



MERCER
COUNTY COMMUNITY COLLEGE

COURSE OUTLINE

Course Number
FUN 249

Course Title
Principles of Embalming II

Credits
2

Hours:
Lecture/Lab/Other
2/0/0

Co- or Pre-requisite
FUN 247 (Prin. Of Emb. I)

Implementation
Semester & Year
Fall 2023

Catalog description:

A continuation of Principles of Embalming I. Consideration is given to: cavity treatment, types of embalming chemicals and their uses, common causes of embalming failure, discolorations, vascular difficulties, decomposition, dehydration, edema, and other specific embalming complications and difficulties.

General Education Category:
Not GenEd

Course coordinator:

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Required texts & Other materials:

TITLE: **EMBALMING: HISTORY, THEORY AND PRACTICE**
AUTHOR: **Sharon Gee-Mascarello**
PUBLISHER: **MCGRAW HILL**
EDITION: Sixth Edition: 9781260010077 (March 2022)

Course Student Learning Outcomes (SLO):

The student will be able to:

- 1) analyze the various types of embalming chemicals and their appropriate applications (ILG: 1, 2 & 7; PLO 2.1.10).
- 2) critique OSHA regulations and their specific applications for the embalmer (ILG 1, 3, & 4; PLO 2.1.3, 2.1.4, 2.1.5, & 2.1.7).
- 3) synthesize the purpose of cavity embalming with the theories for immediate and delayed treatment (ILG: 3; PLO 2.1.2, 2.1.3, 2.1.4 & 2.1.5).
- 4) analyze the etiology of purge with appropriate treatments (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).

- 5) synthesize various post-embalming treatments with their appropriate applications (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).
- 6) appraise numerous sutures and articulate their appropriate applications (ILG: 3, 4, & 11; PLO: 2.1.4 & 2.1.5).
- 7) analyze antemortem and postmortem discolorations with respect to their etiology and articulate appropriate treatments (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).
- 8) appraise intravascular and extravascular difficulties and determine appropriate embalming protocols (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).
- 9) examine the role of moisture in embalming efficacy and articulate appropriate treatments for normal, dehydrated and edematous remains (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).
- 10) synthesize the influence of chemotherapy and radiation on the embalming process (ILG: 3 & 4; PLO: 2.1.4 & 2.1.5).
- 11) critique the presence of decomposition with predisposing conditions, embalming complications and appropriate embalming protocols (ILG: 3, 4 & 11; PLO: 2.1.4 & 2.1.5).
- 12) synthesize the presence of unnatural conditions with their appropriate embalming considerations and implications (ILG: 3, 4 & 11; PLO: 2.1.4 & 2.1.5).
- 13) examine embalming challenges that may occur when embalming the elderly and articulate appropriate treatments (ILG: 3, 4 & 11; PLO: 2.1.4 & 2.1.5).

Course-specific Institutional Learning Goals (ILG):

Institutional Learning Goal 1. Written and Oral Communication in English. Students will communicate effectively in both speech and writing.

Institutional Learning Goal 2. Mathematics. Students will use appropriate mathematical and statistical concepts and operations to interpret data and to solve problems.

Institutional Learning Goal 3. Science. Students will use the scientific method of inquiry, through the acquisition of scientific knowledge.

Institutional Learning Goal 5. Social Science. Students will use social science theories and concepts to analyze human behavior and social and political institutions and to act as responsible citizens.

Institutional Learning Goal 9. Ethical Reasoning and Action. Students will understand ethical frameworks, issues, and situations.

Institutional Learning Goal 10. Information Literacy: Students will recognize when information is needed and have the knowledge and skills to locate, evaluate, and effectively use information for college level work.

Institutional Learning Goal 11. Critical Thinking: Students will use critical thinking skills understand, analyze, or apply information or solve problems.

Program Learning Outcomes for Funeral Service via the ABFSE

- 2.1 The central objective of an ABFSE-accredited program must be to educate students in every phase of funeral service so that program graduates are prepared for entry-level employment in funeral service. In support of this objective, a program must adopt at least the following Learning Outcomes:
 - 2.1.1 Explain the importance of funeral service professionals in developing relationships with the families and communities they serve.
 - 2.1.2 Identify standards of ethical conduct in funeral service practice.

- 2.1.3 Interpret how federal, state, and local laws apply to funeral service in order to ensure compliance.
- 2.1.4 Apply principles of public health and safety in the handling and preparation of human remains.
- 2.1.5 Demonstrate technical skills in embalming and restorative art that are necessary for the preparation and handling of human remains.
- 2.1.6 Demonstrate skills required for conducting arrangement conferences, visitations, services, and ceremonies.
- 2.1.7 Describe the requirements and procedures for burial, cremation, and other accepted forms of final disposition of human remains.
- 2.1.8 Describe methods to address the grief-related needs of the bereaved.
- 2.1.9 Explain management skills associated with operating a funeral establishment.

