

## **MME 310: Fuels, Furnaces and Refractories**

Fuels: Survey of the main engineering fuels: solid, liquid and gaseous fuels. Electrical energy. Non conventional energy, solar, Nuclear, geothermal energy. Classification and testing of fuels. Fuels and energy utilization in the metallurgical industry. Technical and economic considerations in the choice of fuels and energy. Introduction to fuels and energy. Introduction to fuel calculation and technology. Furnaces: Classification of metallurgical furnaces and reactors: blast furnaces, electric furnaces, open hearth furnaces, converters fluidized bed reactors. Refractories: Technology of production and services properties of the main metallurgical refractories. Silica, Magnesite Dolomite, Chromo-magnesite, Alumino-silicates, Carbon refractories. Special refractories. Examples of application in metallurgy. Experimental methods of testing and evaluation of refractories.