Department of Mining Engineering

B. Tech. 1st Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC1	NMCI101	Engineering Mathematics - I	3-0-0	Theory	3
2	IDC2	NPHI101	Engineering Physics	3-0-0	Theory	3
3	IDC3	NPHI102	Engineering Physics Lab	0-0-2	Practical	1
4	DSC1	NMNC101	Mine Economics	3-0-0	Theory	3
5	DSC2	NMNC102	Mining Technology Lab	0-0-2	Practical	1
6	ESC1	NMEE101	Mechanics For Engineers	3-0-0	Theory	3
7	AEC1	NHSA101	Communication Skills	1-0-0	Theory	1
8	AEC2	NHSA102	Communication Skills Lab	0-0-2	Practical	1
9	SEC1	NCES101	Engineering Graphics	1-0-3	Theory	2.5
10	VAC1	NESV101	Environmental Science	3-0-0	Theory	3
						21.5

B. Tech. 2nd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	IDC4	NMCI102	Engineering Mathematics - II	3-0-0	Theory	3
2	DSC3	NMNC103	Elements of Mining	3-0-0	Theory	3
3	DSC4	NMNC104	Mine Model Laboratory	0-0-2	Practical	1
4	ESC2	NECE102	Digital Electronics	3-0-0	Theory	3
5	AEC3	NHSA103	Understanding Human Behaviour	2-1-0	Theory	3
6	SEC2	NMES101	Manufacturing Process	2-0-3	Theory	3.5
7	VAC2	NCSV101	Computer Programming	3-0-0	Theory	3
8	VAC3	NCSV102	Computer Programming Lab	0-0-2	Practical	1
						20.5

B. Tech. 3rd Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC3	NMNC201	Mine Surveying	3-1-0	Theory	4
2	DC4	NMNC202	Rock Mechanics	3-1-0	Theory	4
3	DC5	NMNC203	Surface Mining	3-1-0	Theory	4
4	DP3	NMNC204	Mine Surveying Practical	0-0-2	Practical	1
5	DP4	NMNC205	Rock Mechanics Practical	0-0-2	Practical	1
6	ESC3	NGLE201	Geology for Engineering and Sciences	3-0-0	Theory	3
7	AEC4	NCSA201	Cyber Threat Awareness and Prevention	3-0-0	Theory	3
						20

B. Tech. 4th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC6	NMNC206	Rock Breakage	3-1-0	Theory	4
2	DC7	NMNC207	Mine Ventilation	3-1-0	Theory	4
3	DC8	NMNC208	Underground Coal Mining	3-1-0	Theory	4
4	DP5	NMNC209	Rock Excavation Practical	0-0-2	Practical	1
5	DP6	NMNC210	Mine Ventilation Practical	0-0-2	Practical	1
6	ESC4	NMME201	Mining Machinery	3-0-0	Theory	3
7	SEC4	NMSS201	Fundamentals of Marketing	3-0-0	Theory	3
						20

B. Tech. 5th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC9	NMNC301	Underground Metal Mining	3-1-0	Theory	4
2	DC10	NMNC302	Mine Planning and Design	3-1-0	Theory	4
3	DE1		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP7	NMNC303	Numerical Modelling Practical	0-0-2	Practical	1
5	DP8	NMNC304	Mine Planning and Design Practical	0-0-2	Practical	1
6	HSSE1		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
7	DC1 (Minor)/ DC1 (Hons)			3-1-0	Theory	4
8	SDC1 (Minor)/ DP1 (Hons)			0-0-3	Practical	1.5
						21.5

B. Tech. 6th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC11	NMNC305	Mine Digitalization	3-1-0	Theory	4
2	DC12	NMNC306	Mine Legislation and Safety	3-1-0	Theory	4
3	DE2		*To be chosen from the pool.*	3-0-0	Theory	3
4	DP9	NMNC307	Mine Digitalization Practical	0-0-2	Practical	1
5	HSSE2		*To be chosen from the HSS pool. HSS department to contribute courses to the pool below.*	3-0-0	Theory	3
6	DC2 (Minor)/ DC2 (Hons)			3-1-0	Theory	4
7	SDC2 (Minor)/ DP2 (Hons)			0-0-3	Practical	1.5
						20.5

B. Tech. 7th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DE3		*To be chosen from the pool.*	3-0-0	Theory	3
2	DE4		*To be chosen from the pool.*	3-0-0	Theory	3
3	DC3 (Minor)/ DC3 (Hons)			3-1-0	Theory	4
4	SDC3 (Minor)/ DP3 (Hons)			0-0-3	Practical	1.5
5	Project	NMNC401	Project - I	8-0-0	Project	8

B. Tech. 8th Semester Course Structure

Sl.	Course Type	Course Code	Course Name	L-T-P	Course Category	Credits
1	DC4 (Minor)/ DC4 (Hons)			3-1-0	Theory	4
2	DC5 (Minor)/ DC5 (Hons)			3-1-0	Theory	4
3	SDC4 (Minor)/ DP4 (Hons)			0-0-3	Practical	1.5
4	Project	NMNC402	Project - II	8-0-0	Project	8
						17.5

