

## FLORIDA STATE COLLEGE AT JACKSONVILLE

## COLLEGE CREDIT COURSE OUTLINE

|  |                  |
|--|------------------|
| COURSE NUMBER:                         | FSE 1105         |
| COURSE TITLE:                          | Thanatochemistry |
| PREREQUISITE(S):                       | None             |
| COREQUISITE(S):                        | None             |
| CREDIT HOURS:                          | 2                |
| CONTACT HOURS/WEEK:                    | 3                |
| CONTACT HOUR BREAKDOWN:                |                  |
| Lecture/Discussion:                    | 1                |
| Laboratory:                            | 2                |
| Other _____:                           |                  |
| FACULTY WORKLOAD POINTS:               | 2.4              |
| STANDARDIZED CLASS SIZE<br>ALLOCATION: | 25               |

## COURSE DESCRIPTION:

This course is a survey of the basic principles of disinfection and preservation as they relate to embalming. Especially stressed are the chemical principles involved in sanitation, disinfection, and embalming practice. The development and use of personal, professional, and community sanitation practices are addressed as well as use and precautions related to potentially harmful chemicals that are currently used in the field of funeral services.

|                              |   |
|------------------------------|---|
| SUGGESTED TEXT(S):           | Dorn, J. M. & Hopkins, B. M. (1985). <u>Thanatochemistry: A survey of general, organic, and biochemistry for funeral service professionals</u> . Englewood Cliffs, CO: Prentice-Hall. |
| IMPLEMENTATION DATE:         | Spring Term, 2002   |
| REVIEW OR MODIFICATION DATE: | Fall Term, 2002 (20031)<br>Fall Term, 2008 (20091) - Outline Review 2007  |

| COURSE TOPICS   | <u>CONTACT HOURS<br/>PER TOPIC</u> |
|---|------------------------------------|
| I. Review of <i>General Chemistry</i>                           | 7                                  |
| II. <i>Chemical Shorthand: Symbols, Formulas, and Equations</i> | 2                                  |
| III. <i>Solutions, Acids, Bases, Salts, and Ionization</i>      | 2                                  |
| IV. <i>Introduction to Organic Chemistry</i>                    | 3                                  |
| V. <i>Alcohols and Ethers</i>                                   | 2                                  |
| VI. <i>Aldehydes and Ketones</i>                                | 2                                  |
| VII. <i>Introduction to Biochemistry</i>                        | 6                                  |
| VIII. <i>Enzymes</i>  | 3                                  |
| IX. <i>Carbohydrates, Lipids, and Proteins</i>                  | 3                                  |
| X. <i>Composition of Embalming Fluid</i>                        | 8                                  |
| XI. <i>Action of Embalming Fluid</i>                            | 7                                  |

PROGRAM TITLE: Funeral Services

COURSE TITLE: FSE 1105 - Thanatochemistry

CIP NUMBER: CIP: 1312030100 (AS); CIP: 0312030100 (AAS)

## LIST PERFORMANCE STANDARD ADDRESSED:

NUMBER(S):            TITLES(S):

- 01.0 SATISFACTORILY PERFORM THE BASIC TECHNIQUES OF EMBALMING AND RESTORATIVE ART AND COSMETOLOGY -- The student will be able to:
- 01.02 Specify representative chemicals in embalming fluids (arterial, cavity and accessory) and give their respective functions.
  - 01.03 Describe the basic theories and laws of chemistry and relate their importance to both the living and deceased.
  - 01.06 Identify potentially harmful chemicals used in the preparation room, and the precautions to be taken with each.
- 03.0 EXPLAIN THE CONCEPTS OF DEATH, DISINFECTION, PRESERVATION AND RESTORATION OF A DEAD HUMAN BODY -- The student will be able to:
- 03.02 Identify the physical states of matter and differentiate between physical and chemical changes.
  - 03.03 Identify essential characteristics of autolysis, hydrolysis fermentation, and putrefaction in the area of the chemistry of decomposition.
  - 03.04 Identify the essential characteristics of carbohydrates, lipids, and proteins in the area of basic biochemistry.
  - 03.05 Define organic chemistry and describe the characteristic features of aliphatic and cyclic compounds, hydrocarbons, alcohols, aldehydes, ketones, acids, esters, ethers, and amines.
- 05.0 IDENTIFY, DEFINE, AND EMPLOY THE NECESSARY TECHNICAL TERMINOLOGY TO FACILITATE COMMUNICATION AND COOPERATION WITH MEMBERS OF ALLIED PROFESSIONS AND THE PUBLIC -- The student will be able to:
- 05.01 Demonstrate his acquisition and understanding of anatomical terminology at a level that will enable him to communicate effectively with members of allied professions and the lay public.
  - 05.02 Identify common laboratory procedures and the common units of scientific measurement.
  - 05.03 Identify the characteristic features of solutions, suspensions, and emulsions, and the processes of diffusion including osmosis, dialysis and hydrolysis.
  - 05.04 Identify a list of elements and their valences, radicals, ions, compounds and reactions related to problems faced by the embalmer and funeral director, and give their symbols, formulas, and equations.



