

NorthWest Arkansas Community College
Division of Business and Computer Information

DRFT 2493 – Building Systems (On Demand)

Catalog Description:

This course covers the essentials of producing building systems drawings for the architectural environment. Topics include plumbing, mechanical (HVAC), and electrical systems for residential and commercial buildings including applicable code requirements.

Prerequisites:

DRFT 2353, DRFT 2363

Credit hours/Contact Hours/Load hours:

3/3/3

Target Audience/Transferability:

This course is an elective for the AAS CAD degree with the Architecture option and is non-transferable

Student Learning Outcomes:

Students will:

- Produce electrical, plumbing, HVAC, and alarm system drawings
- Produce security, fire, and hazard alarm system drawings
- Define principles of electric power distribution for buildings
- Define the principles of heat flow and insulation value of materials
- Define principles of water supply, waste, and venting
- Define the basic operation of HVAC equipment, plumbing and piping systems, and electrical distribution systems

Topics:

- Electrical terms, definitions, and symbols
- Electrical circuit design
- Electrical design considerations
- Plumbing terms and definitions
- Sizing of plumbing pipes
- Plumbing schedules
- Drainage vent systems
- Solar hot water
- Fire sprinkler systems
- HVAC symbols and definitions
- Central forced air systems
- Radiant heat
- Heat recovery and ventilation
- Thermal calculations for heating and cooling
- Energy conservation

Forms of Assessment:

- Completion of several small drawing assignments
- Tests/quizzes on commands and concepts
- Final Project submitted electronically and on paper