- 2.1.10 Demonstrate verbal and written communication skills and research skills needed for funeral service practice.

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Units of study in detail:

Unit #1 – Topics: Embalming Chemicals: (SLO: 1, 2, & 3)
 Types of Embalming Chemicals
 OSHA Hazard Communication Standard
 Dilution of Arterial Fluids
 Index
 Calculating the CV Formula
 “Like” Measures

Preparation:

1. Attend class and participate in class discussions.
2. Lecture: Chapters 6 & 7 (E:HT&P)

Objectives:

Having completed the assigned readings, attended class and participated in class discussion, the student will be able to:

1. Articulate the function and action of vascular/arterial preservatives.
2. Describe the process of protein coagulation and the role of amino acids and amines in decomposition.
3. Synthesize the pH of the body with HCHO Demand.
4. Explain the classification of vascular/arterial preservatives with respect to index, general properties and presence or absence of dyes and coloring agents.
5. Correlate the components of vascular/arterial preservatives with their chemical properties and applications.
6. Distinguish supplemental fluids with their appropriate applications.
7. Synthesize the purpose of cavity fluid with its various applications.
8. Describe the variety of accessory embalming chemicals available and articulate their appropriate applications.
9. Differentiate special purpose fluids with respect to their specific applications.

10. Analyze the elements of the OSHA Hazard Communication Standard and its implications for the embalmer.
11. Compare and contrast primary and secondary dilution of arterial fluids.
12. Define “index” as it applies to strong, medium and weak embalming.

Unit #2 – Topics: Cavity Treatment/Cavity Embalming: (SLO: 1, 3, 4, 5, & 7)
Purpose and Two-Step Process
Theories for Cavity Treatment
Order of Aspiration Treatment
Abdominal Anatomical/Topographical Regions
Trocar Guides
Aspiration and Injection Equipment
Trocar Technique for Aspiration
Cavity Fluid Injection
Supplemental Aspiration
Thoracic/Abdominal/Pelvic Cavities
Treatment of Trocar Puncture
Direct Incision Method

Preparation:

1. Online: “Cavity Treatment” (SLO: 1, 3, 4, 5, & 7)
2. Chapter 14 (E:HT&P)

Objectives:

Having completed the online module, the student will be able to:

1. Synthesize the purpose of cavity embalming with its two-step process and immediate or delayed applications.
2. Examine the order of aspiration treatment and special considerations when aspirating during the embalming.
3. Compare and contrast the “Nine Region Plan” and the “Four Region Plan”.
4. Differentiate trocar guides with their intended targets and the recommended order and technique of aspiration.
5. Articulate equipment and instruments used for aspiration and injection.
6. Describe supplemental aspiration treatments and their appropriate applications.
7. Differentiate the structures of the thoracic, abdominal and pelvic cavities.
8. Describe the direct incision method of cavity treatment.

Unit #3 – Topics: Purge: (SLO: 1, 3, 4, 5, & 7)
Development of Pressure
Predisposing Conditions
Types of Purge
Pre-embalming Purge Treatment
Embalming Purge Treatment
Post-embalming and Post-cavity Embalming Purge Treatment

Preparation:

1. Online: “Purge”
2. Chapter 24 (E:HT&P)

Objectives:

Having completed the online module, the student will be able to:

1. Describe how pressure can develop due to gas, visceral expansion, arterial solutions, ascites and hydrothorax.
2. Critique predisposing conditions for purge.
3. Compare and contrast the various types of purge and their etiologies.
4. Analyze pre-embalming, embalming, post-embalming and post-cavity embalming purge treatments.

Unit #4 - Topics: Sutures: (SLO: 5, 6, 9, 11 & 12)
Methods of Closure
Equipment Needed for Suturing
Specific Sutures: Bridge, Baseball, Worm, Draw, Intradermal, Whip, Lock and Basket-weave
Punctures
Adhesives

Preparation:

1. Online: "Sutures"
2. Chapter 15 (E:HT&P)

Objectives:

Having completed the online module, the student will be able to:

1. Analyze and discuss general recommendations to prepare incisions for closure.
2. Describe the equipment needed for suturing.
3. Describe specific sutures and articulate their appropriate applications.
4. Discuss the appropriate use of adhesives.

