

THEORY & APPLICATIONS OF FORGING & DIE DESIGN - COURSE PLAN



JUNE 11-14, 2018 • CLEVELAND, OHIO

	MONDAY, JUNE 11	TUESDAY, JUNE 12	WEDNESDAY, JUNE 13	THURSDAY, JUNE 14
8 AM	Welcome (Warren) 1. Introduction to Forging (Clarke)	10. Physics Fundamentals (Clarke)	19. Preforming for Impression Die Forging (Moczulewski)	25. Metal Flow and Die Filling 26. Die Wear in Hot Forging (Carbaugh)
9 AM	2. Factors Affecting Forging Process (Kraft)	11. Forging Materials (Clarke)	20. Impression Die Forging (Moczulewski)	27. Low Cost Methods for Making High Quality Forgings (Carbaugh)
10 AM	3. Mechanical Behavior of Materials (Kraft)	11. Forging Materials - cont'd (Clarke)	21. Die Block Design (Moczulewski)	28. Concurrent Part Engineering (Hausermann)
11 AM	4. Stresses Encountered in Forging (Kraft)	12. Contact Fundamentals 13. Thermal Fundamentals (Clarke)	21. Die Block Design - cont'd. (Moczulewski)	29. Die Sinking Concerns (Hausermann)
NOON	Group Lunch	Group Lunch	Group Lunch	Group Lunch
1 PM	5. Forging Loads – Simple Upsetting (Kraft)	14. Why Forging? 14-1. Forging Operations (Walters, Miller)	22. Trimming and Special Processes (Moczulewski)	Problem Solving Session (Break-out into teams)
2 PM	6. Forging Loads – Impression Die Forging 7. Wrap Up (Kraft)	15. Forging Equipment (Walters, Miller)	23. Economics in Die Design (Moczulewski)	Problem Solving Session (Presentations and discussion)
3 PM	8. Mechanical Fundamentals (Clarke)	16. Forging Simulation (Walters, Miller)	24. Examples of Die Design (Moczulewski)	30. Summary of Die Design Course (Clarke)
4 PM	9. Design Exercise (Clarke)	17. Forging Defects 18. Forging Die Failures 18-1. Coal Dust Study (Walters, Miller)		Adjourn by 4:00 pm
EVENING	FREE	FREE	FREE	
INSTRUCTORS ON HAND	Kraft, Clarke	Walters, Clarke, Miller	Moczulewski, Clarke	Carbaugh, Hausermann, Clarke

Breaks of 10 minutes approximately every hour