Year & Sem:	Course Code: ME3606	Course Name: **Welding Technology**	No. of Credits: 4	L	T&PS	P
				2	2	0

Characteristics of welding arc, machine characteristics, their mutual interaction; synergic and pulsed welding techniques; resistance welding-monitoring and control; study and analysis of heat flow, cooling rates, residual stresses and distortion in welding; weldability and microstructure characterization and procedure selection based on it; welding codes; non-destructive inspection; solid phase and high energy density welding processes; special applications.

References/Text Books:

1. Lancaster, Allen and Unwin, Metallurgy of Welding,
2. Little, R.L., Welding and Welding Technology, TMH
3. Norrish, J. and Woodhead, Advanced Welding processes.

Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations.

Video Lectures (Web Links):

1.
2.

Study Materials (Web Links):

1.
2.

Problems & Solutions (Web Links):

1.
2.

Assignments (Web Links):

1.
2.

Year & Sem:	Course Code:	Course Name: Advanced Manufacturing Processes	No. of Credits: 4	L	T&PS	P
				2	2	0

Advanced machining theory & practices - mechanisms of chip formation, shear angle relations, and theoretical determination of cutting forces in orthogonal cutting; analysis of turning, drilling, and milling operations; mechanics of grinding; dynamometry; thermal aspects of machining; tool wear; economics of machining; processing of polymers, ceramics, and composites; Advanced machining processes - introduction of USM, AJM, ECM, EDM, LBM, and EBM; Advanced forming processes - electro-magnetic forming, explosive forming, electro-hydraulic forming, stretch forming, contour roll forming; Advanced welding processes - EBW, LBW, USW; Advanced foundry processes - metal mould, continuous, squeeze, vacuum mould, evaporative pattern, and ceramic shell casting.