Yuba College Course Outline

Course Information

Course Number: WELD 83 Full Course Title: GMAW/GTAW Production Welding Short Title: GMAW/GTAW Prod Weld Effective Term: Spring 2013

Course Standards

Lecture Hours: 54.000 Activity Hours: 0.000 Lab Hours: 54.000 Total Units: 4.000 Total Hours: 108.00 Repeatable: No Grading Method: Letter Grade or Pass/No Pass

Minimum Qualifications

- Welding Or
- Manufacturing Technology

Course Description

This course is an introduction to gas tungsten arc welding (GTAW), (GMAW) and flux cored arc welding. It covers plasma art cutting, application of processes, and use of a track cutter. Students will be introduced to manual and (CNC) plasma cutting.

Content

- 1. GTAW Technologies
 - a. Constant current power sources
 - b. Tungsten selection
 - c. Filler rod selection
 - d. Gases and regulator outputs
 - e. Current selection and use of
 - f. Metal characterisitcs
- 2. GMAW Technologies
 - a. Constant voltage power sources
 - b. GMAW equipment
 - c. Solid core electrodes
 - d. Gases and regulator flow output
 - e. Welding techniques
- 3. Plasma Arc Cutting
 - a. Equipment set up and use
 - b. Equipment application, selection and use
 - c. Introduction to CNC plasma cutting
- 4. Track Cutter
 - a. Equipment set up and use

b. Equipment application, selection of tip sizes, and cutting speeds

Course Lab/Activity Content

Laboratory tasks will cover the following topics:

- 1. GTAW Technologies
 - a. Constant current power sources
 - b. Tungsten selection
 - c. Filler rod selection
 - d. Gases and regulator outputs
 - e. Current selection and use of
 - f. Metal characterisitcs
- 2. GMAW Technologies
 - a. Constant voltage power sources
 - b. GMAW equipment
 - c. Solid core electrodes
 - d. Gases and regulator flow output
 - e. Welding techniques
- 3. Plasma Arc Cutting
 - a. Equipment set up and use
 - b. Equipment application, selection and use
 - c. Introduction to CNC plasma cutting
- 4. Track Cutter
 - a. Equipment set up and use
 - b. Equipment application, selection of tip sizes, and cutting speeds

Objectives

- 1. Learn and apply welding shop safe practices and perform housekeeping duties.
- 2. Set up and operate (MIG) Gas Metal arc welding machines.
- 3. Set up and use the plasma arc cutter (PAC).
- 4. Efficient use of materials. **Requires Critical Thinking**
- 5. Work with and develop an understanding of a variety of technologies in the welding industry. ****Requires** Critical Thinking**

Student Learning Outcomes

- 1. Weld safely and avoid dangers that could pose a threat to oneself and others.
- 2. Understand the differences between the GMAW and the GTAW processes.
- 3. Identify the shielding gases used in the GTAW and GMAW processes.
- 4. Weld ferrous and nonferrous metals.

Methods of Instruction

- Laboratory
- Lecture/Discussion
- Other
- Educational videos

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Read chapters and handouts as assigned Writing Assignments Answer queestions in text and workbook as assigned and terms

Methods of Evaluation

- Exams
- Laboratory Assignments
- Participation
- Quizzes
- Skills Demonstrations/Performance Exam
- Other
 - Workbook, clean-up and special assignments

Course Materials

Textbooks:

- 1. B. J. Moniz, R.T. Miller. *Welding Skills,* 5th ed. American Technical Publishers, 2015, ISBN: 978-0-8269-3084-2
- 2. Jonathan F. Gosse . *Welding Skills Workbook,* 5th ed. American Technical Publishers, 2015, ISBN: 978-0-8269-3085-9

Other:

1. Students will be required to provide safety equipment and clothing required for working in a welding shop.

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Yuba College Course Outline

Course Information

Course Number: WELD 85 Full Course Title: Structure Design and Fabrication Short Title: Struct Design & Fab Effective Term: Fall 2013

Course Standards

Lecture Hours: 54.000 Activity Hours: 0.000 Lab Hours: 54.000 Total Units: 4.000 Total Hours: 108.00 Repeatable: No Grading Method: Letter Grade or Pass/No Pass

Minimum Qualifications

- Welding Or
- Manufacturing Technology

Course Description

Structural weld design and fabrication of weldments. Operation of mechanized iron workers, tubular benders, press brakes and other fabrication equipment. Students will receive instruction on utilization of blueprints, welding symbols, cost estimation, and layout techniques, in regards to structural steel applications.

