

All Fields Report

Basic Course Information	
College	Cañada College
Discipline	FSE.-Funeral Service Education
Course Number	212
Full Course Title	Funeral Service Science
Catalog Course Description	This course is designed for the Funeral Service Education student. Course material expands on general anatomy, chemistry, microbiology, and pathological concepts as related to the preparation, presentation, and sanitation of the human remains.
Class Schedule Course Description	Survey of general anatomical, chemical, microbiological, and pathological concepts as they relate to the care and preparation of human remains.
Proposal Information	
Proposed Start	Year: 2021 Semester: Fall
Proposed Curriculum Committee Meeting Date:	11/13/2020
Deadline for submission to Dean's Queue:	10/08/2020
Deadline for submission of curriculum proposal to the Technical Review Committee:	10/20/2020
Proposal Origination Date:	10/03/2020
Justification For Board Report OR Curriculum Inventory update:	<p>1. For NEW Courses: Provide a brief justification statement describing the need for the course, its place in the curriculum, and pertinent information such as the role of advisory committees. New courses require approval of the SMCCCD Board of Trustees. The justification statement will be included on the annual Curricular Board report. Use complete sentences and present tense.</p> <p>2. For all types of Course MODIFICATIONS (modifications, banking, deletions and reactivations): Provide a brief justification statement describing the need for the change. The justification statement will be used for course updates in the State Curriculum Inventory as necessary. Use complete sentences and present tense.</p> <p>Course content is required by the American Board of Funeral Service as described in the several ABFSE curriculum outlines including Embalming, Chemistry, Pathology, Microbiology and Anatomy. This course will provide the student with an overview of the postmortem conditions associated with various pathologies and microorganisms as factor of embalming human remains. This includes the used of the anatomical structures to distribute preservative/disinfecting chemicals. This course is a core requirement for the Funeral Service Education Associate in Science Degree.</p>
Honors Course	No
Open Entry/Open Exit	No 0

Equivalent Courses	
Will this course replace an existing course in the catalog, or an experimental course?	No
If yes, identify and explain.	

Similar Courses

Is there a similar or equivalent course in SMCCCD?	No
Added Similar Courses	

Units/Hours

Unit Types	Fixed			
Units	Min: 5.00			
Variable Range	Range (or)			
Hours				
Please enter hours as per term values				
Method	Min Hours	Max Hours	Min Faculty Load	Min Units
Lecture	80.00	90.00	5.00	5.00
Lab	0.00	0.00	0.00	0.00
TBA	0.00	0.00	0.00	0.00
Work Experience	0.00	0.00	0.00	0.00
Field Experience	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00
Homework	160.00	180.00	0.00	0.00
Other Hours				
Course Details				
Repeatable for Credit	No			
Grading Methods				
Audit	No - Please Justify: This course requires special preparation and program admission on a limited basis.			

Materials Fee

Fee Required?	No
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Student Learning Outcomes

Upon successful completion of this course, a student will meet the following outcomes:
1. Differentiate the basic anatomical and pathological terminology and concepts for use in a professional funeral service setting
2. Understand various pathological conditions and how they impact the preparation of human remains
3. Demonstrate overall knowledge of embalming chemistry including the safe use of funeral related chemicals

Course Objectives

Upon successful completion of this course, a student will be able to:
1. Demonstrate a knowledge of diseases and related terminology which will enable competent communication with members of the medical community, allied professionals and surviving family members
2. Describe the value of the postmortem examination, anatomical gifts, tissue transplantation and medical research
3. Identify the pathological conditions and etiological factors which require special procedures in the removal, handling, preparation and disposition of human remains
4. Understand the relationship between disease processes and the preparation of human remains for disposition

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|---|
| 5. Identify basic microbial morphology and describe basic microbial physiology |
| 6. Interpret host-parasite relationships and interactions, and the requirements of successful parasitism |
| 7. Describe and apply knowledge of personal and environmental disinfection and decontamination by proper use of disinfection and sterilization procedures |
| 8. Describe the fundamentals of the infection process and specific and non-specific defense mechanisms against disease |
| 9. Understand infectious disease transmission and recognize the methods of control with special emphasis on protection of the embalmer, funeral director and public |
| 10. Differentiate between the normal flora, true pathogens, and opportunistic pathogens commonly associated with the human host and dead human remains |
| 11. Describe the essential characteristic processes of decomposition. |
| 12. Identify chemicals that are used in the embalming process |

