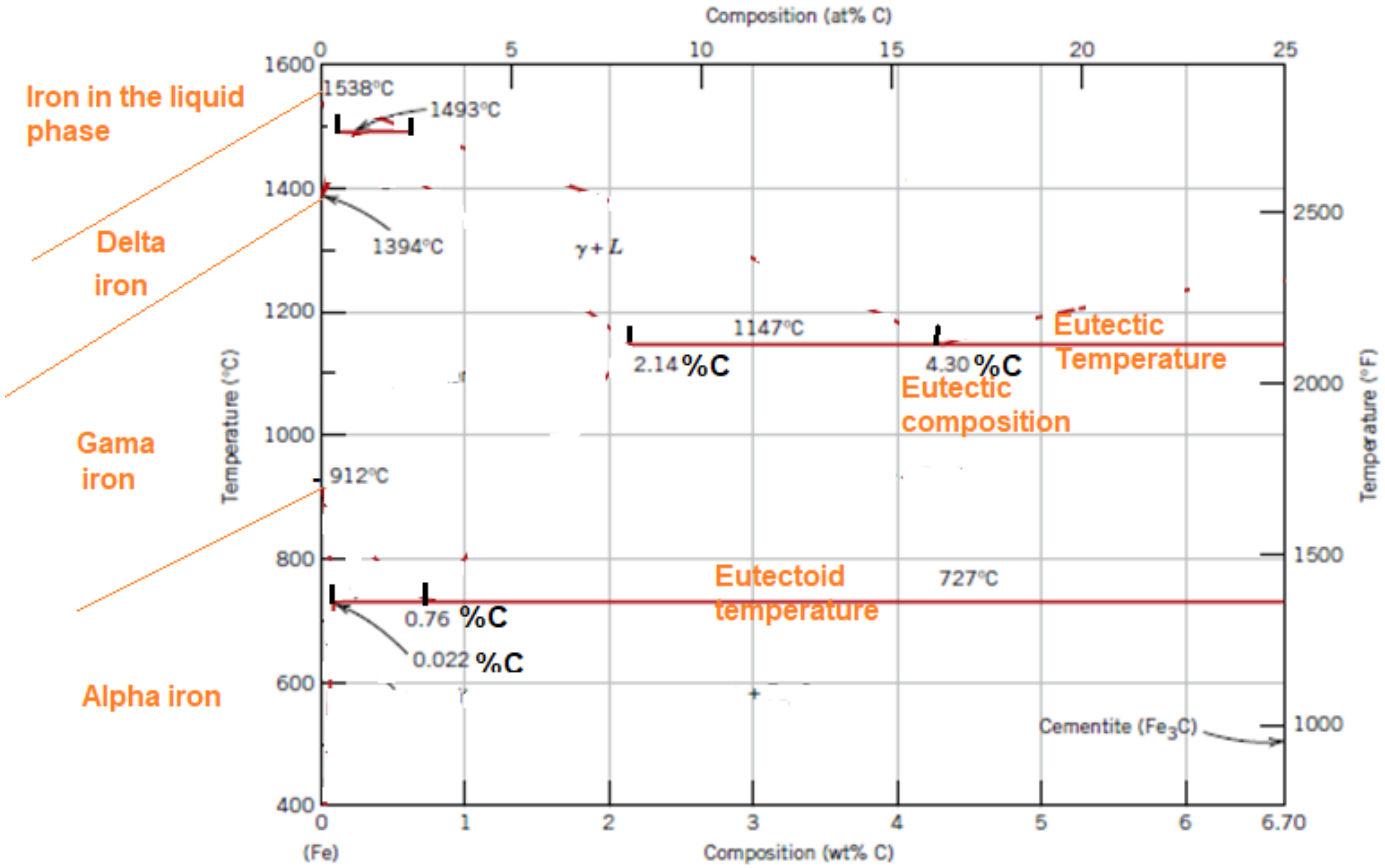
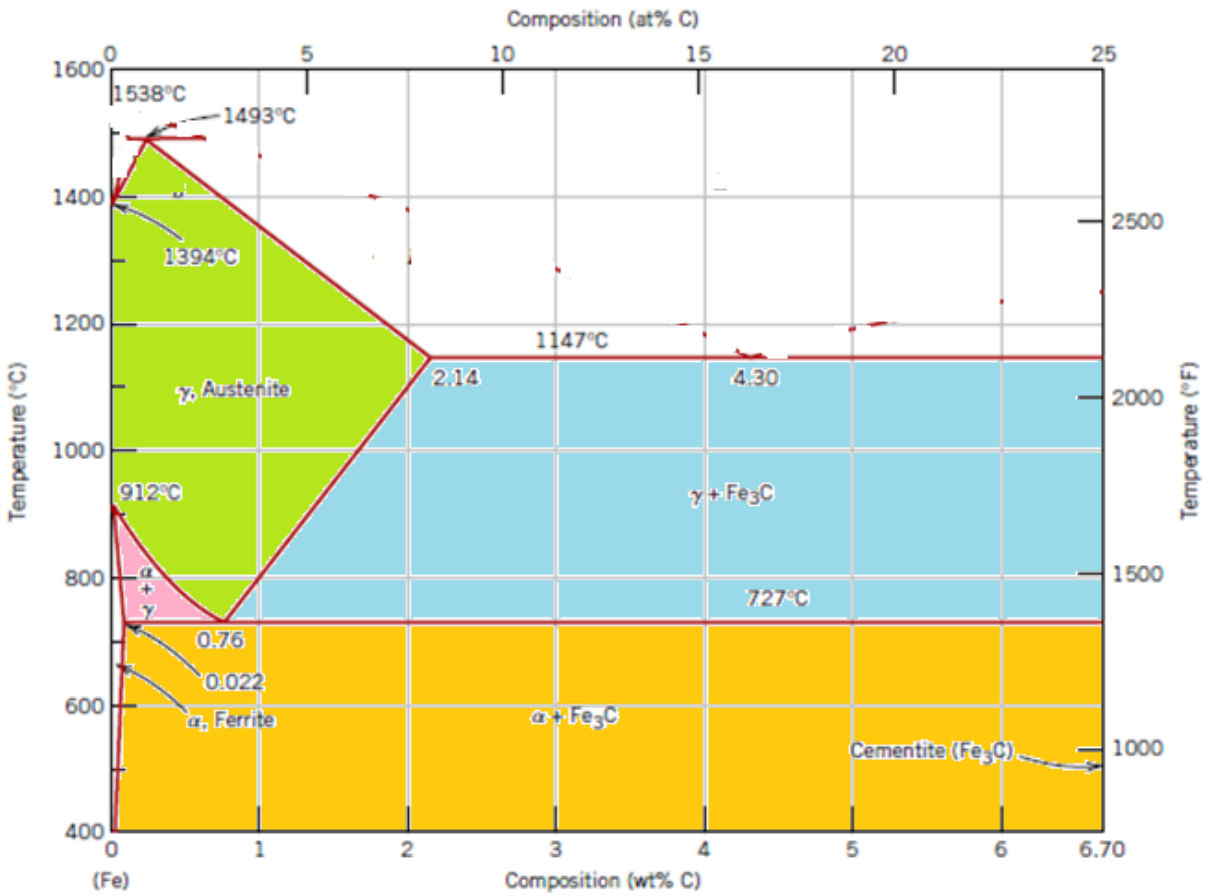
Material Science- Construction of Iron Carbon Phase Equilibrium Diagram

