EVT 150 Environmental Chemistry

Course Description: A course on organic chemistry and chemical principles of environmental systems. Topics include: carbon bonding, saturated and unsaturated aromatic hydrocarbons, alcohols, phenols, aldehydes, ketones, acids, and amines. Instrumental applications include gas and liquid chromatography and atomic absorption.

Prerequisites(s): CHE 110 or CHE 121 or CHE 131 **Corequisite(s):** No corequisite

Lecture Hours: 2	Lab Hours: 3	Credit Hours: 3
Lab Fee: 105	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: x Fall	x Spring	□ Summer

Course Primary Text:

Title: **Fundamentals of Environmental and Toxicological Chemistry**	Edition:
Author(s): **Stanley E. Manahan**	
Publisher: **Lewis Publishers, 2013**	

Supplemental Materials:

Laboratory goggles

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	b. 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	c. An ability to conduct standard tests and measurements, and to conduct, analyze, and interpret experiments;
4	d. An ability to function effectively as a member of a technical team;
5	e. An ability to identify, analyze, and solve narrowly defined engineering technology problems;
6	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;

7	g. An understanding of the need for and an ability to engage in self-directed continuing professional development;
8	h. An understanding of and a commitment to address professional and ethical responsibilities, including a respect for diversity; and
9	i. A commitment to quality, timeliness, and continuous improvement.

Course Topics:

Week 1	Intro to Chemistry and Green Chemistry , Materials; Atoms and Elements; Chemical Bonds, Molecules, and Compounds lab safety; lab reports and record keeping
Week 2	Organic Chemistry Hydrocarbons, Alkanes, Alkenes ,Alkynes, Aromatics
Week 3	Organic Chemistry
Week 4	Molecular Models; Structure of Alkanes
Week 5	Reactions of Hydrocarbons, Alkanes, Alkenes, Aromatics; Setup Fermentation
Week 6	Distillation Lab, Excel Lab
Week 7	Atomic Absorption Spectroscopy
Week 8	Chromatography, HPLC
Week 9	Atmospheric Chemistry
Week 10	Atmospheric Pollutants, GC
Week 11	GCMS
Week 12	Lead Digestion, Lead Analysis
Week 13	Geosphere and Geochemistry
Week 14	Soil Chemistry
Week 15	Toxicological Chemistry

Methods of Evaluation/Assessment

□ Formative: X Summative

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

Midterm Examination	30%
Final Examination	35%
Lab Reports	25%
Homework/Attendance	10%

Course Keeper: Ann Fallon Date Completed: 4/11/19