

Department of Earth Sciences

INTEGRATED M.TECH (GEOPHYSICAL TECHNOLOGY)

First Year (Autumn Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	MAN-001	Mathematics-I	BSC	4	3	1	0	3	0	25	-	25	50	-
2	PHN-001	Mechanics	BSC	4	3	0	2	3	2	15	25	20	40	-
3	CEN-105	Introduction to Environmental Studies	GSC	3	3	0	0	3	0	25	-	25	50	-
4	HSN-001B	Communication Skills (Advance)	HSSC	2	1	-	2	2	-	25	-	25	50	-
	HSN-001A	Communication Skills (Basic)	HSSC	2	1	0	2	2	0	25	-	25	50	-
5	HSN-002	Ethics and Self Awareness	HSSC	2	1	1	0	2	0	25	-	25	50	-
6	ESN-101	Introduction to Earth Sciences	PCC	2	2	0	0	2	0	-	-	-	100	-
7	ESN-103	Computer Programming	ESC	4	3	0	2	3	0	15	25	20	40	-

First Year (Spring Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	MAN-006	Probability and Statistics	BSC	4	3	0	2	3	0	15	25	20	40	-
2	PHN-008	Electromagnetic Theory	BSC	4	3	1	0	3	0	25	-	25	50	-
3	ESN-102	Physical Geology	PCC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-104	Crystallography and Mineralogy	PCC	4	3	0	2	3	2	15	25	20	40	-
5	HYN-102	Engineering Hydrology	ESC	4	3	1	-	3	0	20	20	20	40	-

Second Year (Autumn Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	EEN-112	Electrical Science	ESC	4	3	1	-	3	0	20	20	20	40	-
2	ESN-201	Basic Petrology	PCC	4	3	0	2	3	0	15	25	20	40	-
3	ESN-205	Structural Geology-I	PCC	4	3	0	2	3	0	15	25	20	40	-
4	ESN-221	Field Theory	PCC	4	3	1	0	3	0	25	-	25	50	-
5	ESN-223	Geophysical Prospecting	PCC	3	2	1	0	2	0	25	-	25	50	-
6	HSN-ELE	HSS Elective Course	HSSMEC	3	3	0	0	2	0	25	-	25	50	-

Second Year (Spring Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ECN-102	Fundamentals of Electronics	ESC	4	3	1	0	3	0	25	-	25	50	-
2	ESN-202	Sedimentology	PCC	4	3	1	0	3	0	25	-	25	50	-
3	ESN-222	Geology of India	PCC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-224	Geophysical Signal Processing	PCC	4	3	1	0	3	0	25	-	25	50	-
5	ESN-226	Field Training-I (Geology)	PCC	4	-	-	-	-	-	-	-	-	100	-
6	HSN-ELE	HSS Elective Course	HSSMEC	3	3	0	0	3	0	25	-	25	50	-

Third Year (Autumn Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-305	Economic Geology	PCC	4	3	0	2	3	0	15	25	20	40	-
2	ESN-321	Gravity and Magnetic Prospecting	PCC	4	3	0	2	3	0	15	25	20	40	-
3	ESN-323	Electrical Prospecting	PCC	4	3	0	2	3	0	15	25	20	40	-
4	ESN-325	Seismology	PCC	4	3	0	2	3	0	15	25	20	40	-
5	OEC	Open Elective Course	OEC	3	3	0	0	3	-	25	-	25	50	-
6	ESN-391	Technical Communication (Advanced)	PCC	2	0	0	4	-	2	-	50	-	-	50

Third Year (Spring Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-300	CaseStudy	PCC	4	0	0	0	-	-	-	-	-	100	-
2	ESN-322	Electromagnetic Prospecting	PCC	4	3	0	2	3	0	15	25	20	40	-
3	ESN-324	Seismic Prospecting	PCC	4	3	0	2	3	0	15	25	20	40	-
4	ESN-ELE1	Departmental Elective Course-I	PEC	4	3	1	0	3	0	25	-	25	50	-
5	ESN-ELE2	Departmental Elective Course-II	PEC	4	3	1	0	3	0	25	-	25	50	-

