OUTCOMES BASED LEARNING MATRIX

Course:(PHYS 120)Science of Fire Behavior and Combustion Department Physical Science Revised Submitted F12

At the end of the course, students will be able to: **Students will participate in:** **Faculty will evaluate:**

COURSE OUTCOMES	OUTCOME ACTIVITIES	ASSESSMENT TOOLS
Introduction: - describe the scientific method. - convert between units in various systems using algebraic cancellation of units.	- lectures, discussions, and demonstrations. (CT, QS, OC) - reading the textbook, including sample problems. (CT, R, QS) - solving assigned problems. (CT, R, QS)	- Tests with emphasis on solving problems (CT, W, QS, R) - Class participation (CT, OC, QS)
Physics Overview: - define and describe motion. -Explain relationship between force and motion. -Articulate an understanding of work and its relationship to energy. -describe states of matter. -describe the states of matter.	- lectures, discussions and demonstrations. (CT, QS, OC) - reading the textbook, including sample problems. (CT, R, QS) - solving assigned problems. (CT, R, QS)	- Tests with emphasis on solving problems (CT, W, QS, R)

-articulate how the density of matter affects the behavior of fluids. -describe the properties of static fluids and their relationship to pressure and buoyancy. -describe the properties of fluids in motion and their relationship to pressure. -describe the terms viscosity, surface tension, diffusion, osmosis, and capillary action. -demonstate a working knowledge of thermal energy and its relation to sensible and latent heat. -demonstrate a working knowledge of the gas laws and temperature scales. -describe vapor pressure and the heat of combustion. -articulate an understanding of forms of heat transfer; conduction, convection and radiation.		

Fire Behavior and Combustion: -Categorize the components of a fire. -explain the physical and chemical properties of fire. -describe and apply the process of burning. -define and use the basic terms and concepts associated with the chemistry and dynamics of fire. -discuss the various materials and their relationship to fires as fuel. -demonstrate knowledge of the characteristics of water as a fire suppression agent. -articulate other suppression agents and strategies. -compare other methods and techniques of fire extinguishments. .	- lectures, discussions and demonstrations. (CT, QS, OC) - reading the textbook, including sample problems. (CT, R, QS) - solving assigned problems. (CT, R, QS)	- Tests with emphasis on solving problems (CT, W, QS, R)