Conditions of Enrollment

Completion with a C or better in: WELD 84

Advisories

• Computer Literacy - recommended basic computer skills Projects are designed with CNC equipment

Content

- 1. Orientation and safety
- 2. Technical drawing and sketching
 - a. blueprint reading
- 3. Materials and specific application
 - a. cost
 - b. buying
 - c. proper utilization
 - d. industrial classification of materials

- 4. Shop equipment and operation
- 5. Fabrication of weldments
 - a. production methods
 - b. terms
 - c. weld symbols
 - d. interchangeability
- 6. Manufacturing planning
 - a. organization
 - b. operation
 - c. relation to production
 - d. manufacturability
 - e. production of CAD/CAM models
- 7. Tooling and fabrication
 - a. use of fixtures
 - b. jigs and special tools
 - c. modern techniques and shortcuts
- 8. AWS structural code
- 9. Methods
 - a. detail
 - b. assembly
 - c. installation
- 10. Material project planning (MRP)

Course Lab/Activity Content

Laboratory tasks will provide hands-on experience related to the following topics:

- 1. Technical drawing and sketching
 - a. blueprint reading
- 2. Materials and specific application
 - a. cost
 - b. buying
 - c. proper utilization
 - d. industrial classification of materials
- 3. Shop equipment and operation
- 4. Fabrication of weldments
 - a. production methods
 - b. terms
 - c. weld symbols
 - d. interchangeability
- 5. Manufacturing planning
 - a. organization
 - b. operation
 - c. relation to production
- 6. Tooling and fabrication
 - a. use of fixtures
 - b. jigs and special tools
 - c. modern techniques and shortcuts
- 7. AWS structural code
- 8. Methods
 - a. detail
 - b. assembly
 - c. installation
- 9. Material process planning (MRP)

Objectives

- 1. Apply common shop safety practices.
- 2. Recognize common weld methods, blueprint directions and symbols.

- 3. Analyze material specifications to decide specific applications. **Requires Critical Thinking**
- 4. Produce project plans, cut lists, and detailed material and labor costs for individual and/or group project.
- 5. Understand basic terminology and language related to steel layout and design.
- 6. Demonstrate the safe and proper use of fabrication equipment.
- 7. Complete individual manufacturing processes.
- 8. Define and place a schedule of jobs into manufacturing plans.
- 9. Synthesize tooling and fixtures to place objects together correctly.
- 10. Identify detail and assembly techniques to properly fabricate products.
- 11. Develop and build a project from concept through production. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Apply common shop safety practices.
- 2. Recognize common weld methods; blueprint directions and symbols.
- 3. Synthesize tooling and fixtures to place objects together correctly.
- 4. Demonstrate an understanding of Structural steel fabrication methods.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

- Laboratory Demonstration and practice
- Lecture/Discussion
 Powerpoints, demonstrations and discussion

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Chapters from books and handouts as assigned Other Assignments Watch the careers in welding video and complete the quiz.

