COURSE SYLLABUS

LAST REVIEW	Spring 2021
COURSE TITLE	Mortuary Chemistry
COURSE NUMBER	MTSC 0108
DIVISION	Health Professions
DEPARTMENT	Mortuary Science
CIP CODE	12.0301
CREDIT HOURS	3
CONTACT HOURS/WEEK	Class: 3
PREREQUISITES	None
COURSE PLACEMENT	This course is part of a selective admission program. Students must be admitted to the Mortuary Science program to enroll in this course.

COURSE DESCRIPTION

This course is a survey of the basic principles of chemistry as they relate to funeral service. Especially stressed are the chemical principles and precautions involved in sanitation, disinfection, public health, and embalming practice. The government regulation of chemicals currently used in funeral service is reviewed.

PROGRAM LEARNING OUTCOMES

1. Explain the importance of funeral service professionals in developing relationships with families and communities they serve.
2. Identify standards of ethical conduct in funeral service practice.
3. Interpret how federal, state, and local laws apply to funeral service in order to ensure compliance.
4. Apply principals of public health and safety in handling and preparation of human remains.
5. Demonstrate technical skills in embalming and restorative art that are necessary for the preparation and handling of human remains.
6. Demonstrate skills required for conducting arrangements conferences, visitations, services, and ceremonies.
7. Describe the requirements and procedures for burial, cremation, and other accepted forms of final disposition of human remains.
8. Describe methods to address the grief-related needs of the bereaved.
9. Explain management skills associated with operating a funeral establishment.
10. Demonstrate verbal and written communication skills and research skills needed for funeral service practice.

TEXTBOOKS
http://kckccbookstore.com/

METHODS OF INSTRUCTION
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE

I. Introduction to Chemistry
   A. Chemistry
   B. Divisions of chemistry
      1. Inorganic
      2. Organic
      3. Biochemistry
      4. Embalming chemistry
   C. Chemical Measurements—metric system
      1. Length
      2. Volume
      3. Mass
      4. Heat
   D. Matter
      1. Properties
      2. Changes in matter
   E. Physical States of Matter
      1. Gasses
      2. Liquids
      3. Solids
   F. Types of matter based upon composition
      1. Elements
      2. Compounds
      3. Mixtures
   G. Energy
      1. Potential
      2. Kinetic
   H. The Atom
   I. The Molecule
   J. Oxidation
   K. Chemical Elements
   L. Monatomic ion
   M. Polyatomic ion

N. Solutions
    1. Solute
    2. Solvent
    3. Types of solutions
    4. Expressed concentrations
    5. Diffusion
    6. Solubility
O. Selected Elements
    1. Oxygen
    2. Hydrogen
    3. Halogens
    4. Nitrogen
    5. Others
P. Selected compounds
    1. Water
    2. Ammonia
Q. Ionization

II. Organic Chemistry
A. Comparisons Between Organic and Inorganic Compounds
B. Properties of Carbons
C. Formulas in Organic Chemistry
    1. Molecular formulas
    2. Structural formulas
    3. Line formulas
    4. General formulas
    5. Type formulas
D. Classes of Organic Compounds
    1. Hydrocarbons
    2. Alcohols
    3. Aldehydes
    4. Ketones
    5. Carboxylic Acids
    6. Esters
    7. Ethers
    8. Amines
    9. Amides
    10. Thioalcohols

III. Biochemistry
A. Carbohydrates
    1. Classification
    2. Reactions of Carbohydrates
B. Lipids

1. Simple lipids
2. Compound lipids

C. Proteins
1. Amino acids
2. Peptide bond
3. Properties of Proteins
4. Enzymes

IV. Embalming Chemistry
A. Actions of Preservative Chemicals
B. Preservation by Formaldehyde
C. Embalming fluids
1. Arterial fluid
2. Cavity fluid
3. Accessory fluids
4. Autopsy chemicals
5. Factors influencing stability of fluids
D. Chemistry of Decomposition

V. Potentially Hazardous Chemicals
A. Poison
B. Toxin
C. LD-50
D. MLD
E. Examples

COURSE LEARNING OUTCOMES

Upon successful completion of this course, the student will:

A. Define and compare the three state of matter.
B. Contrast physical and chemical properties.
C. Identify the use of the density formula.
D. Define endothermic reactions.
E. Define molecules.
F. Define ions.
G. Describe the use of the periodic law.
H. Describe aqueous solutions.
I. Describe acids, bases, and salts.
J. Define the formulas for alkanes.
K. Identify carbohyrdates.
L. Identify autolysis.
M. Identify putrefaction.
N. Describe the common chemicals used in embalming.
O. Identify preservatives used in embalming.

ASSESSMENT OF COURSE LEARNING OUTCOMES
Student progress is evaluated through both formative and summative assessment methods. Specific details may be found in the instructor's course information document.

COLLEGE POLICIES AND PROCEDURES
Student Handbook
https://www.kckcc.edu/files/docs/student-resources/student-handbook-and-code-of-conduct.pdf

College Catalog
https://www.kckcc.edu/academics/catalog/index.html

College Policies and Statements
https://www.kckcc.edu/about/policies-statements/index.html

Accessibility and Accommodations
https://www.kckcc.edu/academics/resources/student-accessibility-support-services/index.html.