

COURSE STRUCTURE

B.Tech. and Double Major (Engineering Physics)

		GROUP-II				SEMESTER												NINTH	TENTH
		FIRST (IC)		SECOND (IC)		THIRD		FOURTH		FIFTH		SIXTH			SEVENTH		EIGHTH		
C O U R S E		MCI101	3-1-0-11	MCI102	3-1-0-11	PHC200 (DC1)	3-0-0-9	PHE202 (E/SO3)	3-0-0-9	PHC514 (DC8)	3-1-0-11	PHC510 (DC10)	3-1-0-11	DE1	3-0-0-9	DE3	3-0-0-9	DUAL DEGREE	DUAL DEGREE
		CYI101	3-0-0-9	PHI101	3-0-0-9	PHC201 (DC2)	3-0-0-9	PHC206 (DC4)	3-0-0-9	PHC515 (DC9)	3-0-0-9	PHC302 (DC11)	3-0-0-9	DE2	3-0-0-9	DE4	3-0-0-9		
		CYI102	0-0-2-2	PHI102	0-0-2-2	PHC203 (DC3)	3-0-0-9	PHC207 (DC5)	3-0-0-9	OE1	3-0-0-9	HSS	3-0-0-9	OE4	3-0-0-9	DE5	3-0-0-9		
		EEl101 Modular	3-0-0-9 (9/2)	MCI103 Modular	2-2-0-5	PHE200 (E/SO1)	3-0-0-9	PHC208 (DC6)	3-0-0-9	MS	3-0-0-9	OE2	3-0-0-9	OE5	3-0-0-9	OE7/HSS	3-0-0-9		
		EEl102 Modular	0-0-3-3 (3/2)	CSI101 Modular	2-1-0-4	E/SO2 Optional	3-0-0-9	PHC209 (DC7)	3-0-0-9	E/SO3 Optional	3-0-0-9	OE3	3-0-0-9	OE6	3-0-0-9	PHC401 (UGP2)	0-0-0-6		
		ECl101 Modular	3-0-0-9 (9/2)	CSI102 Modular	0-0-2-2	PHC204 (DP1)	0-0-2-2	PHC210 (DP3)	0-0-2-2	PHC300 (DP5)	0-0-2-2	PHC303 (DP7)	0-0-2-2	PHC400 (UGP1)	0-0-0-6	--	--		
		ECl102 Modular	0-0-3-3 (3/2)	CEI101	1-0-3-6	PHC205 (DP2)	0-0-2-2	PHC211 (DP4)	0-0-2-2	PHC301 (DP6)	0-0-2-2	PHC304 (DP8)	0-0-2-2	PHS400	0-0-0-0 S/X	--	--		
		ESI101	1-0-0-3	MEI101	3-1-0-11	--	--	--	--	--	--	--	--	--	--	--	--		
		GLI101	1-0-0-3	MSI101	2-0-0-2	--	--	--	--	--	--	--	--	--	--	--	--		
		MEI102	2-0-3-9	CCS102	S/X	--	--	--	--	--	--	--	--	--	--	--	--		
		HSI101	1-0-2-5	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		CCS101	S/X	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
		54		55		49		49		51		51		51		42			

DOUBLE MAJOR (SECOND MAJOR IN OTHER DEPARTMENT)

Department Practical, if any

MONSOON SEMESTER	PHE200* ESO	3-0-0-9	PHC200 DC	3-0-0-9	PHC201 DC	3-0-0-9	PHC202 DC	3-0-0-9	PHC515 DC	3-0-0-9	DE1	3-0-0-9	DE2	3-0-0-9	PHC204	0-0-2-2		
WINTER SEMESTER	PHE202* ESO	3-0-0-9	PHC205 DC	3-1-0-11	PHC207 DC	3-0-0-9	PHC208 DC	3-0-0-9	PHC301 DC	3-0-0-9	DE3	3-0-0-9	DE4	3-0-0-9	PHC210	0-0-2-2		

NOTE: (1) *Two ESOs guided/optional prescribed in the course structure of Double Major program and the same is taken by the students for completion of the course work of the Double Major in the slot of their optional ESO, both the ESOs will fulfil the ESO credit requirement of the Double Major program as well as B.Tech. degree. **(2)** In lieu of Four DCUG (DCPG if the second department does not have any UG program) courses of the of Double Major Program will be considered as OE-1, OE-2, OE-3 & OE-4 of the B.Tech. program of Parent Department and the credits of these courses will be counted for fulfilment of the OE credit requirements.

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LIST OF COURSES FOR COMPLETION OF MINORS

TITLE OF THE MINOR: **Minor in High Energy Physics**

TITLE OF THE MINOR: **Minor in Nanotechnology**

MONSOON SEMESTER		WINTER SEMESTER		MONSOON SEMESTER		WINTER SEMESTER	
PHC202	Mathematical Physics	PHC207	Nuclear Science and Engineering	--	--	PHO400	Nanoelectroics & Nanophotonics
--	--	PHD503	High Energy Physics	--	--	PHO401	Introduction to Quantum Devices
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DETAILS OF THE MINIMUM CREDIT REQUIREMENTS FOR COMPLETION OF B.TECH. PROGRAM AND LIST OF ESO, DE AND OE COURSES

Minimum Credit requirements for Graduation:

- Institute Core (IC) : 109 Credits
- Department Compulsory : 103
- Department Elective : 45
- Department Practical : 16
- Engineering/Science Option : 36
- Open Elective : 63
- HSS+MS : 18 (9+9)
- UGP-1 & UGP-2 : 12 (6+6)

LIST OF E/SO	
Guided	Offered
--	PHE200
--	PHE202

LIST OF DEPARTMENTAL ELECTIVES (DE)	
PHO503	PHD505
PHD400	PHD502
PHD401	PHD501
PHC505	PHD507
PHD506	PHD509
PHD503	PHD510

LIST OF OPEN ELECTIVES (OE)	
PHO300	PHO401
PHO301	PHO402
PHO302	PHO502
PHO400	

Total : **402**

Minimum Credit requirements for completion of Additional Academic Program

Dual Degree (Category-A)		Dual Degree (Category-B)		Double Major	
<ul style="list-style-type: none"> • Departmental Core (DCPG) • DEPG/OEPH • Thesis 	18 Credits 36 Credits 54 Credits Total: 108 Credits	<ul style="list-style-type: none"> • Departmental Core (4 DCUG) of Second Department (Extra credits to be counted in B.Tech part as OE credits) • 2 DCPG & 4 DEPG/OEPG or 1 DCPG & 5 DEPG/OEPG • Thesis 	36 Credits (Not to be counted in M.Tech. Part) 54 Credits 54 Credits Total: 108 Credits	<ul style="list-style-type: none"> • Two ESO courses • Departmental Core (8 DCUG) of Second Department • 4 DE of Second Department 	18 Credits (Not to be counted in the Second Major) 72 Credits 54 Credits Total: 108 Credits