

## OUTCOMES BASED LEARNING MATRIX

Course: **Hydraulics and Water Distribution Systems** Department: **Fire Science Technology**

| *COURSE OUTCOMES   | OUTCOMES ACTIVITIES  | ASSESSMENT TOOLS  |
|--|--|---|
| 1. Have a complete understanding of the principles of fluid behavior and the hydraulic properties of water.  | 1. Carefully read the appropriate sections in text and handout material; (R,CT)<br>2. Attend class and take appropriate notes; (W)<br>3. Do assignments in text; (R,CT,QS,W) | 1. Hand in assignments; (R,CT,QS,W)<br>2. Written exam; (R,CT,QS,W)   |
| 2. Have the ability to determine quantities of water available through various devices and systems given opening size and pressure available.<br>3. Be able to conduct fire flow tests to determine maximum flow from a system to provide fire protection. | 1. Carefully read the appropriate sections in text and handout material; (R,CT)<br>2. Attend class and take appropriate notes; (W)<br>3. Do assignments in text; (R,CT,QS,W) | 1. Hand in assignments; (R,CT,QS,W)<br>2. Written exam; (R,CT,QS,W)<br>3. Case study/role playing to show problem solving using policies and procedures; (OC,CT,R,W)<br>4. Oral presentation critiqued by instructor, class, and/or self (OC, CT, R, W) |
| 4. Be aware of the relationship between elevation, pressure and velocity of fluids in a closed system.   | 1. Carefully read the appropriate sections in text and handout material; (R,CT)<br>2. Attend class and take appropriate notes; (W)<br>3. Do assignments in text; (R,CT,QS,W) | 1. Hand in assignments; (R,CT,QS,W)<br>2. Written exam; (R,CT,QS,W)   |
| 5. Have an understanding of various types of pumps.<br>6. Have the ability to determine nozzle and engine pressures on the fire ground.  | 1. Carefully read the appropriate sections in text and handout material; (R,CT)<br>2. Attend class and take appropriate notes; (W)<br>3. Do assignments in text; (R,CT,QS,W) | 1. Hand in assignments; (R,CT,QS,W)<br>2. Written exam; (R,CT,QS,W)   |
| To strengthen Core Competencies** in order to increase success in this and other courses and in the workplace.   | Referenced above   | Referenced above.   |

Core Competencies that apply to the outcomes activities and assessment tools: Critical Thinking (CT); technology skills (TS); oral communications (OC); quantitative skills (QS); reading (R); writing (w).