This course will provide an introduction into the physics of thermal energy transfer by radiative processes. Fundamental aspects of radiative heat transfer will be presented, as well as, the role of surface material, geometry, and local conditions. Once a basic understanding of the radiative transport process is achieved, the effects of participating media will be introduced. This course will be sufficiently general in nature such that the following typical applications can be considered and better understood:

i) Combustion Systems

ii) Electro-Magnetic Spectrum

iii) Thermal Management in space based vehicles

iv) Material Degradation

vi) Fire and explosions

vii) nuclear blast/process

Curious, email DrD at Peter.Disimile@uc.edu