EVT 247 Advanced Sampling and Analysis

Course Description: A course on sampling equipment and methods used to evaluate hazards in industrial settings and after natural disasters . Topics include: equipment and instruments used to detect biological and chemical warfare agents. Students provide transportation to off-campus field trips.

Prerequisites(s): EVT 105 and EVT 170 **Corequisite(s):** No corequisite

Lecture Hours: 1	Lab Hours: 2	Credit Hours: 2
Lab Fee: 70	Supplemental Fee: 0	Purpose: Enhance student ability to perform calibration and field monitoring using state-of-the-art monitoring and detection equipment.
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web	□ Hybrid	☒ Classroom
Semesters Offered: ☒ Fall	□ Spring	□ Summer

Course Primary Text:

Title:	Edition:
Author(s):	
Publisher:	

Supplemental Materials:

All course materials are provided to the students via electronic means. These consist of class material from lecture, as well as technical data and user resources for the specific monitoring equipment used in the class lab sessions

Course Outcomes:

1	An ability to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities
2	An ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge

3	An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments
4	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
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Course Topics:

Week 1	Sampling Plans, North American Emergency Response Guide use and practice
Week 2	Water contamination and sampling for Surface Water
Week 3	Water Contamination and Sampling for Ground Water
Week 4	Toxic Industrial Chemicals
Week 5	Toxic Industrial Chemicals and detection Methods
Week 6	Confined Space Monitoring and Safety Practices
Week 7	Biological Agents as Weapons of Mass Destruction and Sampling for Biological Agents
Week 8	Chemical Warfare Agents Detection Technology
Week 9	Ionizing Radiation Theory and Detection
Week 10	Ionizing Radiation Theory and Detection
Week 11	Noise Monitoring
Week 12	Particulate Monitoring
Week 13	Project Presentations
Week 14	Project Presentations
Week 15	Final Exam

Methods of Evaluation/Assessment

□ Formative: □ Summative

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

Homework assignments testing the students ability to apply classroom lecture to practical problems
Mid Term Exam
Final Exam
Practical Exam

Oral Presentation

Course Keeper: John Dunham RS, MS, MEP
Dr. Ann Gunkel

Date Completed: 09/09/13
Reviewed/updated: 4/16/19