

DEPARTMENT-WISE LIST OF ESOs REQUIRED FOR COMPLETION OF THE ACADEMIC PROGRAM

APPLIED GEOLOGY (GL)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd				
2.	ESO-2	MNE201	Introduction to Mining	Guided	3 rd	GLE201	Geology for Engineering and Science	Monsoon	GP, MN, PE
3.	ESO-3	--	Student's Choice	Open	4 th	GLE202	Resource Geology	Winter	
4.	ESO-4	GPE202	Geophysical Prospecting	Guided	5 th				
APPLIED GEOPHYSICS (GP)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd	GPE202	Geophysical Prospecting	Monsoon	PE
2.	ESO-2	GLE201	Geology for Engineering and Science	Guided	3 rd				
3.	ESO-3	--	Student's Choice	Open	4 th	GPE201*	Earth and Planetary System	Winter	
4.	ESO-4	GPE202	Geophysical Prospecting	Guided	5 th	GPE202*	Geophysical Prospecting	Monsoon	GL, GP
CHEMICAL ENGINEERING (CH)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd				
2.	ESO-2	CHE201	Engineering Thermodynamics	Guided	3 rd	CHE201*	Engineering Thermodynamics	Monsoon	MM
3.	ESO-3	CHE202	Transport Phenomena	Guided	4 th	CHE202*	Transport Phenomena	Winter	CH
4.	ESO-4	--	Student's Choice	Open	5 th				
CIVIL ENGINEERING (CE)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd				
2.	ESO-2	CEE201	Solid Mechanics	Guided	3 rd	CEE201*	Solid Mechanics	Monsoon	ME
3.	ESO-3	CEE202	Fluid Mechanics and Machines	Guided	4 th	CEE202*	Fluid Mechanics and Machines	Winter	CE, ES
4.	ESO-4	--	Student's Choice	Open	5 th				

COMPUTER SCIENCE & ENGINEERING (CS)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd	CSE201	Data Structures and Algorithms	Monsoon	EE, MC
2.	ESO-2	MCC505	Probability & Statistics	Guided	3 rd				
3.	ESO-3	CSE202	Object Oriented Programming	Guided	4 th	CSE202*	Object Oriented Programming	Winter	CS
4.	ESO-4	--	Student's Choice	Open	5 th				

ELECTRICAL ENGINEERING (EE)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	CSE201	Data Structures and Algorithms	Guided	3 rd	EEE202	Utilization of Electrical Energy	Monsoon	
2.	ESO-2	MCC505	Probability & Statistics	Guided	3 rd				
3.	ESO-3	--	Student's Choice	Open	4 th	EEE201	Applied Electrical Engineering	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				

ELECTRONICS ENGINEERING (EC)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd	ECE301	Analog Interface Electronics	Monsoon	
2.	ESO-2	MCC505	Probability & Statistics	Guided	3 rd				
3.	ESO-3	ECE201	Measurements and Instrumentations	Guided	4 th	ECE201*	Measurements and Instrumentations	Winter	EC
4.	ESO-4	--	Student's Choice	Open	5 th				

ENVIRONMENTAL SCIENCE & ENGINEERING (ES)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd	ESE201	Pollution Control and Management	Monsoon	
2.	ESO-2	MCC505	Probability & Statistics	Guided	3 rd				
3.	ESO-3	CEE202	Fluid Mechanics and Machines	Guided	4 th	ESE202*	Atmospheric Science and Climate Change	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				

FUEL, MINERALS AND METALLURGICAL ENGINEERING (FM)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd				
2.	ESO-2	FME221	Particle Technology	Guided	3 rd	FME221*	Particle Technology	Monsoon	
3.	ESO-3	FME222	Introduction to Fuel Technology	Guided	4 th	FME222*	Introduction to Fuel Technology	Winter	FM
4.	ESO-4	--	Student's Choice	Open	5 th				

MATHEMATICS AND COMPUTING (MC)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	CSE201	Data Structures and Algorithms	Guided	3 rd				
2.	ESO-2	MCC505	Probability & Statistics	Guided	3 rd	MCC505*	Probability & Statistics	Monsoon	CS, ES, EE, EC
3.	ESO-3	--	Student's Choice	Open	4 th	MCE301*	Operation Research	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				

MECHANICAL ENGINEERING (ME)

FOR B.TECH (Mechanical Engineering)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	MEE201	Engineering Materials	Guided	3 rd	MEE201*	Engineering Materials	Monsoon	
2.	ESO-2	CEE201	Solid Mechanics	Guided	3 rd				
3.	ESO-3	--	Student's Choice	Open	4 th	MEE202*	Computer Aided Engineering Design	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				

FOR B.TECH (Mining Machinery Engineering)

(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd	MME202	Mining Machinery	Monsoon	MN
2.	ESO-2	CHE201	Engineering Thermodynamics	Guided	3 rd				
3.	ESO-3	MME201	IC Engines	Guided	4 th	MME201*	IC Engines	Winter	MM
4.	ESO-4	--	Student's Choice	Open	5 th				

MINING ENGINEERING (MN)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	MME202	Mining Machinery	Guided	3 rd				
2.	ESO-2	GLE201	Geology for Engineering and Science	Guided	3 rd	MNE201	Introduction to Mining	Monsoon	GL
3.	ESO-3	--	Student's Choice	Open	4 th	MNE202*	Introductory Rock Mechanics	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				
PETROLEUM ENGINEERING (PE)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	GPE202	Geophysical Prospecting	Guided	3 rd	PEE201	Introduction to Petroleum Engineering	Monsoon	
2.	ESO-2	GLE201	Geology for Engineering and Science	Guided	3 rd				
3.	ESO-3	--	Student's Choice	Open	4 th	PEE202	Petroleum Environmental Management	Winter	
4.	ESO-4	--	Student's Choice	Open	5 th				
PHYSICS (PH)									
(Prescribed for the students of its own Department)						(Offered by the Department and Guided for other Department's students)			
Sl. No	No. of ESO	Course Code	Course Name	Status	Sem.	Course Code	Course Name	Sem.	Guided for the Department
1.	ESO-1	--	Student's Choice	Open	3 rd				
2.	ESO-2	PHE200	Biomedical Engineering	Guided	3 rd	PHE200*	Biomedical Engineering	Monsoon	
3.	ESO-3	PHE202	Material Science and Engineering	Guided	4 th	PHE202*	Material Science and Engineering	Winter	PH
4.	ESO-4	--	Student's Choice	Open	5 th				

* - Students of the offering department are eligible to opt the course under ESO.