WTI: An Online Water and Wastewater Technician Education Program

The water and wastewater industries are facing critical workforce shortfalls in the coming years as existing operators retire and gaps in tacit knowledge are created. According to the Bureau of Labor Statistics’ 2012 Occupational Outlook Handbook, job prospects are expected to be excellent for the next decade. An associate degree in Water Resource Management has been established through funding from the National Science Foundation’s Advanced Technological Education (ATE) program to address these workforce needs.

The degree program consists of 60 hours of academic credit, including general education, core science requirements (mathematics, chemistry, biology, etc.) and concentration-specific courses in water or wastewater technologies. The majority of the courses in the degree program are available on-line to meet the nationwide need, with the exception of the required internship component. Students are paired with a utility in their geographic area to gain hands-on experiences required for operator licensure.

This degree program was developed and refined by a Steering Committee comprised of industry representatives including trade associations and utility partners, as well as government regulatory agencies and other educational entities. These linkages ensure the degree program remains relevant to industry needs.

Several articulation options are available to students who wish to continue their education beyond a 2-year degree. Students have successfully transitioned to, and completed, bachelor degrees in Technology Management and Interdisciplinary Studies. An additional avenue through the Systems Management 4-year degree is also being pursued.

Although initially envisioned as a workforce development initiative to bring new talent into the water industry, it was discovered that many individuals already working in this industry were also interested in enrolling for professional development and career advancement opportunities. Therefore, many of the courses have been reviewed by state certification boards and granted continuing education credits.

Successes of the program include graduates who are being hired by the utilities where they conducted their internships, students who are gaining a comprehensive knowledge of the treatment components, infrastructure and operations of water systems, and an infusion of both highly-skilled technicians who understand the theory and concepts behind water operations, as well as existing operators gaining advanced knowledge in their field.
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