

Branch Name:	Mechanical Engineering (Production Technology)
Program Code:	ET209
Course Name:	Advance Casting Technology - Practical
Course Code:	2ET2090101P
Pre-requisite Course:	Foundry Technology

Course Objectives:

1. To enhance the knowledge and practice regarding different Foundry processes and their industrial importance.
2. To understand foundry practice, metal casting and process of solidification of metals and alloys.
3. To realize the designing of molds, gating system, casting defects, inspection and testing of castings and modernization of foundries.

Teaching and Examination Scheme:

Credit	Teaching Scheme Hours per week				Evaluation Scheme (Marks)								
					Theory (Marks)				Practical (Marks)				Total (Marks)
	L	T	P	Total	SEE		CCA		SEE		CCA		
					Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
1	-	-	2	2	-	-	-	-	10	25	10	25	50

Subject Contents:

Sr. No	Detail of Practicals	Contact Hours
1	Understanding of different Manufacturing Processes: concepts, application, advantage and Future aspects.	02
2	To Study about Metal mould casting.	02
3	To Study about Continuous casting.	02
4	To Study about Squeeze casting.	02
5	To Study about Vacuum mould casting.	02
6	To Study about Evaporative pattern casting.	02
7	To Study about Ceramic shell casting.	02
8	To perform sand casting operations.	02
9	Demonstration on pouring practice for permanent mould.	02
10	Demonstration on sweep pattern and core making in mould preparation.	02

List of Reference Books:

1. P.N. Rao, "Manufacturing Technology" Vol 1, McGraw Hill India
2. A. K. Chakrabarti, "Casting Technology and Cast Alloys", 1st Edition, PHI Learning Pvt. Ltd.
3. B.Ravi, "Metal Casting- Computer Aided Design and Analysis", PHI Learning Pvt. Ltd.
4. S.N.Tiwari, "Cast Iron Technology Vol-1", CBS Publishers & Distributors.
5. Peter Beeley, "Foundry Technology", 2nd Revised edition, Butterworth-Heinemann Ltd.

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Understand the basic to advanced casting processes.	2 Understanding
CLO2	Apply advanced knowledge of casting for different range of materials.	3 Applying
CLO3	Illustrate foundry techniques for pattern making, mold making, Core making and Inspection of defects.	3 Applying 5 Evaluating
CLO4	Learn the melting practices of different metals.	5 Evaluating
CLO5	Demonstrate metal casting processes for any component.	3 Applying 6 Creating
CLO6	Learn and implementation testing of cast components.	2 Understanding 1 Remembering

Mapping of CLOs with POs & PSOs:

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CLO1	H		M		M						L			M
CLO2		M	M			M		L				L	H	
CLO3	H			M			L		L				M	
CLO4		M			M					L				M
CLO5	M		H				M		M					H
CLO6		M			H						M		H	

H: High, M: Medium, L: Low