

# University of Pretoria Yearbook 2022

## Welding metallurgy 700 (NSW 700)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Module credits</b>	30.00
<b>NQF Level</b>	08
<b>Programmes</b>	<a href="#">BEngHons Metallurgical Engineering</a> <a href="#">BEngHons Metallurgical Engineering - Welding Engineering</a> <a href="#">BScHons (Applied Science) Metallurgy</a> <a href="#">BScHons (Applied Science) Metallurgy - Welding Technology</a>
<b>Prerequisites</b>	No prerequisites.
<b>Contact time</b>	48 contact hours per semester
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Materials Science and Metallurgical Engineering
<b>Period of presentation</b>	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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