Course Lecture Content

1. Introduction to Funeral Service Pathology
 1. Orientation
 1. Pathology defined
 2. Categories of pathology
 3. Importance of autopsy
 2. Nature of disease
 1. Doctrine of cellular pathology
 2. Virchow Theory
 3. Functional disease (structural disease)
 4. Organic disease defined
 3. Terminology pertaining to diagnosis and etiology
 4. Predisposing conditions
 1. Definition
 2. Factors
 3. Causes
 5. Cellular reaction to injury
 1. Degenerative
 2. Infiltration
 3. Necrosis
 6. Atrophy and hypertrophy
 7. Structural abnormalities
 8. Fluids:
 1. Physiological
 2. Pathological
 3. Active
 4. Passive
 9. Obstructions
 1. Thrombosis and their changes
 2. Embolism
 3. Types and causes
 10. Hemorrhage and postmortem conditions
 1. Neoplasms (tumors)
 2. Definition
 3. Physiological differences
 11. Malignant neoplasms
 1. Characteristics
 2. Affect on embalming
 12. Diseases of blood, blood vessels, and heart
 13. Diseases of digestive system
 1. Genetic developmental

- 2. Affect on embalming
- 14. Respiratory system
 - 1. Various diagnoses
 - 2. Anatomical landmarks
 - 3. Affect on embalming
- 15. Urinary system
 - 1. Various disease states
 - 2. Pathophysiology
 - 3. Affect on embalming
- 16. Nervous system
 - 1. Disorders
 - 2. Affect on embalming
- 17. Female reproductive system
 - 1. Inflammatory and/or degenerative diseases
 - 2. Affect on embalming
- 18. Male reproductive system
 - 1. Inflammatory and/or degenerative diseases
 - 2. Affect on embalming
- 19. Bones and joints
 - 1. Inflammatory and/or degenerative diseases
 - 2. Affect on embalming
- 20. Endocrine glands
 - 1. Pathology defined
 - 2. Affect on embalming
- 21. Integumentary system
 - 1. Inflammatory and/or diseases
 - 2. Affect on embalming
- 22. Lymphatic system
 - 1. Inflammation and/or degeneration
 - 2. Affect on embalming
- 2. Funeral Service Microbiology
 - 1. Introduction to microbiology
 - 1. The scope of microbiology
 - 2. History of microbiology
 - 3. Instrumentation
 - 2. The cell as the unit of life
 - 1. Prokaryotic
 - 2. Eukaryotic cells
 - 3. Types of Microbes
 - 1. Bacteria
 - 2. Rickettsia
 - 3. Chlamydia
 - 4. Mycoplasma
 - 5. Protozoa
 - 6. Fungi
 - 7. Algae
 - 8. Helminths
 - 9. Viruses
 - 10. Prions
 - 4. Anatomy of bacteria
 - 1. Size
 - 2. Morphology
 - 3. Arrangements
 - 4. Structures
 - 5. Physiology of bacteria
 - 1. Nutritional requirements

2. Enzymes
3. Cellular metabolism
4. Oxygen
5. Growth requirements
6. Measuring microbial growth
6. Control of microbial growth
 1. Levels of control
 2. Physical methods of control
 3. Classification of disinfectants
7. Disinfectants
 1. Disinfectant efficacy
 2. Mechanism of action
 3. Mortuary disinfectants
8. Principles of disease and epidemiology
 1. Microbial/human interactions
 2. Types of infections
 3. Infection process
 4. Disease process
 5. Reservoirs of infection
 6. Mechanisms of disease transmission
9. Microbial pathogenicity
 1. Portals of entry
 2. Virulence
 3. Portals of exit
10. Nonspecific defense mechanisms
 1. Barriers
 2. Antimicrobial chemicals
 3. Processes
11. Specific defenses
 1. Antibodies
 2. Cell-mediated immunity
 3. Antibody-mediated immunity
 4. Vaccines
12. Systems
 1. Integument and eyes
 2. Respiratory system
 3. Digestive system
 4. Urinary and reproductive systems
 5. Circulatory and lymphatic systems
 6. Nervous system
3. Funeral Service Chemistry
 1. Introduction
 1. Divisions of chemistry
 2. Chemical measurements
 3. Temperature scales
 4. Physical properties
 5. Chemical properties
 6. Physical changes
 7. Chemical changes
 2. Physical states and properties of matter:
 1. Gases
 2. Liquids
 3. Solids
 3. Atomic structure
 1. Elements
 2. Compounds

