

Department of Physics,
University of Mumbai

Information to M Sc-II students enrolled in University Department of Physics, about the course structure in Semester-III and Semester-IV for the academic year 2013-14.

Semester-III and semester-IV course structure is as follows:

Semester III

M.Sc. in Physics Program for Semester-III consists of four theory courses, one practical course and one Project. The details are as follows:

Theory Courses (4): 16 hours per week (One lecture of one week duration)

Theory Paper	Subjects	Lectures (Hrs)	Credits
PSPH301	Statistical Mechanics	60	04
PSPH302	Nuclear Physics	60	04
*	Elective Course	60	04
*	Elective Course	60	04
Total		240	16

*: To be chosen from the list below with odd-even number combination. Odd numbered course will be paper-3 and even numbered course will be paper-4.

Theory Paper	Subjects	Lectures (Hrs)	Credits
PSPHET301	Nuclear Structure	60	04
PSPHET302	Nuclear Reactions	60	04
PSPHET303	Electronic structure of solids	60	04
PSPHET304	Surfaces and Thin Films	60	04
PSPHET305	Microcontrollers and Interfacing	60	04
PSPHET306	Embedded systems and RTOS	60	04
PSPHET307	Signal Modulation and Transmission Techniques	60	04
PSPHET308	Microwave Electronics, Radar and Optical Fiber Communication	60	04
PSPHET309	Semiconductor Physics	60	04
PSPHET310	Thin Film Physics and Techniques	60	04
PSPHET311	Fundamentals of Materials Science	60	04
PSPHET312	Nanoscience & Nanotechnology	60	04
PSPHET313	Galactic & Extragalactic Astronomy	60	04
PSPHET314	Plasma Physics	60	04
PSPHET315	Group Theory	60	04
PSPHET316	Applied Thermodynamics	60	04
PSPHET317	Quantum Field Theory	60	04

Project (1): 8 hours per week

Project	Course	Total Project period (Hrs)	Credits
PSPHP301	Project-1	120	04

Practical lab courses (1): To be chosen any one from the following courses
8 hours per week

Practical Lab Course	Course	Practical Lab Sessions (Hrs)	Credits
PSPHPAP302	Advanced Physics Lab-1	120	04
PSPHPEP302	Advanced Electronics Lab-1	120	04

Semester IV

M.Sc. in Physics Program for Semester-IV consists of four theory courses, one practical course and one Project. The details are as follows:

Theory Courses (4): 16 hours per week (One lecture of one week duration)

Theory Paper	Subjects	Lectures (Hrs)	Credits
PSPH401	Experimental Physics	60	04
PSPH402	Atomic and Molecular Physics	60	04
**	Elective Course	60	04
**	Elective Course	60	04
Total		240	16

** : To be chosen from the list below with odd-even number combination. Odd numbered course will be paper-3 and even numbered course will be paper-4.

Theory Paper	Subjects	Lectures (Hrs)	Credits
PSPHET401	Experimental Techniques in Nuclear Physics	60	04
PSPHET402	Particle Physics	60	04
PSPHET403	Crystalline & Non-crystalline solids	60	04
PSPHET404	Properties of Solids	60	04
PSPHET405	Advanced Microprocessor and ARM-7	60	04
PSPHET406	VHDL and communication Interface	60	04
PSPHET407	Digital Communication Systems and Python Programming	60	04
PSPHET408	Computer Networking	60	04
PSPHET409	Physics of Semiconductor Devices	60	04
PSPHET410	Semiconductor Technology	60	04
PSPHET411	Materials and their applications	60	04
PSPHET412	Energy Studies	60	04
PSPHET413	Astronomy and Space Physics	60	04
PSPHET414	Laser Physics	60	04
PSPHET415	Liquid Crystals	60	04
PSPHET416	Numerical Techniques	60	04
PSPHET417	Polymer Physics	60	04

Project (1): 8 hours per week

Project	Total Project period (Hrs)	Credits
PSPHP401	120	04

Practical lab courses (1): To be chosen any one from the following courses
8 hours per week

Practical Lab Course	Subject	Practical Lab Sessions (Hrs)	Credits
PSPHPAP402	Advanced Physics Lab-2	120	04
PSPHPEP402	Advanced Electronics Lab-2	120	04

The candidate shall be awarded the degree of Master of Science in Physics (**M. Sc. in Physics**) after completing the course and meeting all the evaluation criteria. The Elective Course Titles will appear in the statement of marks. When the elective courses are chosen from a particular specialization, the statement of marks shall also carry a name of the specializations as stated below.

No.	Group of Elective Courses chosen	Name appearing in the Statement of Marks	Name appearing in the Degree Certificate
1	PSPHET301, PSPHET302 PSPHET401, PSPHET402	M. Sc. in Physics (Nuclear Physics)	M. Sc. in Physics
2	PSPHET303, PSPHET304 PSPHET403, PSPHET404	M. Sc. in Physics (Solid State Physics)	M. Sc. in Physics
3	PSPHET305, PSPHET306 PSPHET405, PSPHET406	M. Sc. in Physics (Electronics-I)	M. Sc. in Physics
4	PSPHET307, PSPHET308 PSPHET407, PSPHET408	M. Sc. in Physics (Electronics-II)	M. Sc. in Physics
5	PSPHET309, PSPHET310 PSPHET409, PSPHET410	M. Sc. in Physics (Solid State Electronics)	M. Sc. in Physics
6	PSPHET311, PSPHET312 PSPHET411, PSPHET404	M. Sc. in Physics (Materials Science)	M. Sc. in Physics
7	PSPHET311, PSPHET312 PSPHET411, PSPHET412	M. Sc. in Physics (Materials for Energy Technology)	M. Sc. in Physics
8	Any other combination of courses	M. Sc. in Physics	M. Sc. in Physics