EVT 250 Water Collection & Distribution

Course Description: Piped network systems will be studied for wastewater collections and drinking water distribution. Topics of discussion will include piping, storage, pumping, disinfection, monitoring, maintenance, construction, rehabilitation, trench safety, facility security, and confined space concerns.

Prerequisites(s): AFL 085, and AFM 095 or MAT 120, or appropriate placement test scores

Corequisite(s): No co requisite

Lecture Hours: 2	Lab Hours: 2	Credit Hours: 3
Lab Fee: 70	Supplemental Fee: 0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web	□ Hybrid	x Classroom
Semesters Offered: □ Fall	□ Spring	x Summer

Course Primary Texts:

Title: Operation and Maintenance of Wastewater Collection Systems, Vol.1	Edition: 8th Edition 2018
Author(s): US Department of Health and Others	
Publisher: ISBN 978-1-323-79656-6	

Title: Water Distribution System Operation and Maintenance	Edition: 7th Edition 2018
Author(s): US Department of Health and Others	
Publisher: ISBN 978-1-323-83891-4	

Supplemental Materials:

Handouts, lists of YouTube videos watched in class, lists of web sites reviewed in class

Course Outcomes:

1	a. An ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities;
2	c. An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments;
3	d. An ability to function effectively as a member of a technical team;

4	f. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature;
5	A commitment to quality, timeliness, and continuous improvement.

Course Topics:

Week 1	Introduction to Sanitary Sewer Systems
Week 2	Introduction to Water Distribution Systems, Lead & Copper Sampling Programs
Week 3	Disinfection of Potable Water and Water Lines, Lab: Free & Total Chlorine Analysis, HACH DR900
Week 4	Sewage Flow Calculations, Manning's n coefficient, pipe materials
Week 5	Sewage Lift Station and Water Booster Stations, Pumping, Horsepower
Week 6	SCADA and Telemetry, Automatic Controls, Remote Communications, Lab: Identify parts of SCADA
Week 7	Sewer Maintenance, CMOM Introduction
Week 8	Water and Sewer System Modeling, Lab: Unidirectional Flushing Program Set-up/Planning
Week 9	Water System Maintenance, Unidirectional Flushing and Valve Exercising Programs
Week 10	Stormwater Concerns and I/I Management in Sanitary Sewers, More CMOM, SSO's
Week 11	Trench Safety and Construction Issues
Week 12	Identification of Water and Sewer Facilities in Your Neighborhood, Lab: Finding Local Facilities
Week 13	Lab: Facilities Tour - Visit water distribution and storage sites, sewer collection and pumping sites
Week 14	Site Security, Cyber Security, Camera Systems, Locks, Fences
Week 15	Utility Billing, Meter Reading Systems, Water and Sewer Mishaps, Review, Final Exam

Methods of Evaluation/Assessment

□ Formative: □ Summative

List assessment activities (e.g. quizzes, discussions, essays, research papers, debates, oral presentations, exams):

quizzes
exams
lab practical, lab report
homework
group/class attendance and participation in discussion
oral presentation

Course Keeper: David Walling Date Completed: 04/12/2019