



# Universiteit van Pretoria Jaarboek 2017

## Basiese fisiese metallurgie 701 (NFM 701)

<b>Kwalifikasie</b>	Nagraads
<b>Fakulteit</b>	<a href="#">Fakulteit Ingenieurswese, Bou-omgewing en Inligtingtegnologie</a>
<b>Modulekrediete</b>	0.00
<b>Programme</b>	<a href="#">BScHons Toegepaste Wetenskap Metallurgie</a>
<b>Voorvereistes</b>	Geen voorvereistes.
<b>Kontaktyd</b>	48 kontakure per semester
<b>Onderrigtaal</b>	Module word in Engels aangebied
<b>Akademiese organisasie</b>	Materiaalkunde en Metallurgies
<b>Aanbiedingstydperk</b>	Jaar

### Module-inhoud

\*Hierdie inligting is slegs in Engels beskikbaar.

This module serves as a bridge into full post graduate studies in physical and mechanical metallurgy for students who do not have a formal first degree in these subjects. The following topics are covered in this module: phases in alloys, diffusion, solidification, the precipitation of second phases in alloys and the recrystallisation and grain growth of single phase alloys, aluminium and its alloys, copper and its alloys, nickel base alloys, the iron-carbon phase diagram, the heat treatment of steels, dislocations and the deformation of metals, engineering strength of metals and alloys, creep deformation, introduction to fracture mechanics and fatigue and failure analysis. This module will, therefore, enable the student to understand the fundamentals that govern alloy design, heat treatment, physical and mechanical properties and behaviour of materials during heat treatment and under stress and will enable the correct selection of alloys for a particular use, the prescription of heat treatments and further mechanical processing of these alloys to achieve the required metallurgical and mechanical properties.

Die inligting wat hier verskyn, is onderhewig aan verandering en kan na die publikasie van hierdie inligting gewysig word.. Die [Algemene Regulasies \(G Regulasies\)](#) is op alle fakulteite van die Universiteit van Pretoria van toepassing. Dit word vereis dat elke student volkome vertrouwd met hierdie regulasies sowel as met die inligting vervat in die [Algemene Reëls](#) sal wees. Onkunde betreffende hierdie regulasies en reëls sal nie as 'n verskoning by oortreding daarvan aangebied kan word nie.