



MANUFACTURING AND PRODUCTION

Sheet Metal Forming, Pressing and Die Work

3 day course

Classroom, online or in-house

Course overview

Sheet metal fails in only a few ways, splitting, wrinkling or springing back out of tolerance, and each of them is decided by the interaction between material, blank holder and die geometry rather than by press force. This course works on that interaction. Delegates work through sheet material properties that govern formability, including yield ratio, strain hardening exponent and anisotropy. The forming limit diagram is introduced as the tool for judging whether a shape is achievable. Blanking and piercing are covered, including clearance, burr and tool life. Bending follows, with bend allowance, minimum radius and springback compensation. Deep drawing is addressed through draw ratio, blank holder force, draw beads and lubrication. Die construction, clearances and maintenance are covered. Press selection and safety are addressed, including guarding on power presses. Defect diagnosis follows. The course closes on tryout, on part measurement and on scrap and nesting efficiency.

What you will learn

- Assess formability from yield ratio, strain hardening and anisotropy
- Use a forming limit diagram to judge a shape
- Set blanking clearance for burr control and tool life
- Calculate bend allowance and compensate springback
- Control deep drawing through blank holder force, draw beads and lubrication
- Maintain dies and select presses with proper guarding
- Diagnose splits and wrinkles, and improve nesting efficiency

Who should attend

- Press shop supervisors and setters
- Die makers and tooling engineers
- Manufacturing engineers in sheet metal work
- Quality staff measuring formed parts
- Designers of sheet metal components

Course outline

- 01 Splitting, wrinkling and springback
- 02 Material properties that govern formability
- 03 The forming limit diagram
- 04 Blanking, piercing and clearance
- 05 Bending, bend allowance and springback
- 06 Deep drawing, blank holder force and draw beads
- 07 Die construction and press guarding
- 08 Tryout, measurement, defects and nesting

Upcoming dates



Dates	Venue	Format	Fee per delegate
30 September to 2 October 2026	Port Louis, Mauritius	Classroom	USD 995
30 November to 2 December 2026	Online	Online	R6,500
3 to 5 February 2027	Johannesburg, South Africa	Classroom	R14,950
3 to 5 March 2027	Lusaka, Zambia	Classroom	USD 995

Fees and how to register

This 3 day course is **R6,500** per delegate online, **R14,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 995** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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