

No	Information on subject (2019-2020)	
1	Unit name	Metallurgical unit operations I
2	Code	Met-31015
3	Classification	Engineering subject
4	Credit value	2.5
5	Semester/Year offered	1/3
6	Pre-requisite	E.Ph.12011, EM 12002
7	Mode of delivery	Lecture, Tutorial and Assignment
8	Assessment system and breakdown of marks	
	Test (Tutorial, Assignment)	30%
	Mid-term/ final examination	70%
9	Academic staff teaching unit	
10	<p>Course outcome of unit;</p> <p>In this course, students will be able</p> <ol style="list-style-type: none"> to understand the mechanism of different types of metallurgical furnaces to apply the concept of the fluid flow in metallurgical problems to design the chose pipe size, series and parallel 	
11	<p>Synopsis of unit;</p> <p>The course introduces students to the mathematical description of fluid flow and solution of some important flow problems.</p>	
12	<p>Topic</p> <ol style="list-style-type: none"> The nature of fluid and the study of fluid mechanics Viscosity of fluids Pressure measurement Flow of fluids and Bernoulli's equations General energy equations Reynolds number, laminar flow, turbulent flow and energy losses due to friction Velocity profiles for circular sections and flow in noncircular section Minor losses Series pipe line system Parallel and branching pipeline system 	
13	Main reference; Applied fluid mechanics, Robert L Mott	
14	Addition Reading Material;	