1. Molecule
2. Formula
3. Mixtures
4. Energy
 1. Potential
 2. Kinetic
5. Solutions
 1. Solute, solvent, and solubility
 2. Types of solutions
 3. Expressing concentrations
 1. Qualitative
 2. Quantitative
 4. Diffusion
 5. Osmosis
6. Selected elements
 1. Oxygen
 2. Hydrogen
 3. Halogens
 4. Nitrogen
7. Water
 1. Hardness
 2. Hydrates
 3. Hydrolysis
 4. Dehydration
8. Ionization
 1. Acids
 2. Bases
 3. Salts
 4. Cations
 5. Anions
 6. pH
 7. Neutralization
9. Organic chemistry
 1. Hydrocarbons
 2. Properties of carbon
 3. Formulas
 1. Molecular
 2. Structural
 3. Line
 4. General
 5. Type
10. Hydrocarbons (aliphatic)
 1. Saturated
 1. Alkanes
 2. Alkyl group
 3. Alkyl halide
 2. Unsaturated
 1. Alkenes
 2. Alkynes
 3. Aromatic
 1. Benzene

- 2. Toluene
- 3. Phenol
- 11. Organic derivatives
 - 1. Alcohols
 - 2. Aldehydes
 - 3. Ketones
- 12. Organic derivatives
 - 1. Carboxylic acids
 - 2. Esters
 - 3. Ethers
 - 4. Amines
 - 5. Amides
 - 6. Thioalcohols
- 13. Biochemistry
 - 1. Carbohydrates
 - 2. Lipids
- 14. Proteins
 - 1. Amino acids
 - 2. Peptide bond
 - 3. Properties of proteins
 - 1. Imbibition
 - 2. Coagulation
 - 3. Hydrolysis
 - 4. Deamination
 - 4. Decarboxylation
 - 5. Enzymes
 - 1. Substrate
 - 2. Chemical changes
 - 3. Autolysis
- 15. Embalming chemistry
 - 1. Action of preservative chemicals
 - 2. Preservation by aldehydes
- 16. Chemistry of decomposition
 - 1. Autolysis
 - 2. Hydrolysis
 - 3. Putrefaction
 - 4. Decay
- 17. Chemical safe handling
 - 1. Aldehydes
 - 2. Alcohols
 - 3. Other embalming chemicals

Course Lab Content

TBA Hours Content

Frequently Recommended Preparation

Frequently Recommended

Justification for Frequently Recommended Preparation

Why is the knowledge of the recommended course(s), skill(s) or information necessary for students to succeed in the "target" course? Specify the relationship between the recommended knowledge and skills required of students and

those taught in the "target course? (Please list the specific proficiencies students must possess in order to succeed in the "target" course.)

Other Recommended Preparation

You have no defined requisites.

Prerequisites/Corequisites

Drag and Drop to Reorder

Edit/Delete	Requisites	Analysis
	Prerequisite BIOL 240 and	
	Prerequisite BIOL 250 and	
	Prerequisite CHEM 410 and	
	Prerequisite FSE. 200 and acceptance into the Funeral Service Program.	
	Corequisite Concurrent enrollment in	
	Corequisite FSE. 210	

Content Review

FSE. 200 - Prerequisite
(Content to Content)
Launched

FSE. 210 - Corequisite
(Content to Content)
Launched

BIOL 250 - Prerequisite
(Content to Content)
Approved

BIOL 240 - Prerequisite
(Content to Content)
Active

CHEM 410 - Prerequisite
(Content to Content)
Active

Mode of Delivery

Modes of Delivery

Online
Hybrid
Lecture

Representative Instructional Methods

Methods	Lecture Lab Critique Activity Discussion Field Trips Guest Speakers
Other Methods	

Representative Assignments

Writing Assignments

(List all assignments, including library assignments. Outside assignments are not required for lab-only courses, although they can be given.)

