

LESSON PLAN

Discipline: Metallurgical Engineering	Semester: 5th Semester	Name of the Teaching Faculty: Er Suvendu Muduli.
Subject: Foundry Technology Sub code: Th-4 (MTPE 303)	No of days /Week class allotted:03	Semester from Date: 01/7/2026 to 05/11/2026 No of weeks: 21

Course Outcomes:

- CO1. Apply the basic principle of metal casting including sand casting, investment casting, die casting, shell moulding & centrifugal casting.
- CO2. Learn how to select the right materials for specific casting applications and understand the factors that influence material performance.
- CO3. Study the importance of mould materials, gating systems & other components affecting casting quality.
- CO4. Identify the types of defects that occur during the casting process.
- CO5. Provide exposure to advanced and modern foundry technologies.

Month	Week	No of period Available	Class Day	Theory Topic	CO
JULY	1st	1P	03-07-2026	Defination, scope and applications of foundry.	CO1
	2nd	3P	06-07-2026	Principles of casting	CO1
			07-07-2026	Basic steps involved in making a casting	CO1
			10-07-2026	Advantages & disadvantages of metal casting.	CO1
			13-07-2026	Different types of patterns	CO1
	3rd	3P	14-07-2026	Different types of patterns	CO1
			17-07-2026	Different pattern materials	CO1
			20-07-2026	Different pattern materials	CO1
	4th	3P	21-07-2026	Different types of pattern allowances	CO1
			24-07-2026	Different types of pattern allowances	CO1
			27-07-2026	REVISION OF MODULE 1	CO1
	5th	3P	27-07-2026	REVISION OF MODULE 1	CO1

			28-07-2026	CLASS TEST	CO1
			31-07-2026	Types of moulding sand	CO2
AUG	2nd	2P	03-08-2026	Classification of moulding sand	CO2
			04-08-2026	Classification based on grain size & grain shape.	CO2
	3rd	2P	10-08-2026	Classification based on grain size & grain shape.	CO2
			11-08-2026	Facing sand and backing sand.	CO2
	4th	2P	17-08-2026	Testing of moulding sand, moisture content test.	CO2
			18-08-2026	AFS grain fineness number	CO2
	5th	4P	24-08-2026	Clay content test	CO2
			25-08-2026	Permeability number & compressive strength of moulding sand.	CO2
			29-08-2026	Function of binder & types of binders, Discussion on core	CO2
SEP	1st	3P	01-09-2026	Quiz test	CO2
			05-09-2026	Gating system	CO2
			05-09-2026	Function of riser & different types of risers.	CO2
	2nd	2P	07-09-2026	1st Internal Assessment	CO1 & CO2
			08-09-2026	Importance of size and shape of risers in metal casting.	CO3
	3rd	2P	19-09-2026	Directional solidification	CO3
				Chlorinous rule	CO4
	4th	2P	21-09-2026	Construction & operation of cupola.	CO4
			22-09-2026	Gravity die casting	CO4
	5th	2P	28-09-2026	Pressure die casting	CO4
			29-09-2026	Cold chamber & hot chamber process.	CO4
OCT	1st	2P	03-10-2026	True centrifugal & semi centrifugal casting	CO4
				Investment casting process	CO4

	2nd	2P	05-10-2026	CLASS TEST	CO4
			06-10-2026	Real world application of various casting methods.	CO4
	3rd	2P	12-10-2026	Types of casting defects with their remedies. mismatch, blowhole, pinhole, hot tear & shrinkage defects	CO4
			13-10-2026	Misrun ,coldshut, porosity, swell, warpage.	
	5th	4P	26-10-2026	2nd Internal Assessment	CO4 & CO5
			27-10-2026	Automation in foundries CNC machines.	CO5
			31-10-2026	Automation in foundries automated sand mixing & moulding.	CO5
	NOV	1st	02-11-2026	Advanced casting techniques. Ra & Rapid prototyping & 3D printing.	CO5
			03-11-2026	Advanced casting techniques. Thin wall casting & single crystal casting.	CO5

Su
06/08/2026

PREPARED BY
SUVENDU MUDULI
LECTURER (STAGE-II), METALLURGY
OSME, KEONJHAR

1 mb
06/08/2026

HOD
METALLURGY ENGINEERING
OSME, KEONJHAR

W
06.8.26

PRINCIPAL
OSME, KEONJHAR