

## **Advanced OWTS Installer Select CEU Subject Matter Criteria**

- Math: calculate minimum sizing of advanced or alternative systems, effluent
- pump capacity calculations, pump selection, and slope and elevation calculations
- Construction Permit Application Forms and Procedures
- Interpreting Engineered OWTS Plans
- Slope/Elevation Measurements
- Soils: interpreting information on soil morphology evaluation reports,
- recognizing site/soil limitations, site suitability for advanced or alternative
- systems, installation procedures to protect soil properties, use/placement of fill
- soil material, soil water movement, surface and groundwater drainage
- systems/curtain drains, soil stability, and erosion control/management
- Sewage Pipe Standards and Pipe Bedding Practices
- Excavation Equipment Safety and Use
- Health and Safety: biologic hazards and electrical hazards
- Sewage Tanks: tank installation requirements, bedding methods for sewage
- tanks, practices to ensure watertight tank connections and risers, ATU installation,
- purpose and installation of inlet and outlet devices, types and selection of effluent
- screens, grease trap tank requirements, and holding tank requirements
- Advanced Pretreatment Systems: composition of wastewater, function of ATUs,
- function of advanced treatment systems, media bio-filter installation/construction,
- and installation of constructed wetlands
- Alternative Distribution Methods: pressure distribution, timed and demand
- dosing, and
- installation/operation of dosing controls and alarms
- Advanced or Alternative Soil Absorption Fields: construction planning for
- alternative systems, layout of alternative systems, installation of low-pressure
- distribution networks, installation of subsurface drip irrigation systems, and
- installation of mound/at-grade systems
- Operation & Maintenance: sewage tank pumping requirements, effluent pumps
- and controls, media filters, advanced or alternative systems, and scheduled
- maintenance checks
- Troubleshooting: homeowner use of system (questions/interview), flow
- rates/metering, infiltration/inflow, soil limitations, surface/subsurface drainage
- issues, tank function, effluent screens, advanced pretreatment system function,
- gravity distribution system function, pressure distribution systems function, and
- soil treatment system function

General CEU subject matter listed below will be accepted for any OWTS professional, but will not satisfy select criteria requirements unless it is listed with Select CEU Subject Matter.

DHSS approved continuing education units meeting any select criteria would also satisfy general CEU requirements

- Health and Safety Topics: pathogens in wastewater, health effects of exposure to wastewater, chemical hazards, confined space hazards, how to protect against health risks, trench safety and related soils issues, physical safety, electrical safety, and general first aid
- Business Practice Topics (related to OWTS industry): ethics, marketing, legal issues, and business records
- OWTS Regulations: Missouri Onsite Laws (DHSS), registration requirements and process, standards of practice, construction permit requirements/exemptions, permit application process, State Minimum Construction Standards (DHSS), Local onsite ordinances, water supply well requirements and setbacks, Missouri Residential Housing Unit Rule (DNR), land disturbance rules, transportation regulations, utility locate requirements (Missouri One Call), decentralized (OWTS and/or cluster systems) Management (EPA), Clean Water Act related to OWTS and decentralized systems, watershed protection, and groundwater protection
- Procedures for Removing an OWTS from Service
- Plant and Soil Science
- Sustainable Onsite Wastewater Treatment Options
- Water Conservation/Water Management
- OWTS Math