NOTE: Use either the Tab key or mouse click to move from field to field. The box will expand to accommodate your entry.

|  |   |
|--|---|
| <b>Section 1</b>                                 | <b>SEMESTER CREDIT HOURS (CC):</b> <u>2</u> |
| <b>COURSE PREFIX AND NUMBER:</b> <u>FSE 1105</u> | <b>CONTACT HOURS (NCC):</b> _____           |
| <b>COURSE TITLE:</b> <u>Thanatochemistry</u>     |   |

**Section 2**  
**TYPE OF COURSE: (Click on the box to check all that apply)**

|   |  |  |
|---|--|--|
| <input type="checkbox"/> AA Elective  | <input checked="" type="checkbox"/> AS Required Professional Course  | <input type="checkbox"/> College Prep          |
| <input type="checkbox"/> AS Professional Elective   | <input checked="" type="checkbox"/> AAS Required Professional Course | <input type="checkbox"/> Technical Certificate |
| <input type="checkbox"/> Other _____  | <input type="checkbox"/> PSAV  | <input type="checkbox"/> Apprenticeship        |
| <input type="checkbox"/> General Education: (For General Education courses, you must also complete Section 3 and Section 7) |  |  |

**Section 3 (If applicable)**  
**INDICATE BELOW THE DISCIPLINE AREA FOR GENERAL EDUCATION COURSES:**

|   |   |                                      |
|---|---|--------------------------------------|
| <input type="checkbox"/> Communications   | <input type="checkbox"/> Social & Behavioral Sciences | <input type="checkbox"/> Mathematics |
| <input type="checkbox"/> Natural Sciences | <input type="checkbox"/> Humanities                   |                                      |

**Section 4**  
**INTELLECTUAL COMPETENCIES:**

|   |   |   |   |  |
|---|---|---|---|--|
| <input checked="" type="checkbox"/> Reading | <input checked="" type="checkbox"/> Speaking  | <input checked="" type="checkbox"/> Critical Analysis | <input checked="" type="checkbox"/> Quantitative Skills | <input checked="" type="checkbox"/> Scientific Method of Inquiry |
| <input checked="" type="checkbox"/> Writing | <input checked="" type="checkbox"/> Listening | <input type="checkbox"/> Information Literacy         | <input checked="" type="checkbox"/> Ethical Judgment    | <input checked="" type="checkbox"/> Working Collaboratively      |

| <b>Section 5</b> | <b>LEARNING OUTCOMES</b>  | <b>METHOD OF ASSESSMENT</b>                                     |
|------------------|---|---|
| •                | Apply principles of atomic and molecular chemistry to use of inorganic chemicals in embalming chemistry                       | Written exams; collaborative problem solving                    |
| •                | Balance basic synthesis, decomposition, and double-replacement chemical equations   | Written exams; assignments                                      |
| •                | Discuss significance of organic functional groups as applicable to chemicals significant in embalming chemistry               | Written exams; assignments                                      |
| •                | Relate the biochemistry of proteins, enzymes, lipids and carbohydrates to human physiology and decomposition processes        | Collaborative problem solving; written exams; assignments       |
| •                | Explain the hazards of radiation to the embalmer  | Assignments   |
| •                | List and describe the chemical uses and their hazards of the commonly used embalming chemicals                                | Oral presentation; collaborative research project written exams |
| •                | Apply laboratory mathematics and units of measurement to determining solution concentrations for selected embalming chemicals | Assignments; problem solving; written exams                     |
| •                |   |   |
| •                |   |   |
| •                |   |   |

**Section 6**

Name of Person Completing This Form: Merry A. Carter Date: 11/2007