6	Internship	NMNS401	Internship *(40% Weightage for Internship/Vacational Training + 20% Weightage for Coal Mining Excursion+20% Weightage for Metal Mine Excursion+20% Weightage for Survey Camp)* *After 1st Semester: Coal Mine Excursion* *After 3rd Semester: Metal Mine Excursion* *After 5th Semester: Survey Camp* *After 2nd or 3rd Year: Vocational Training/Internship* *The final weightage will be credited in the 7th Semester under course type "Internship")*	0-0-0	Internship	4
						23.5

POOLS/TABLES

MINOR TABLE

Title of Minor			Mining Engineering				
Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	DC1 (Minor)	NMNC203	Surface Mining	3-1-0	Theory	4	5
2	SDC1 (Minor)	NMNM301	Basic Mining Technology Practical	0-0-3	Practical	1.5	5
3	DC2 (Minor)	NMNC208	Underground Coal Mining	3-1-0	Theory	4	6
4	SDC2 (Minor)	NMNM302	Basic Mine Model Practical	0-0-3	Practical	1.5	6
5	DC3 (Minor)	NMNC301	Underground Metal Mining	3-1-0	Theory	4	7
6	SDC3 (Minor)	NMNM401	Basic Mine Surveying Practical	0-0-3	Practical	1.5	7
7	DC4 (Minor)	NMNC207	Mine Ventilation	3-1-0	Theory	4	8
8	DC5 (Minor)	NMNC306	Mine Legislation and Safety	3-1-0	Theory	4	8
9	SDC4 (Minor)	NMNM402	Basic Mine Ventilation Practical	0-0-3	Practical	1.5	8
						26 - Minor	

HONORS TABLE

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	DC1 (Hons)	NMNH301	Mine Environmental Engineering	3-1-0	Theory	4
2	DP1 (Hons)	NMNH302	Mine Environmental Engineering Practical	0-0-3	Practical	1.5
3	DC2 (Hons)	NMNH303	Seabed and Extra-Terrestrial Mining	3-1-0	Theory	4
4	DP2 (Hons)	NMNH304	Rock Mechanics Practical -II	0-0-3	Practical	1.5
5	DC3 (Hons)	NMNH401	Geospatial Technology in Mining	3-1-0	Theory	4
6	DP3 (Hons)	NMNH402	Geospatial Technology Practical	0-0-3	Practical	1.5
7	DC4 (Hons)	NMNH403	Numerical Modelling for Mining Application	3-1-0	Theory	4
8	DC5 (Hons)	NMNH404	Coalbed Methane	3-1-0	Theory	4
9	DP4 (Hons)	NMNH405	Coalbed Methane Practical	0-0-3	Practical	1.5
						26 - Hons.

POOL of ESC (except MS & HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	ESC3	NMNE201	Introduction to Rock Mechanics	3-0-0	Theory	3	3
2	ESC4	NMNE202	Introduction to Mine Environment	3-0-0	Theory	3	4

POOL of AEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**
1	AEC	NMNA201	Mine Automation and Robotics	3-0-0	Theory	3
2	AEC			3-0-0	Theory	3

POOL of SEC (except HSS)

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Semester**
1	SEC			3-0-0	Theory	3	3
2	SEC	NMNS201	Critical Minerals and Urban Mining	3-0-0	Theory	3	4

POOL of UG DE course

Sl.	**Course Type**	**Course Code**	**Course Name**	**L-T-P**	**Course Category**	**Credits**	**Level of Course**
1	DE	NMND301	Modern Surveying Techniques	3-0-0	Theory	3	**3**
2	DE	NMND302	Geostatistics and Mine Valuation	3-0-0	Theory	3	**3**
3	DE	NMND303	Underground Construction Engineering	3-0-0	Theory	3	**3**
4	DE	NMND304	Ground Control Engineering	3-0-0	Theory	3	**3**
5	DE	NMND305	Open Pit Slope Design and Analysis	3-0-0	Theory	3	**3**
6	DE	NMND306	Mine Closure and Reclamation	3-0-0	Theory	3	**3**
7	DE	NMND401	Mine Safety Engineering	3-0-0	Theory	3	**4**
8	DE	NMND402	Rock Excavation Engineering	3-0-0	Theory	3	**4**
9	DE	NMND403	Advanced Mine Ventilation	3-0-0	Theory	3	**4**
10	DE	NMND404	Underground Space Technology	3-0-0	Theory	3	**4**
11	DE	NMND405	Deep Coal Mining	3-0-0	Theory	3	**4**
12	DE	NMND406	Advanced Underground Mining Methods	3-0-0	Theory	3	**4**
13	DE	NMND407	Mine System Engineering	3-0-0	Theory	3	**4**