

## CEE 413/613 – WATER RESOURCES ENGINEERING

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**COURSE OBJECTIVES:** At the end of this course, you should be able to:

- Understand water resources sustainability.
- Summarize the allocation of water supply in the southwest United States.
- Quantify various components of the surface and subsurface hydrologic cycle.
- Apply Darcy's Law for 1-D flow and radial flow to wells.
- Apply the principles of fluid mechanics to pressure pipe flow and pumps in engineering systems.
- Quantify the major and minor losses in a pressure pipe systems.
- Design a system that conveys water or wastewater through pipes and pumps.
- Apply Manning's equation for open channel flow.
- Compute the water surface profile for steady state flow, and uniform and non-uniform conditions.