Methods of Evaluation

- Exams
- Homework
- Oral Tests/Class Performance
- Participation
- Quizzes
- Skills Demonstrations/Performance Exam
- Other
- Final Project

Course Materials

Textbooks:

1. Frank Marlow. *Welding Fabrication & Repair, Questions and Answers,* Industrial Press, 2002, ISBN: 0-8311-3155-1

Other:

1. Students will be required to provide safety equipment and clothing required for working in a welding shop.

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Yuba College Course Outline

Course Information

Course Number: WELD 88 Full Course Title: Welding Technical Problems Short Title: Weld Tech Problems Effective Term: Fall 2013

Course Standards

Lecture Hours: 54.000 Activity Hours: 0.000 Lab Hours: 54.000 Total Units: 4.000 Total Hours: 108.00 Repeatable: No Grading Method: Letter Grade or Pass/No Pass

Minimum Qualifications

- Welding Or
- Manufacturing Technology

Course Description

Individualized instruction in special topics, including weld testing and certification, industry standards, A.N.S.I., AWS, A.P.I., A.S.M.E., research, and special welding processes and projects.

Conditions of Enrollment

Advisories

 Computer Literacy - recommended basic computer skills CNC project design

Content

- 1. Ascertain arc welding techniques as they apply to structural steel fabrication.
- 2. Ascertain oxy-fuel cutting machine skills.
- 3. Assess employment opportunities and the extent of his or her potential in the structural steel and fabrication area.
- 4. Select an appropriate welding technique to solve a given welding problem in an economical and effective manner.
- 5. Evaluate the quality and reliability of welded products.
- 6. Deduce issues with weld beads difficulties and the logical remedy to correct the problem.
- 7. Understand basic terminology and language related to welding structural steel layout and design.
- 8. Obtain welding skills in the area of structural steel and fabrication.
- 9. Demonstrate the safe and proper use fabrication equipment.

- 10. Visualize a project and turn the ideas into a working drawing with the use of an architectural scale.
- 11. Explain and demonstrate welding techniques toward an AWS d1.1 Certification

Course Lab/Activity Content

- 1. Assess employment opportunities and the extent of his or her potential in the structural steel and fabrication area.
- 2. Select an appropriate welding technique to solve a given welding problem in an economical and effective manner.
- 3. Evaluate the quality and reliability of welded products.
- 4. Deduce issues with weld beads difficulties and the logical remedy to correct the problem.
- 5. Understand basic terminology and language related to welding structural steel layout and design.
- 6. Obtain welding skills in the area of structural steel and fabrication.
- 7. Demonstrate the safe and proper use fabrication equipment.
- 8. Visualize a project and turn the ideas into a working drawing with the use of an architectural scale.
- 9. Explain and demonstrate welding techniques toward an AWS d1.1 Certification

Objectives

- 1. Ascertain oxy-fuel cutting machine skills
- 2. Select an appropriate welding technique to solve a given welding problem in an economical and effective manner. **Requires Critical Thinking**
- 3. Demonstrate the safe and proper use fabrication equipment.
- 4. Explain and demonstrate welding techniques toward an AWS d1.1 Certification

Student Learning Outcomes

- 1. displays safe working habits
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Demonstrates knowledge of the fabrication process
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

Methods of Instruction

- Laboratory
- Project design and completion
- Lecture/Discussion
- Powerpoints, demonstrations, disscussion

Assignments

Hours per week on assignments outside of the class: 3

Methods of Evaluation

- Exams
- Laboratory Assignments
 Oral Tests/Class Performance
- Quizzes
- Other
 - Final project

Course Materials

Textbooks:

1. Larry Jeffus. Welding: Principles and Applications, 8th Edition ed. Cengage, 2017, ISBN: 9781305494695

Other:

1. Students will be required to provide safety equipment and clothing required for working in a welding shop.

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Yuba College Course Outline

Course Information

Course Number: PLSCI 20 Full Course Title: Principles of Plant Science Short Title: Plant Science 20 Effective Term: Fall 2013

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

- Agriculture (Masters Required)
- Agricultural Production

Course Description

Principles of plant growth including structure, growth processes, propagation, physiology, growth media, and biological competitors. Not open to students with credit in PLSCI 20L.

