Introduction to Metallurgy  
(MTEN3012)

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Objective

To introduce various basic concepts of metallurgy, such as crystal structure, defects,  
phase diagrams, mechanical properties, and hardening mechanisms. Also introduced are  
strengthening methods and failure process in engineering metals and alloys. The lectures will  
focus on their unique properties, selection, design, and industrial applications.

Teaching philosophy and policies for assignments/tests

(a) I shall try to cover the different topics from the text book as much as possible within the  
limits of the class. However, it may be difficult to cover everything in the textbook on a given  
topic. Therefore, I shall emphasize the important points from different topics.

(b) The Teaching Assistants will be available at their office during office hours for any  
questions. The TA's will also upload the copies of the solution manual on Blackboard after the  
deadline of the homework.

(c) All homework assignments are due in class to me on the days indicated. No late home  
work will be accepted.

(d) No make up exams will be given and I must be notified of any absence in advance.

Grading standard for a class average of 75% or above

90% to 100% - A, 80% to 89% - B, 70% to 79% - C, 60% to 69% - D, 59% or below - F

Grading policy

1. One midterm ................................................................. 30%
2. 5-6 homework assignments ........................................... 30%
3. Final ................................................................. 40%

Total: 100%
# Syllabus

**Introduction to Metallurgy**  
*Professor Donglu Shi*  
*University of Cincinnati*

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