

University of Pretoria Yearbook 2021

Welding metallurgy 700 (NSW 700)

Qualification	Postgraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	30.00
NQF Level	08
Programmes	BEngHons Metallurgical Engineering BEngHons Metallurgical Engineering Welding Engineering BScHons Applied Science Metallurgy BScHons Applied Science Metallurgy Welding Technology
Prerequisites	No prerequisites.
Contact time	48 contact hours per semester
Language of tuition	Module is presented in English
Department	Materials Science and Metallurgical Engineering
Period of presentation	Semester 1 or Semester 2

Module content

This module examines the basic physical metallurgy and heat treatment of various metals and alloys, and the application of various mechanical testing techniques, microstructural analysis and corrosion testing to characterise metals and alloys. The structure and properties of welds in carbon steels, stainless steels, cast irons, copper and copper alloys, nickel and nickel alloys, aluminium and aluminium alloys and other materials (Ti, Mg, Ta and Zr) are discussed. Defects are discussed and various techniques to avoid the formation of these defects in welds are considered.

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