1. Write a 3-4 page paper distinguishing between the three main types of symbiosis and give examples of each. One assignment of this nature per semester.
2. Write a 6-7 page paper that includes drawn structures for the following compounds: ethanol, glycerol, formaldehyde, isopropyl alcohol, methylene glycol, phenol, meta-cresol, propyl mercaptan, diethyl ether, and ethyl isopropyl ether and demonstrate the purpose of these compounds in Funeral Service. One assignment of this nature per semester.
3. Select a disease of your choice and write a 8-10 page paper describing the disease process and the potential postmortem conditions created that will impact embalming. One assignment of this nature per semester.

Reading Assignments

(List all assignments, including library assignments. Outside assignments are not required for lab-only courses, although they can be given.)

1. Read 5-6 pages from the required textbook weekly.
2. Read approximately 4 pages from the department student handbook on policies and procedures manual on a weekly basis.

Other Outside Assignments

(List all assignments, including library assignments. Outside assignments are not required for lab-only courses, although they can be given.)

- None

To be Arranged Assignments

(List all assignments, including library assignments. Outside assignments are not required for lab-only courses, although they can be given.)

- Not applicable

Representative Methods of Evaluation

This section defines the ways students will demonstrate that they have met the student learning outcomes.

Student grades will be based on multiple measures of student performance. Instructors will develop appropriate classroom assessment methods and procedures for calculating student grades, including the final semester grade. The following list displays typical assessment methods appropriate for this course. The actual assessment methods used in a particular classroom and section will be listed in the instructor's syllabus.

Methods must effectively evaluate critical thinking. Credit courses must include written communication, problem solving, and/or skills demonstrations.

Multiple measures may include, but are not limited to, the following:

Methods

- Class Participation
- Class Work
- Exams/Tests
- Group Projects
- Homework
- Oral Presentation
- Papers
- Quizzes
- Research Projects

Representative Texts

Textbooks such as the following are appropriate:

Formatting Style

APA

Textbooks

1. Mullins, D.. *Pathology and Microbiology for Mortuary Science*, 1 ed. Clifton Park: Delmar, 2006
2. Tortora, G. *Microbiology: An Introduction*, 13 ed. Pearson, 2018
3. de la Cruz, D. and Holmes, R.. *Turning Art Into Science: Applying Chemistry to Funeral Service*, 1 ed. Tuesday Evening Publications, 2016

Manuals

You have no manuals defined.

Periodicals

You have no periodicals defined.

Software

You have no software defined.

Other

1. Cañada College
Funeral Service Education
Student Handbook
2021-2022

Degree/Certificate Applicability

Designation

Degree Credit

Proposed For	AA/AS Degree
Course Designation Text	Are there degrees/certificates to which this course applies? Funeral Service Education (A.S. Degree)

General Education/Degree/Transfer Course	
Page Last Saved on Wednesday, Oct 7, 2020 at 5:56 PM By Damon de la Cruz	
CSU Transfer Course	
	Transfers to CSU Approved

Course Distance Education	
Distance Ed Supplement	New distance education supplement
Distance Education	Distance education component was developed by an instructor with training in online pedagogy. Training: This course was designed in consultation with, and will be taught by, faculty who have received @One, Cañada's QOTL (Quality Online Teaching & Learning) or equivalent certifications.
Method of Distance Education	Online, Hybrid, Web Assisted Course; (If there are limitations on how this course would be offered please explain below)
Online Method Limitations	
Other Methods	
Course Content and Methodology	The objectives and content of the course are adequately covered by the methods of instruction, assignments, evaluation of student outcomes, and instructional materials. If this course is currently taught in a lecture mode, the department faculty have determined that the same objectives can be achieved in a distance learning mode. The instructional equipment and materials are sufficient. The preparation and training of faculty are sufficient. Regular personal contact between students and instructor is sufficient. Methods of student evaluation are designed to maintain examination security. Evaluation of student outcomes is sufficient to permit review and assessment of the effectiveness of distance education for this course and to provide information for the annual distance education report.
Instructional Methodologies (How will you deliver the course content?):	Announcements/Bulletin Boards Chat Rooms E-mail Electronic Forum One-Way Video Conferencing (One-way interactive video and two-way interactive audio) Online Presentations Resource Links Two-Way Video conferencing (Two-way interactive video and audio)
Representative Courseware/Textbooks Materials:	
Methods of Evaluation of Student Performance:	Online quizzes (about 1/week) Online midterm exams (about 4/term) Proctored Final Exam
How are you ensuring that students with disabilities can access your course in	1. Videos are captioned 2. Lecture screen-casts are captioned 3. Transcripts are provided for all multi-media files (audio and visual) 4. Alt-text is used for embedded images 5. Standardized formatting is used to support screen readers 6. All files are assessed for

