

CHAPTER 20 LEARNING OBJECTIVES

To satisfy the minimum requirements for this course, you should master the following learning objectives.

Explain the three principal methods that are used to separate a mineral from an ore.

Explain the two basic chemical processes that are used to produce a pure metal from a mineral.

Explain the basic steps of the production of iron in a blast furnace.

Describe how steel differs from iron and how it is produced by the basic oxygen process.

Explain how metals are capable of conducting electricity and heat by using the basic principles of Band Theory.

Be able to show how the band structures of conductors, semiconductors and insulators differ from one another.

Explain why aluminum cannot be prepared using the same methods as for iron.

Understand the electrochemistry involved in the Hall process for the production of aluminum.

Understand the meaning of the Key Words on page 907.