Conditions of Enrollment

Advisories

- Language recommended eligibility for English 1A
- Mathematics recommended eligibility for Math 52

Content

- 1. The role of higher plants in the living world
 - A. Fossil fuels
 - B. Food chains
 - C. Industrial products
 - D. Lower forms of plant life

- 2. Structure of higher plants
 - A. The life cycle of a plant
 - B. The cell
 - C. Cell structure
 - D. The plant body
- 3. Naming and classifying plants
 - A. Climate
 - B. Botanical names
 - C. Botanical classifications
 - D. Plant taxonomy
- 4. Origin, domestication, and improvement of cultivated plants
 - A. Origin of cultivated plants
 - B. Domestication of plants
 - C. Crop plants
 - D. Germplasm
 - E. Genetic concepts in plant improvement
- 5. Propagation of plants
 - A. Propagation methods
 - B. Sexual propagation
 - C. Vegetative propagation
- 6. Vegetative and reproductive growth and development
 - A. Vegetative growth and development
 - B. Reproductive growth and development
 - C. Plant growth regulators
- 7. Photosynthesis, respiration, and translocation
 - A. Photosynthesis
 - B. Plant respiration
 - C. Electron transport system

- D. Assimilation
- 8. Soil and soil water
 - A. Factors involved in soil formation
 - B. Physical properties of soil
 - C. Chemical properties of soil
 - D. Soil organisms
 - E. Soil organic matter
 - F. Soil water
 - G. Water quality
- 9. Soil and water management and mineral nutrition
 - A. Land preparation
 - B. Irrigation
 - C. Mineral nutrition
 - D. Soil conservation
- 10. Climatic influences on crop production
 - A. Climatic factors affecting plant growth
 - B. Climatic requirements of some crop plants
 - C. Weather and climate
 - D. Climatic influences on plant diseases and pests
- 11. Biological competitors of useful plants
 - A. Weeds
 - B. Plant diseases
 - C. Plant pests
 - D. Nematodes
 - E. Rodents
 - F. Pesticide impacts on the environment
- 12. The scientific method
 - A. Developing a hypothesis

- B. Scientific design
- C. Application to plant/soil problems

Objectives

- 1. Categorize the roles of higher plants in the living world.
- 2. Understand plant nomenclature.
- 3. Describe the structural components of higher plants.
- 4. Name the standard plant propagation methods.
- 5. Describe sexual and asexual reproduction in higher plants.
- 6. Explain photosynthesis, respiration and translocation in higher plants. **Requires Critical Thinking**
- 7. Describe the basic physical and chemical properties of soils.
- 8. Describe the climatic influences on plant growth and development.
- 9. Categorize biological competitors of higher plants.
- 10. Describe the scientific method and explain its application solving problems in plant science.

Student Learning Outcomes

1. Students will research and then write a research paper on an agricultural/environmental topic of their choosing.

Methods of Instruction

Lecture/Discussion

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments read chapters as assigned Writing Assignments Plant reports, assigned chapters

Methods of Evaluation

- Essay/Paper
- Exams
- Homework

Research Project

Course Materials

Textbooks:

1. Berg, Linda. *Introductory Botany: Plants, People, and the Environment,* 2 ed. Thomson Brooks Cole, 2008, ISBN: 10: 0534466699

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Yuba College Course Outline

Course Information

Course Number: AJ 34 Full Course Title: Correctional Treatment Programs Short Title: Correct Treat Prog Effective Term: Spring 2009

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

Administration of Justice

Course Description

The study of correctional treatment programs concerning juveniles and adults, in both the casework setting and in a custody institution. This is a basic course for students planning to enter or who are already employed in the corrections field.

