

Fundamentals and Applications of Sheet Metal Forming



OVERVIEW

This one-day course offers a detailed introduction to sheet metal forming and its applications, and provides a solid background on the issues that influence day-to-day forming processing. The course is for those who are new to sheet metal forming or need to become more proficient in forming terminology, material properties, equipment, procedures development and problem troubleshooting. Course includes lecture, materials and certificate of completion.

COURSE TOPICS

With a flexible curriculum, the class can be customized for each unique group of attendees. Enrollees are able to pre-select up to 10 topics from the list below:

1. Introduction to Sheet Metal Forming
2. Formability and Testing Methods
3. Friction and Lubrication
4. Press Equipment (Mechanical, Hydraulic, and Servo-Drive Press)
5. Forming Dies, Cushion Systems and Sensors
6. Tool Wear, Materials, Treatments and Coatings
7. Blanking and Trimming
8. Bending, Flanging and Hemming
9. Drawing Round and Rectangular Parts
10. Failures in Sheet Metal Parts (Wrinkling, Necking, Fracture, and Springback)
11. Forming Process Modeling and Simulations
12. Forming of Advanced High Strength Steels (AHSS)
13. Hot Stamping Technology
14. Cold and Warm Forming of Aluminum Alloys
15. Use of Servo-Drive Presses to Form AHSS and Al Alloys

This course will start at 8:30 AM and end at 4:30 PM (including 30-minute lunchtime in the classroom) in order to provide sufficient time for instruction and discussion. All attendees will receive certification in this advanced course.



1250 Arthur E. Adams Dr.
Columbus OH 43221
614.688.5000
ewi.org

INSTRUCTORS



Taylan Altan is currently the Chairman of EWI Forming Center. He received his Diploma Ingenieur (equivalent to MS Eng. degree) at the Technical University (now University of Hannover, Germany) in 1962 and M.S. (1966) and Ph.D. (1966) at University of California, Berkeley. Taylan has been a professor of Industrial and Mechanical Engineering at OSU since 1986. Before coming to OSU, he was a staff member (Researcher, Research Leader, Senior. Research Leader) at Battelle Columbus Laboratories (1968-1986) and a Researcher at DuPont (1966-1968). He is a fellow member of several professional societies (CIRP, ASME, ASM International, SME) and Director of the Center for Precision Forming (CPF, an I/UCRC funded by NSF and industry) and the Engineering Research Center for Net Shape Manufacturing (ERC/NSM). Taylan has authored and co-authored more than 500 technical papers and several books on topics, related to manufacturing and metal forming. His latest book is *Sheet Metal Forming – Fundamentals and Applications*.



Hyunok Kim is currently the Technical Director of the EWI Forming Center. His technical expertise includes cold/hot forming technology, tribology in metal forming processes, and forming test / formability analysis / process simulations. Hyunok received his M.S. (2002) at University of Michigan, and Ph.D. (2008) at The Ohio State University in metal forming and manufacturing areas. Since joining EWI in 2008, he has contributed in consulting with small to large- sized metal forming companies, material suppliers, and various OEMs of automotive, heavy manufacturing and shipbuilding in various countries. He is also actively networking with the metal forming industry to develop practical training courses for engineers and designers. Hyunok is an Ohio-certified Professional Engineer (PE) and also actively involved in teaching undergraduate and graduate students as an Adjunct Professor at The OSU College of Engineering. He has authored and co-authored more than 30 technical papers and articles on topics related to manufacturing and metal forming.

Visit ewi.org/ewi-forming-center or contact events@ewi.org for more information.