

Indian Institute of Space Science and Technology

Curriculum and Syllabus for MTech Solid State Technology

SEMESTER I

Code	Course Title	L	T	P	C
PH615	Advanced Electromagnetics	3	0	0	3
PH616	Statistical and Semiconductor Physics	3	1	0	4
PH617	Solid State Physics I	4	0	0	4
PH618	Applied Quantum Physics	4	0	0	4
PH633	Solid State Technology Lab I	0	0	9	3
	Total	14	1	9	18

SEMESTER II

Code	Course Title	L	T	P	C
PH625	Solid State Physics II	3	0	0	3
PH626	Device Physics and Nanoelectronics	3	0	0	3
PH627	Computational Solid State Physics	2	0	3	3
E01	Elective I	3	0	0	3
E02	Elective II	3	0	0	3
PH636	Solid State Technology Lab - II	0	0	9	3
PH653	Seminar	0	0	0	1
PH656	Comprehensive Viva	0	0	0	1
	Total	14	0	12	20

SEMESTER III

Code	Course Title	L	T	P	C
<u>PH755</u>	<u>Project Phase I</u>	0	0	0	14
	Total	0	0	0	14

SEMESTER IV

Code	Course Title	L	T	P	C
<u>PH757</u>	<u>Project Phase II</u>	0	0	0	18
	Total	0	0	0	18

ELECTIVES

Code	Course Title	L	T	P	C
<u>PH687</u>	<u>VLSI Process Technology and Integration</u>	3	0	0	3
<u>PH688</u>	<u>Optoelectronics</u>	3	0	0	3
<u>PH689</u>	<u>Semiconductor Heterostructures and Applications</u>	3	0	0	3
<u>PH691</u>	<u>Semiconductor Devices in Radiation Detection and Sensor Applications</u>	3	0	0	3
<u>PH693</u>	<u>Analog and Digital Signal Processing of Fast Electronic Pulses</u>	3	0	0	3
<u>PH695</u>	<u>Thin Films: Physics and Technology</u>	3	0	0	3
<u>PH700</u>	<u>Semiconductor Devices modeling</u>	3	0	0	3
<u>PH701</u>	<u>Experimental Techniques in Solid State Technology</u>	3	0	0	3
<u>PH702</u>	<u>Advanced Memory Technologies</u>	3	0	0	3
<u>PH668</u>	<u>MEMS and MOEMS</u>	3	0	0	3
<u>PH704</u>	<u>Renewable Energy Technology</u>	3	0	0	3
<u>PH705</u>	<u>Quantum Information</u>	3	0	0	3