Conditions of Enrollment

Advisories

• Language - recommended eligibility for English 1A

Content

- 1. History of punishment and treatment
- 2. Custody and control
- 3. Treatment and rehabilitation
- 4. Process of institutionalization
- 5. The dehumanizing environment
- 6. Handling custodial and inmate power
- 7. Dealing with prejudice
- 8. Juvenile casework and institutions
- 9. Probation and parole
- 10. Working in a custody setting
- 11. Different types of inmates and personalities
- 12. Writing reports

Objectives

- 1. Differentiate between the "custody and control" function and the "treatment and rehabilitation" function.
- 2. Enumerate the goals and objectives of casework and of institutionalization.
- 3. Compare and contrast the roles of probation officer and parole officer.
- 4. Delineate appropriate methods of dealing with different types of juvenile and adult offenders. **Requires Critical Thinking**
- 5. Specify and explain the typical problems which occur in a custody environment. ****Requires Critical Thinking****
- 6. Identify and analyze common casework and institutional issues and explicate them in clear and concise written reports. **Requires Critical Thinking**

Student Learning Outcomes

- 1. By the end of the course, students will be able to access the effectiveness of contemporary correctional treatment programs.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- By the end of the course, students will be able to justify why effective communication is important in correctional treatment programs.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
- 3. By the end of this course, students will be able to demonstrate their competency in effectively interacting with others and demonstrating respect for opinions, feelings, and values.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Lecture/Discussion
- Other
 - Scenarios and readings

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Reading chapters in text book Writing Assignments Writing about concepts and principles learned in class or in reading text. Other Assignments

Daily, document writing, written communication skills

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Oral Tests/Class Performance

- ParticipationProblem Solving Exercises
- Quizzes
- Research Project
- Skills Demonstrations/Performance Exam
- Other
 - **Class Participation**

Course Materials

Textbooks:

1. Noah Berlatsky. America's Prisons (Opposing Viewpoints), n/a ed. Greenhaven Press, 2015, ISBN: 978-0737775372 Equivalent text is acceptable

Other:

1. Scantron forms.

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Yuba College Course Outline

Course Information

Course Number: FIRTC 1 Full Course Title: Fire Protection & Emergency Services Short Title: Intro. to Fire Effective Term: Fall 2008

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Fire Technology

Course Description

Introduction to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection, fire loss analysis; organization and function of public and private fire protection services; fire department as part of local government; laws and regulations affecting the fire service; fire service nomenclature; specific fire protection functions; basic fire chemistry and physics; introduction to fire protection systems; introduction to fire strategy and tactics. Not open for credit to students with credit in FIRTC-10. (L)

Content

Course Lecture Content

- 1. Fire protection career opportunities
 - a. Firefighting
 - b. EMT
- 2. Career assessment
- 3. Employment processes
- 4. History of fire protection
- 5. Social, political, and economical implications of fire problems
- 6. Public fire protection services
- 7. Private fire protection services
- 8. Characteristics of fire behavior
- 9. Fire prevention functions
- 10. Fire control functions

Objectives

1. Identify career opportunities in the fire protection industry.

- 2. Outline the history of public and private fire protection service.
- 3. Describe the requirements for a fire service career.
- 4. Summarize the problem of fire in today's society.
- 5. Describe the past and present methods of fire control.
- 6. Compare the relative effectiveness of specific fire protection functions used to deal with the fire problem.
- 7. Problem solving exercises **Requires Critical Thinking**

Student Learning Outcomes

- 1. SLO's 1. Illustrate the history of the fire service.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 2. 2. Describe the components and development of the fire and emergency services.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 3. 3. Recognize careers in fire and emergency services.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

• Lecture/Discussion

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Writing Assignments Other Assignments

Methods of Evaluation

- Exams
- Participation
- Quizzes

Course Materials

Textbooks:

1. Robert Klihoff. *Introduction to Fire Protection and Emergency Services,* 5th ed. Jones & Barnes Learning, 2016, ISBN: 978-1-284-03289-7 Equivalent text is acceptable

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Yuba College Course Outline

Course Information

Course Number: FIRTC 2 Full Course Title: Fire Prevention Technology Short Title: Prevention Tech Effective Term: Fall 2008

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Fire Technology And

Course Description

This course provides fundamental knowledge relating to the field of fire prevention. Topics include: history and philosophy of fire prevention; organization and operation of a fire prevention bureau; use and application of codes and standards; plans review; fire inspections; fire and life safety education; and fire investigation. Not open for credit to students with credit in Fire Science 12. (L)

Conditions of Enrollment

Advisories

• Language - recommended eligibility for English 1A

Content

Course Lecture Content

I. National Fire Problem and Role of Fire Prevention

A.