Fourth Year (Autumn Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-421	Numerical Modelling in Geophysics	PCC	4	3	1	0	3	0	25	-	25	50	-
2	ESN-423	Geophysical Well Logging	PCC	4	3	0	2	3	0	15	25	20	40	-
3	ESN-ELE3	Departmental Elective Course-III	PEC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-ELE4	Departmental Elective Course-IV	PEC	4	3	1	0	3	0	25	-	25	50	-
5	ESN-499	Seminar-I	PCC	2	0	0	0	0	0	0	0	0	100	-

Fourth Year (Spring Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-406	Plate Tectonics	PCC	3	2	1	0	2	0	25	-	25	50	-
2	ESN-422	Geophysical Inversion	PCC	4	3	1	0	3	0	25	-	25	50	-
3	ESN-424	Petroleum Geosciences	PCC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-ELE5	Departmental Elective Course-V	PEC	4	3	1	0	3	0	25	-	25	50	-
5	ESN-ELE6	Departmental Elective Course-VI	PEC	4	3	1	0	3	0	25	-	25	50	-

Fifth Year (Autumn Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-529	Comprehensive Viva Voce	PCC	2	0	0	0	-	-	-	-	-	100	-
2	ESN-ELE7	Department Elective Course-VII	PEC	4	3	1	0	3	0	25	-	25	50	-
3	ESN-ELE8	Department Elective Course-VIII	PEC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-599	Seminar-II	PCC	2	0	0	0	-	-	-	-	-	100	-

Fifth Year (Spring Semester)

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
1	ESN-500	Dissertation	PCC	18	0	0	0	-	-	-	-	-	100	-

Department Electives

S.No.	Code	Title	Area	Cr	L	T	P	TH	PH	CWS	PRS	MTE	ETE	PRE
DEPARTMENTAL ELECTIVE COURSE-I & II (PEC-I & II)														
1	ESN-372	Geomagnetism	PEC	4	3	1	0	3	0	25	-	25	50	-
2	ESN-344	Basin Analysis	PEC	4	3	1	0	3	0	25	-	25	50	-
3	ESN-374	Marine Geophysics	PEC	4	3	1	0	3	0	25	-	25	50	-
4	ESN-342	Advanced Stratigraphy and Facies Modelling	PEC	4	3	1	0	3	0	25	-	25	50	-
DEPARTMENTAL ELECTIVE COURSE-III & IV (PEC-III & IV)														
5	ESN-471	Geotechnical Investigations	PEC	4	3	1	0	3	0	25	-	25	50	-
6	ESN-473	Magnetotellurics and Geomagnetic depth sounding	PEC	4	3	1	0	3	0	25	-	25	50	-
7	ESN-475	Digital Image Processing	PEC	4	3	1	0	3	0	25	-	25	50	-
8	ESN-477	Strong Motion Seismology	PEC	4	3	1	0	3	0	25	-	25	50	-
DEPARTMENTAL ELECTIVE COURSE-V & VI (PEC-V & VI)														
9	ESN-472	Advanced Seismology	PEC	4	3	1	0	3	0	25	-	25	50	-
10	ESN-474	Advanced Electromagnetic prospecting	PEC	4	3	1	0	3	0	25	-	25	50	-
11	ESN-476	Synthetic Seismogram	PEC	4	3	1	0	3	0	25	-	25	50	-
12	ESN-478	Environmental and Engineering Geophysics	PEC	4	3	1	0	3	0	25	-	25	50	-
13	ESN-583	Petrophysics & Seismic Rock Characterization	PEC	4	3	1	0	3	0	25	-	25	50	-
DEPARTMENTAL ELECTIVE COURSE-VII & VIII (PEC-VII & VIII)														
13	ESN-571	Reservoir Geophysics	PEC	4	3	1	0	3	0	25	-	25	50	-
14	ESN-573	Geotomography	PEC	4	3	1	0	3	0	25	-	25	50	-

Note: As per DFC resolution of Aug. 19, 2013:

(a) IMT (Geological Technology) students may opt for Departmental Elective Course (PEC) and Departmental Core Course (PCC) for GPT courses as PEC, provided they have already taken pre-requisite courses, if any.

(b) IMT (Geophysical Technology) students may opt for Departmental Elective Course (PEC) and Departmental Core Course (PCC) for GLT courses as PEC, provided they have already taken pre-requisite courses, if any.