



Semnan University
Faculty of Materials and Metallurgical Engineering

In the name of God

Course Outline

2nd semester 2018/2019

updated on 01/23/2019

<i>Course: Special topics in physical properties of materials</i>		No. of units:2	Level: Graduate
Lecturer: Dr. Habibollahzadeh		Pre-request:	
Internal Phone No: 3383			
Email: ahabibolahzadeh@semnan.ac.ir		Website: http://ahabibolahzadeh.profile.semnan.ac.ir	
Hours per week: 2h		Class No:	
Scope: high temperature intermetallic compounds, high entropy materials, biomaterials			
Assessment	Class activities	Quiz	Final exam
Percent	Unlimited promoting credit via extra class activities	20-40%	60-80%
References: Intermetallic compounds in high temperature applications, High Entropy Alloys, Handbook of Materials for Medical Devices, Ed. Davis			

Schedule

Educational week	Topics	Notes
1	Intermetallic compounds; introduction austenitic stainless steel	
2	Intermetallic compounds; Ni ₃ Al	
3	Intermetallic compounds; NiAl	
4	Intermetallic compounds; γ -TiAl	
5	Intermetallic compounds; Al ₃ Ti	
6	Intermetallic compounds; miscellaneous	
7	High Entropy Alloys; properties and applications	
8	High Entropy Alloys; low-density	
9	High Entropy Alloys, high-density	
10	Biomaterials; stainless steel	
11	Biomaterials; Titanium and its alloys, Nitinol	
12	Biomaterials; biodegradable materials	
13	Seminar	
14	Seminar	
15	Seminar	
16	Seminar	