Definition

В.

Historical Overview

C.

Data Analysis/GIS

D.

Current Trends of Fire Prevention

II. Fire Prevention Organizations and Associations

Α.

Public--Federal, State and Local

В.

Private--International, National and Regional

III. Laws, Rules, Regulations and Codes

A.

Definitions

В.

Applicability

С.

Interrelationship

D.

Limitations

IV. Fire Prevention Bureau Functions

A. Data Collection and Analysis

B. Plans Review

C. Fire Inspections

D. Fire and Life Safety Education

E. Fire

Investigations

V.

Tools and Equipment

А.

Data Collection and Analysis

В.

Plans Review

C.

Fire Inspections

D.

Fire and Life Safety Education

E.

Fire Investigations

VI. Roles and Responsibilities of Fire Prevention Personnel

Α.

Data Collection and Analysis

В.

Code Development and Interpretation

C.

Training and Education

D.

Enforcement

E.

Management

VII. Professional Certification

Α.

Categories and Levels

Β.

Local

С.

State

D.

National

VIII. Professional Development

Α.

National Fire Prevention Development Model

В.

Training and Education

С.

Certification Systems

Objectives

- 1. Identify the sources granting authority and responsibility.
- 2. Analyze the organizational structure of fire prevention bureaus.
- 3. Identify the procedures required for successful, consistent fire prevention inspections.
- 4. Identify common and special fire hazards.
- 5. Define fire cause and origin.
- 6. Describe proper fire investigation techniques.
- 7. Identify the five types of building construction.
- 8. Categorize a building by its occupancy.
- 9. Identify various fixed fire protection systems and their components.
- 10. Describe the principles of safe storage, handling and use of hazardous materials.
- 11. Describe techniques for public fire prevention education.
- 12. Problem solving exercises **Requires Critical Thinking**

Student Learning Outcomes

- 1. 1. Identify laws, codes, ordinances, and regulations as they relate to fire prevention.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 2. 2. Understand code enforcement as it impacts life and property loss.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

• Lecture/Discussion

Assignments

Hours per week on assignments outside of the class: 1

Reading Assignments Read each chapter Writing Assignments Answer challenging questions Other Assignments Review case study information

Methods of Evaluation

- Exams
- Participation
- Quizzes

Course Materials

Textbooks:

1. IFSTA. "Fire Inspection and Code Enforcement,", Current edition ed. -, 0, ISBN: -

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Yuba College Course Outline

Course Information

Course Number: EMT AHA BLS CP Full Course Title: AHA BLS CPR Short Title: CPR Effective Term:

Course Standards

Repeatable: No Grading Method: Non-credit Course

Minimum Qualifications

• Emergency Medical Technologies

Course Description

The AHA's new BLS Course has been updated to include science and education from the 2015 Guidelines Update for CPR and ECC. It teaches both single-rescuer and team basic life support skills for application in both prehospital and in-facility environments, with a focus on high-quality CPR and team dynamics.

Content

Course Lecture Content

Course Content

• The importance of high-quality CPR and its impact on survival

All of the steps of the Chain of Survival and apply the BLS concepts of the Chain of
Survival

- Recognize the signs of someone needing CPR
- · Perform high-quality CPR for adults, children and infants
- · The importance of early use of an AED and demonstrate its use
- Provide effective ventilations by using a barrier device

• The importance of teams in multi-rescuer resuscitation and perform as an effective team member during multi-rescuer CPR

• The technique for relief of foreign-body airway obstruction (choking) for adults and infants

Objectives

None

Student Learning Outcomes

1. The course outcomes of this course are to enable the student to: 1) Demonstrate skills to assess and manage foreign body airway obstruction in infants, children and adults. 2) Demonstrate skills to provide one- and two- person cardiopulmonary resuscitation to infants, children and adults. 3) Recall rationale and

technique for automated external defibrillation. 4) Complete American Heart Association's BLS written final examination as required for healthcare professionals. 5) Demonstrate proper use of pocket mask, bag-valve mask and ventilation to an artificial airway during resuscitation attempts.

