

IIIT RK Valley
Rajiv Gandhi University of Knowledge Technologies-AP
Department of Metallurgical and Materials Engineering
Course Structure from 2015 Batch Onwards

EI Semester-I

Course code	Name of the Course	L	T&PS	P	Credits
MA2006	FAPDE	2	2	0	4
CY1102	Engineering Chemistry	2	2	0	4
MM1101	Metallurgical Thermodynamics	2	2	0	4
MM1102	Mineral Processing and Extractive Metallurgy	2	2	0	4
MM1103	Fuels Furnaces and Refractories	2	2	0	4
CY1104	Engineering Chemistry Lab	0	0	2	2
MM1702	Mineral Processing and Extractive Metallurgy Lab	0	0	2	2
EN502	Advanced English & Communication Skills Lab-I	0	0	2	2
Total Credits					26

EI Semester-II

Course code	Name of the Course	L	T&PS	P	Credits
MA1201	Engineering Mathematics-II	2	2	0	4
MM1201	Physical Metallurgy	2	2	0	4
MM1202	Iron Making	2	2	0	4
MM1203	Mechanical Behavior of Materials	2	2	0	4
MM1801	Physical Metallurgy Lab	0	0	2	2
MM1802	Mechanical Behavior of Materials Lab	0	0	2	2
CE1102	Engineering Drawing	2	2	0	4
EN602	Advanced English & Communication Skills Lab-II	0	0	2	2
Total Credits					26

E1 Summer Semester

Course code	Name of the Course	L	T&PS	P	Credits
ME1701	Engineering Workshop	0	0	2	2
EN702	Advanced English & Communication Skills Lab-III	0	0	2	2
Total Credits					4

E2 Summer Semester-I

Course code	Name of the Course	L	T&PS	P	Credits
MM2101	Phase Transformations and Heat Treatment	2	2	0	4
MM2102	Steel Making	2	2	0	4
MM2103	Corrosion and Environmental Degradation of Materials	2	2	0	4
MM2104	Metal Forming Technology	2	2	0	4
MM2105	Non Destructive Testing	2	2	0	4
MM2701	Phase Transformations and Heat Treatment Lab	0	0	2	2
MM2702	Corrosion and Environmental Degradation of Materials Lab	0	0	2	2
MM2703	Non Destructive Testing Lab	0	0	2	2
EN802	Advanced English & Communication Skills Lab-IV	0	0	2	2
Total Credits					28

E2 Summer Semester-II					
Course code	Name of the Course	L	T&PS	P	Credits
MM2201	Foundry Technology	2	2	0	4
MM2202	Non Ferrous Extractive Metallurgy	2	2	0	4
MM2203	Welding Engineering	2	2	0	4
MM2204	Introduction to Engineering Polymers	2	2	0	4
MM2205	Materials Characterization Techniques	2	2	0	4
MM2801	Foundry Technology Lab	0	0	2	2
MM2802	Metal Forming & Welding Lab	0	0	2	2
MM2803	Materials Characterization Techniques Lab	0	0	2	2
Total Credits					26
E2 Summer Semester					
Course code	Name of the Course	L	T&PS	P	Credits
CS6101	Programming in C and Data structures	0	0	4	4
CS6701	Programming in C and Data structures Lab	0	0	2	2
Total Credits					6
E3 Semester-I					
Course code	Name of the Course	L	T&PS	P	Credits
MM3700	Mini Project	0	0	4	4
MM3101	Elective-I - Transport Phenomena in Metallurgical Process	2	2	0	4
MM3102	Elective -II- Powder Metallurgy	2	2	0	4
MM3103	Elective-III - Composite Materials	2	2	0	4
	Free Elective-I	2	2	0	4
Total Credits					20
E3 Semester-II					
Course code	Name of the Course	L	T&PS	P	Credits
MM3800	Mini Project	0	0	4	4
MM3201	Elective-IV - Fracture Mechanics and Failure Analysis	2	2	0	4
MM3202	Elective-V- Ferro Alloy Technology	2	2	0	4
MM3203	Elective-VI- Introduction to Ceramic Technology	2	2	0	4
BMXXXX	Free Elective-II	2	2	0	4
Total Credits					20
E3 Summer Semester					
Course code	Name of the Course	L	T&PS	P	Credits
MM3900	Summer Internship				4
Total Credits					4
E4 Semester-I					
Course code	Name of the Course	L	T&PS	P	Credits
MM4700	Project	0	0	6	6
	Elective-VII	2	2	0	4
	Elective-VIII	2	2	0	4
	Free Elective-III	2	2	0	4
Total Credits					18

E4 Semester-II					
Course code	Name of the Course	L	T&PS	P	Credits
MM4800	Project	0	0	6	6
HS3201	Environmental Science	2	2	0	4
	Elective-IX	2	2	0	4
	Free Elective-IV	2	2	0	4
MM4900	Community service	0	0	2	2
Total Credits					20
Grand Total Credits					198
List of Departmental Electives					
S.NO	Name of the Course	L	T	P	Credits
1	Advanced Metallurgical Thermodynamics	2	2	0	4
2	Advances in Iron and Steel Making	2	2	0	4
3	Alloy Design and Advance Materials	2	2	0	4
4	Computational Approach to Materials Science and Engineering	2	2	0	4
5	Diffusion in solids	2	2	0	4
6	Electron Microscopy	2	2	0	4
7	Electronic and Magnetic Properties of Materials	2	2	0	4
8	Energy Materials and Fuel cell Technology	2	2	0	4
9	Environmental Degradation of Materials	2	2	0	4
10	Introduction to crystal elasticity and crystal plasticity	2	2	0	4
11	Introduction to Crystallographic texture and related phenomenon	2	2	0	4
12	Light Metals & alloys	2	2	0	4
13	Materials and Energy balance in Metallurgical Processes	2	2	0	4
14	Nano Materials	2	2	0	4
15	Processing of Semiconducting Materials	2	2	0	4
16	Secondary Steel Making	2	2	0	4
17	Selection of Materials	2	2	0	4
18	Structure of Materials	2	2	0	4
19	Surface Science and Engineering	2	2	0	4
20	Synthesis and Characterization of Nanocomposites	2	2	0	4
21	VLSI Fabrication Technology	2	2	0	4