Unit #5 – Topics: Post-Embalming Treatments: (SLO: 1, 2, 4, 5, 7, & 9)
Treatment of Areas Lacking Distribution and Diffusion
Arterial Injection Through Secondary Injection Point
Surface Embalming (External and Internal)
Hypodermic Embalming
Removal of Body-Invasive Devices
Washing and Inspection of the Body
Treatment of Ulcerations, Lesions and Discolorations
Treatment of Purge
Treatment of Distention
Resetting and Gluing the Features
Plastic Garments
Documentation and Shipping Preparation
Monitoring Remains Until Disposition
Terminal Disinfection of Equipment and Embalmer

Preparation:

1. Attend class and participate in class discussion.
2. Lecture: Chapter 15 (E: HT & P)

Objectives:

Having completed the assigned readings, attended class and participated in class discussions, the student will be able to:

1. Synthesize post-embalming treatments for areas lacking distribution and diffusion with their appropriate applications.
2. Explain how to remove and treat intravenous invasive devices, pacemakers and defibrillators, and surgical drains.
3. Articulate the appropriate treatment of colostomies.
4. Appraise the importance of washing and inspecting the body post-embalming.
5. Distinguish post-embalming treatments for ulcerations, lesions and discolorations.
6. Articulate appropriate treatments for anal, mouth and nasal purge.
7. Compare and contrast treatments for various types of edema.
8. Describe appropriate treatments for correcting facial features post-embalming.
9. Explain appropriate applications for plastic garments and how they should be applied.
10. Examine protocols when shipping remains including appropriate documentation.
11. Correlate post-embalming concerns when monitoring remains until disposition with appropriate preventive and corrective treatments.
12. Describe steps necessary for terminal disinfection of equipment and the embalmer.

- Unit #6** - Topics: Discolorations (SLO: 1, 3, 7, 8 & 11)
 Antemortem and Postmortem Discolorations
 Blood Discolorations
 Extravascular Antemortem and Postmortem Discolorations
 Embalming Considerations for Intravascular and Extravascular Blood
 Discolorations
 Pharmaceutical Discolorations
 Pathological Discolorations
 Surface Discoloring Agents
 Embalming Chemicals and Discolorations
 Decomposition Discolorations
 Skin Lesions

Preparation:

1. Online: "Discolorations"
2. Chapter 20 (E: HT&P)

Objectives:

Having completed the online module, the student will be able to:

1. Describe how discolorations are classified.
2. Synthesize antemortem and postmortem extravascular discolorations with their appropriate embalming treatments.
3. Synthesize antemortem and postmortem intravascular discolorations with their appropriate embalming treatments.
4. Compare and contrast antemortem and postmortem discolorations and articulate their appropriate embalming treatments.
5. Distinguish pharmaceutical and pathological discolorations with respect to their etiology and appropriate embalming treatments.
6. Examine surface discoloring agents and various mechanical and chemical methods of removal.
7. Identify the influence of embalming chemicals on antemortem discolorations.

8. Examine the progressive color change that is associated with discolorations due to decomposition.
9. Articulate discolorations that occur due to skin lesions and describe appropriate treatments.

Unit #7 – Topic: Vascular Difficulties: (SLO: 1, 4, 8, 9 & 12)
 Arteriosclerosis
 Aortic Aneurysm
 Congestive Heart Failure
 Arterial and Venous Coagula
 Diabetes
 Embalming Treatments for Intravascular Difficulties
 Extravascular Difficulties
 Sources of Extravascular Resistance

Preparation:

1. Online: “Vascular Difficulties”
2. Chapter 22 (E:HT&P)

Objectives:

Having completed the online module, the student will be able to:

1. Synthesize the pathology of arteriosclerosis with appropriate embalming treatments.
2. Articulate the influence of an aortic aneurysm on distribution and diffusion and discuss appropriate embalming procedures.
3. Distinguish embalming recommendations for a decedent who died of congestive heart failure.
4. Discuss the influence of arterial and venous coagula on embalming outcomes and provide embalming recommendations.
5. Examine diabetes and its influence on the vasculature and offer appropriate embalming interventions.
6. Articulate general embalming treatments for intravascular difficulties.
7. Synthesize sources of extravascular resistance with appropriate embalming treatments.

Unit #8: - Topics: Moisture Considerations (SLO: 1, 5, 6, 7, 8, & 9)
 Dehydration
 Edema
 Anasarca

Preparation:

1. Attend class and participate in class discussions.
2. Pages 410 – 417 (E: H, T & P)

Objectives:

Having completed the assigned readings, attended class and participated in class discussions, the student will be able to:

1. Compare and contrast normal body moisture with dehydration and edema.
2. Examine embalming treatments and techniques to maintain appropriate moisture content in tissues.

3. Synthesize antemortem and postmortem dehydration with appropriate pre-embalming, embalming and post-embalming treatments.
4. Examine the classifications of edema and the influence of location on embalming interventions.
5. Synthesize the challenge with anasarca with appropriate embalming and post-embalming treatments.