accordance with Section 508?	accessibility 7. Course is evaluated using the OEI Rubric 8. Faculty will work with DRC to ensure that proper accommodations are provided for students (e.g., extended time, Kurzweil, other UDI supports)
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Plan for Regular Effective Communication Contact Between Faculty and Student (Title 5, 55204). "Local policies should establish and monitor minimum standards of regular effective contact."

Announcements/Bulletin Boards - Announcements/Bulletin Boards - These will occur weekly as a minimum.

Email Communication - Email communication will occur through the LMS. Example content will be reminders and notifications. Email responses will be within two days. Daily (with a frequency of 24-48 hours).

Resource Links - Links to relevant news articles will be included with weekly announcements.

Office hours - Office hours will be scheduled. Office hours can also be by appointment.

Telephone - The instructor will be available via phone during office hours or by appointment.

Resources Needed

Adequate Library Resources	Consultation with the Coordinator of Library Services regarding the adequacy of campus and online information resources to fulfill course objectives is required prior to course approval. Adequate Please Specify: The accrediting board (the ABFSE) requires funeral specific resources in the library. Standard 8 of the accreditation Manual.
Affected Resources	Which of the following resources do you expect to be affected by the offering of this class? Check as many as appropriate. <input type="checkbox"/> Additional staff <input type="checkbox"/> Facility changes <input type="checkbox"/> Learning Center <input type="checkbox"/> Tutorial Assistance <input type="checkbox"/> Microcomputer Lab <input type="checkbox"/> New equipment needs <input type="checkbox"/> Library <input type="checkbox"/> Media Center
Explain what effect the areas you have checked will have upon this college:	

Comparable Transfer Course Information

Are there comparable courses? No

Minimum Qualification

No Minimum Qualifications For this Course

CB Codes

CB03 TOP Code	1255.00 - Mortuary Science
CB04 Course Credit Status	D - Credit - Degree Applicable
CB05 Course Transfer Status	B = Transferable to CSU only
CB08 Course	2N = Course is not a basic skills course.

Basic Skill Status (PBS Status)	
CB09 SAM Code	B - Advance Occupational
CB11 California Classification Codes	Y - Credit Course
CB21 Levels Below Transfer	Y = Not Applicable
CB23 Funding Agency Category	A = Fully Economic Development funds
CB25 Course General Education Status	Y - Not Applicable
CB26 Course Support Course Status	N - Course is not a support course

Codes/Dates

Entry of Special Dates

Instruction Office Review	11/13/2020
Last Outline Revision	11/13/2020
Content Review	11/13/2020
CC Approval	11/13/2020
DE Approval	11/13/2020
Effective Term	Term: Fall Year: 2021

Web Catalog

Course Family	
Web Catalog	<input type="checkbox"/> Exclude from Web Catalog

Instructional Services

Implementation Date	
Originator	Damon de la Cruz
Origination Date	10/03/2020
Proposal Type	Cañada New Course
C-ID Numbers	
CB00 State ID	
CB03 TOP Code	1255.00 - Mortuary Science
CB04 Course Credit Status	D - Credit - Degree Applicable
CB05 Course Transfer Status	B = Transferable to CSU only
CB08 Course Basic Skill Status (PBS Status)	2N = Course is not a basic skills course.
CB09 SAM Code	B - Advance Occupational
CB10 Course COOP Work Exp-ED	N = Not part of Coop Work Exp
CB11 California Classification Codes	Y - Credit Course

CB13-Special Class Status	N - Not Special
CB21 Levels Below Transfer	Y = Not Applicable
CB22 Non Credit Course Category	Y - Not Applicable
CB23 Funding Agency Category	A = Fully Economic Development funds
CB24-Program Course Status	1 = Program Applicable
CB25 Course General Education Status	Y - Not Applicable
CB26 Course Support Course Status	N - Course is not a support course

Web Catalog Metadata