Presented by Professor Ali Hussein Ataiwi




Composition (at% C)
0
5
10
15
20
25
1600
1400
1200
1000
800
600
400
1538°C
1493°C
1394°C
1147°C
2.14
4.30
γ, Austenite
912°C
γ + Fe3C
α + γ
727°C
0.76
0.022
α, Ferrite
α + Fe3C
Cementite (Fe3C)
Temperature (°C)
Temperature (°F)
2500
2000
1500
1000
0
(Fe)
1
2
3
4
5
6
6.70
Composition (wt% C)

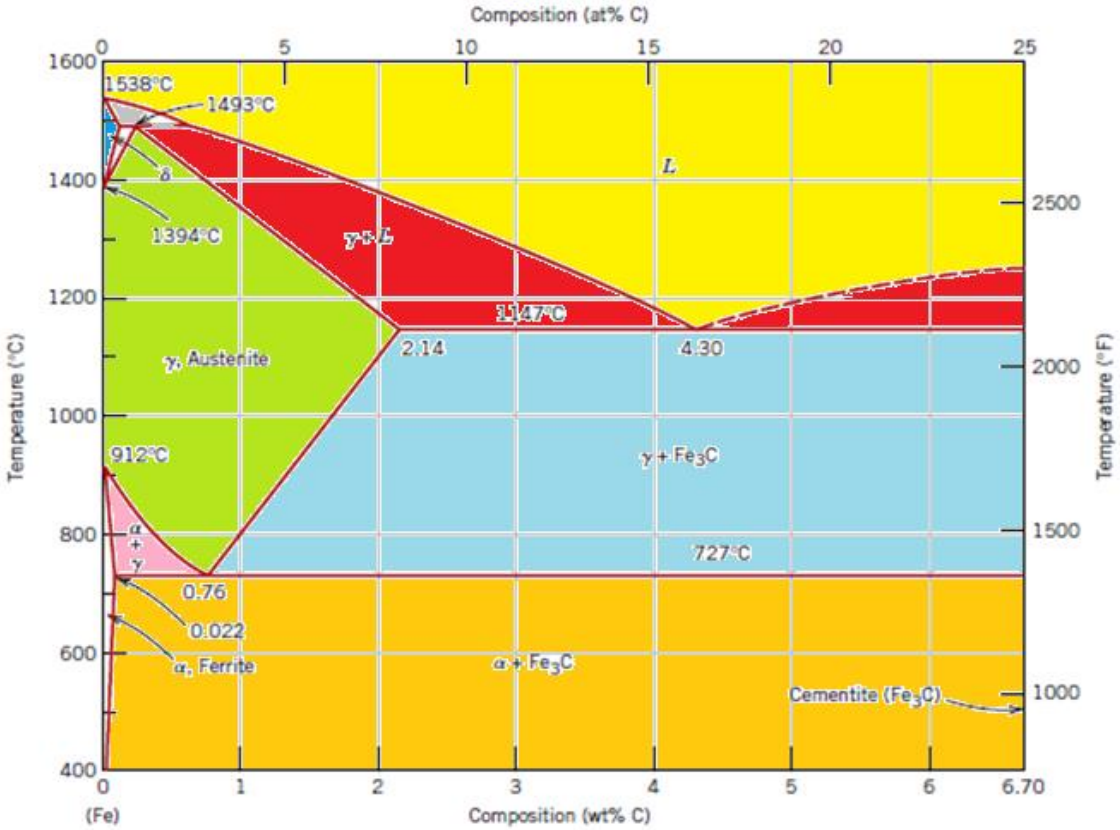


Figure 9.24 The iron–iron carbide phase diagram.