Unit #9 – Topics: Chemotherapy and Radiation: (SLO: 1, 7, 9 & 10)
 Multiple-agent Chemotherapy
 Effect of Drugs on Embalming Chemicals
 Physiological Effect of Drugs
 Cytotoxic and Antimetabolite Drugs
 Radioactive Isotopes

Preparation:

1. Online: “Chemotherapy and Radiation”
2. Chapter 23 (E, H, T & P)

Objectives:

Having completed the assigned readings and online module the student will be able to:

1. Examine the influence of “multiple-agent” chemotherapy on embalming.
2. Differentiate minor and major changes to the tissue and vasculature as a result of chemotherapy.
3. Articulate factors responsible for the inactivation of embalming chemicals as a result of chemotherapy.
4. Synthesize the action of cytotoxic and antimetabolite drugs with appropriate embalming interventions.
5. Explain general considerations for the embalmer if the decedent died shortly after receiving a large internal therapeutic dose of a radioactive isotope.
6. Distinguish embalming precautions for the embalmer with respect to protection, time of exposure and distance when the remains have “safe” radiation levels.

Unit #10 – Topics: Decomposition: (SLO: 1, 3, 4, 5, 7, 9, & 12)
 Predisposing Conditions
 Embalming Complications
 Embalming Chemicals
 Embalming Protocol
 Advanced Decomposition

Preparation:

1. Online: “Decomposition”
2. Pages 371 – 373 (E:HT&P)

Objectives:

Having completed the assigned readings and online module, the student will be able to:

1. Distinguish conditions that may predispose a decedent to having significant decomposition.
2. Articulate specific embalming complications that are related to decomposition.

3. Examine embalming protocols including embalming chemicals that are required when decomposition is a concern.
4. Outline the specific order of steps for a six-point and restricted cervical injection.
5. Synthesize injection pressure, rate of flow and supplemental treatments with their appropriate applications for decomposition.
6. Evaluate specific challenges and appropriate treatments when embalming cases with advanced decomposition.

Unit #11 – Topics: Embalming Unnatural Conditions: (SLO 1, 7, & 12)

Paralysis
Malignancies
Hanging and Strangulation
Burns
Facial Trauma
Poisons

Preparation:

1. Online: “Embalming Unnatural Conditions”

Objectives:

Having completed the online module, the student will be able to:

1. Synthesize the pathology of paralysis and malignancies with appropriate embalming treatments.
2. Examine the various embalming challenges that can arise when death was the result of hanging and strangulation.
3. Articulate the systemic and local effects of various types of burns and their influence on embalming protocols.
4. Distinguish appropriate embalming treatments for facial trauma when the skin is intact or broken.
5. Differentiate the influence of poisons on the body with appropriate embalming treatments.

Unit #12 – Topics: Embalming the Elderly: (1 & 13)

Arthritis
Arteriosclerosis
Decubitus Ulcers
Amputations
Aneurysm
Senile Purpura

Preparation:

1. Online: “Embalming the Elderly”

Objectives:

Having completed the online module, the student will be able to:

1. Explain how arthritic conditions in the elderly can influence positioning, vessel selection and mouth closure.
2. Synthesize the pathology of arteriosclerosis with the presence of decubitus ulcers, aneurysms and amputations in the elderly.

3. Examine the etiology of senile purpura and identify appropriate embalming protocols for this condition.

Assessment of student learning:

Student learning will be assessed using examinations, tests, quizzes, and case studies. Multiple-choice, matching, case studies, short essays, and fill-in-the-blank questions will be given. The final examination will be multiple-choice and will be inclusive. Readings quizzes will be given and the lowest quiz grade will be dropped. Case studies will be completed in groups as well as individually on tests.

Students will work in groups and then present assigned case studies to the class. The instructor will create case studies that challenge each group to research specific pathologies. The student group will identify specific pre-embalming, embalming and post-embalming treatments to meet the embalming challenges that may be present. Each group will present its case study to the class and class discussion will include any additional treatments or concerns that may be considered.

Grade Evaluation

Grades will be determined as follows:

| | |
|----------------|--------------------------|
| Quizzes | 5% |
| Tests: | 25% |
| Case Study: | 5% (Group Participation) |
| Mid-term Exam: | 30% |
| Final Exam: | 35% |

All quizzes and exams are cumulative and may have multiple-choice, matching or short-answer questions.

Make-up quizzes and exams will not be given. The lowest quiz grade will be dropped.

| | |
|--------|----|
| 100-94 | A |
| 93-90 | A- |
| 89-87 | B+ |
| 86-83 | B |
| 82-80 | B- |
| 79-78 | C+ |
| 77-75 | C |
| 74-60 | D |
| <60 | F |