	Core	
3	DSE	xxxx	DSE-I	4	0	0	4	4	Elective	
4	MDC	24H11BB511	Intellectual Property Rights	3	0	0	3	3	Core	
5	MSC	xxxx	MSC-V	4	0	0	4	4	Elective	
7	DSCC	24H17PH561	Physics Lab-V	0	0	4	4	2	Core	
Total							21	19		

Sixth Semester

		Course		Contact Hours						Course Type univ.
Sr.No	Category	Code	Name	L	T	P	Total	Credit		
1	DSE	xxxxx	DSE-II	3	0	0	3	3	Elective	
2	DSE	xxxx	DSE-III	3	0	0	3	3	Elective	
3	DSE	xxxxx	DSE-IV	3	0	0	3	3	Elective	
4	MSC	xxxxx	MSC-VI	4	0	0	4	4	Elective	
5	Core	24H19PH681	Project	0	0	8	8	4	Core	
6	DSE	24H17PH661	Physics Lab VI	0	0	6	6	3	Elective	
Total							27	20		

Seventh Semester										
Sr.No	Category	Course		Contact Hours				Credit	Course Type	univ.
		Code	Name	L	T	P	Total			
1	DSE	xxxx	DSE-V	3	0	0	3	3	Elective	
2	DSE	xxxx	DSE-VI	3	0	0	3	3	Elective	
3	DSE	xxxx	DSE-VII	3	0	0	3	3	Elective	
4	MSC	xxxx	MSC-VII	4	0	0	4	4	Elective	
5	Core	24H19PH781	Research Project-I	0	0	8	8	4	Core	
6	DSE	24H17PH761	Physics Lab VII	0	0	6	6	3	Elective	
Total							27	20		

Eighth Semester										
Sr.No	Category	Course		Contact Hours				Credit	Course Type	univ.
		Code	Name	L	T	P	Total			
1	DSE	xxxx	DSE-VIII	3	0	0	3	3	Elective	
2	DSE	xxxx	DSE-IX	3	0	0	3	3	Elective	
3	MSC	xxxx	MSC-VIII	4	0	0	4	4	Elective	
5	Core	24H19PH881	Research Project-II	0	0	16	16	8	Core	
6	DSE	24H17PH861	Physics Lab VIII	0	0	4	4	2	Elective	
Total							30	20		

Total Credit:

BSc 3 year- 124

BSc Honors- 164

Discipline Specific Electives (DSEs)

More will be added

1. Atomic and Molecular Physics
2. Computational Electromagnetics
3. Material Science and Engineering
4. Thin Film Technology
5. Fuel Cell Technology
6. Renewable Energy
7. Nano Technology
8. Solar Energy Materials
9. Advanced Materials
10. Metamaterials
11. Advanced Condensed Matter Physics
12. Advanced Characterization Techniques
13. Fluid Dynamics Simulation
14. Astrophysics
15. Cosmology
16. Solar Physics
17. Astronomical Data Handling
18. Atmospheric Physics
19. General Theory of Relativity
20. Probability and Statistics
21. Photonics
22. Electronic Instrumentation
23. VLSI
24. Sensors and IOT
25. Embedded Systems
26. Optoelectronics
27. Computational Physics
28. Machine Learning for Physics
29. Lasers and applications
30. Optical fibre Communications

Minor Stream Courses

1. Computational Sciences
2. Computational Statistics
3. Artificial Intelligence and Machine learning
4. Object Oriented Programming Using C++

Faculty **Faculty** **CoE** **Assoc. Dean (A)** **Deputy Registrar** **Vice-Chancellor**
coordinator