

Annexure: I

Faculty of Science

Department of Physics

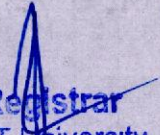
Ordinance, Curriculum & Syllabus

Master of Science (Physics)

(2020-21)



**Shree Guru Gobind Singh Tricentenary
University, Gurugram (Haryana)- 122505, India**


Registrar
SGT University
Budhera, Gurugram

M.Sc. Physics
Syllabus (2020-21)
Program Structure under Choice Based Credit System (CBCS)

SEMESTER	COURSE CODE	COURSE NAME	L	T	P	Contact hours/ week	Credits	Max. Marks	Formative Assessment	Summative Assessment
I	Core Courses (CC)									
	17080101	Mathematical Physics	3	0	0	3	3	100	40	60
	17080102	Mathematical Physics Lab	0	0	4	4	2	100	60	40
	17080103	Classical Mechanics	3	0	0	3	3	100	40	60
	17080104	Classical Mechanics lab	0	0	4	4	2	100	60	40
	17080105	Statistical Mechanics	3	0	0	3	3	100	40	60
	17080106	Statistical Mechanics Lab	0	0	4	4	2	100	60	40
	Ability Enhancement Compulsory Course (AECC)									
	17080107	Professional Ethics & Human Values	2	0	0	2	2	100	40	60
	Skill Enhance Course									
17080108	Computational Methods & Programming (Matlab/Python)	2	0	0	2	2	100	40	60	
Total Credits			13	0	12	25	19	800	380	420
II	Core Courses									
	17080201	Quantum Mechanics	3	0	0	3	3	100	40	60
	17080202	Quantum Mechanics Lab	0	0	4	4	2	100	60	40
	17080203	Electrodynamics and Plasma Physics	3	0	0	3	3	100	40	60
	17080204	Electrodynamics and Plasma Physics Lab	0	0	4	4	2	100	60	40
	17080205	Atomic and Molecular Physics	3	0	0	3	3	100	40	60
	17080206	Atomic and Molecular Physics Lab	0	0	4	4	2	100	60	40
	Ability Enhancement Compulsory Course (AECC)									
	17080207	Research Methodology	2	0	0	2	2	100	40	60
	Skill Enhancement Course (SEC-3)									
17080208	The Physics of Nano Materials	2	0	0	2	2	100	40	60	
Total Credits			13	0	12	25	19	800	380	420
III	17080209	Summer Training (4/6 weeks)	-	-	-	-	4	200	100	100
	Specialization									
	Discipline Specific Elective Courses (DSEC)									
		DSEC-I	3	0	0	3	3	100	40	60
		DSEC-I Lab	0	0	4	4	2	100	60	40
		DSEC-II	3	0	0	3	3	100	40	60
		DSEC-II Lab	0	0	4	4	2	100	60	40
		DSEC-III	3	0	0	3	3	100	40	60
		DSEC-III Lab	0	0	4	4	2	100	60	40
	Skill Enhancement Course (SEC-3) (Common for all the specializations)									
17080301	Laser and its applications	2	0	0	2	2	100	40	60	
Open Elective Course (From University Basket) (Common for all the specializations)										
17080302	OEC	3	0	0	3	3	100	40	60	
Total Credits			14	0	12	26	20	800	380	420
IV	In the fourth semester, there are two options. Students may opt for any one									
	Option-I									
	17080401	*Project Work	0	0	20	20	20	800	400	400

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Option-II (Students may opt any four courses along with their lab except the course of specialization)

17080402	Electronics	4	0	0	4	4	100	40	60
17080403	Electronics- lab	0	0	2	2	1	100	60	40
17080404	Condensed Matter Physics: Basics	4	0	0	4	4	100	40	60
17080405	Condensed Matter Physics: Basics-Lab	0	0	2	2	1	100	60	40
17080406	Introductory Nuclear Physics	4	0	0	4	4	100	40	60
17080407	Introductory Nuclear Physics-Lab	0	0	2	2	1	100	60	40
17080408	Advance Applied Physics	4	0	0	4	4	100	40	60
17080409	Advance Applied Physics-Lab	0	0	2	2	1	100	60	40
17080410	Spectroscopic Techniques	4	0	0	4	4	100	40	60
17080411	Spectroscopic Techniques-Lab	0	0	2	2	1	100	60	40
Total credits		16	0	8	24	20	800	400	400
Grand Total		56	0	56	96	82	3400	1640	1760

*Project Work: The project work may be carried out at in-house labs or some outside agency having required facilities for the specified work. On successful completion of the project, every candidate has to submit a final dissertation/report to their concerned department.

Semester (Credits)	Core Courses	DSE Courses	SE Courses	AEC Courses	Research Training/Advance Courses	Open Elective	Total
I	15	-	2	2	-	-	19
II	15	-	2	2	-	-	19
III	-	15	2	-	-	3	20
IV	-	-	-	-	20	-	20
Total	30	15	6	4	20	3	78
Summer Training (4/6 Weeks) after second semester							04
Online courses from SWYAM (Sem - I to Sem - III) Maximum							09
Grand Total							91
Minimum Credits for award of degree							82

Category	Credits	%
Core Course (CC)	30	40%
Discipline Specific Elective Course (DSEC)	15	17%
Skill Enhancement Course (SEC)	6	7%
Ability Enhancement Compulsory Course (AECC)	4	4%
Research Training	20	22%
Open Elective	3	3%
Summer Training after second semester	4	4%
Online courses from SWYAM (Sem - I to Sem - III)	9	10%
Total	91	

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S.No	DSE Courses	Course Code	Course Name
Electronics			
1	DSEC-I	17080303	Semiconductor Devices
2	DSEC-I Lab	17080304	Semiconductor Devices Lab
3	DSEC-II	17080305	Digital Electronics
4	DSEC-II lab	17080306	Digital Electronics Lab
5	DSEC-III	17080307	Analog and Digital Communication
6	DSEC-III lab	17080308	Analog and Digital Communication Lab
Condensed Matter Physics			
7	DSEC-I	17080309	Basic Concepts in Condensed Matter Physics
8	DSEC-I Lab	17080310	Basic Concepts in Condensed Matter Physics Lab
9	DSEC-II	17080311	Condensed Matter Physics: Physical Properties
10	DSEC-II lab	17080312	Condensed Matter Physics: Physical Properties Lab
11	DSEC-III	17080313	Advanced Condensed Matter Physics
12	DSEC-III lab	17080314	Advanced Condensed Matter Physics Lab
Nuclear Physics			
13	DSEC-I	17080315	Nuclear Physics
14	DSEC-I Lab	17080316	Nuclear Physics Lab
15	DSEC-II	17080317	Advanced Nuclear Physics: Structure and Reactions
16	DSEC-II lab	17080318	Advanced Nuclear Physics: Structure and Reactions Lab
17	DSEC-III	17080319	Experimental techniques in Nuclear Physics
18	DSEC-III lab	17080320	Experimental techniques in Nuclear Physics Lab

for Mike RSR b R5

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