- **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
- Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.

Methods of Instruction

None

Assignments

Hours per week on assignments outside of the class: 2

Reading Assignments 15-1010- BLS Provider Manual - Chapter review and reading assignments

Methods of Evaluation

None

Course Materials

None

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Yuba College Course Outline

Course Information

Course Number: ECON 1A Full Course Title: Elementary Economics-Macro Short Title: Macro Economics Effective Term: Spring 2016

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Economics (Masters Required)

Course Description

An introduction to macroeconomic concepts and principles of economic analysis. Topics include: foundations of economic life, national income and employment, financial systems, business cycles, money and banking, monetary and fiscal policy, economic growth and stability, public finance, international trade and the position of the U.S. within the context of the global economy, World Trade Organization policies, International Monetary Fund, World Bank structure, and global agricultural subsidies.

Conditions of Enrollment

Completion with a C or better in: (MATH 101 or MATH 101B or. Other: Qualifying score on the mathematics placement test)

Advisories

Language - recommended eligibility for English 1A

To successfully complete this class, a student needs to be able to read and understand the textbook reading and the assignments required for a passing grade.

Content

- 1. A Brief Economic History
- 2. Resource Utilization/Production Possibilities Curve
- 3. The Mixed Economy/Economic Role of Government/Market Failures
- 4. Economic measurements/Business Cycle
- 5. Supply and Demand/Shifts/Price Ceilings and Floors
- 6. The Household Consumption Sector/Consumption/Savings/Marginal Propensity to Consume
- 7. Graphing Consumption and other components of the financial system
- 8. The Business-Investment Sector

- 9. The Government Sector/Taxes/Economic role of Government
- 10. The Export-Import Sector
- 11. Specialization and Exchange/Outsourcing and Offshoring
- 12. World Trade Agreements/Free Trade Zones
- 13. Gross Domestic Product/Nominal versus Real GDP
- 14. Economic Fluctuations/Unemployment/Inflation
- 15. Classical and Keynesian Economics
- 16. Aggregate Supply/Aggregate Demand/Equilibrium versus Disequilibrium
- 17. Fiscal Policy and the National Debt
- 18. Recessionary Gaps/Inflationary Gaps/Automatic Stabilizers
- 19. Discretionary Fiscal Policy/Fiscal Policy Lags
- 20. National Debt/Debt Ceilings/Fiscal Cliffs
- 21. Money and Banking
- 22. Federal Reserve/Monetary Policy
- 23. Economic Growth and Productivity
- 24. International Trade/International Finance/Trade Deficits

Objectives

- 1. Define and apply the economic theories presented in this course. **Requires Critical Thinking**
- 2. Apply economic principles such as opportunity cost, finite resources, and trade-offs to students' everyday lives where spending, working, and saving decisions are concerned. ****Requires Critical Thinking****
- 3. Apply market theory principles to help understand the potential role of government in the economy in relation to Fiscal Policy and Monetary Policy. ****Requires Critical Thinking****
- 4. Synthesize ideas in order to derive new solutions to economic problems.
- 5. Formulate better informed decisions regarding health of national economy.
- 6. Gather and analyze economic data and formulate conclusions that demonstrate a sound understanding of economic models. **Requires Critical Thinking**
- Describe and analyze the economy using quantitative and graphical analysis utilizing national income, unemployment, inflation, and monetary data. **Requires Critical Thinking**
- 8. Analyze current events, including U.S. and World Markets, reported upon in the news media. **Requires Critical Thinking**
- 9. Understand the structure of the Federal Reserve banking system, its components, and how it functions with regard to the central bank.
- 10. Explain and apply economic theories regarding globalization and predict future developments.
- 11. Analyze proposed political solutions to state of economy and determine whether these are based on sound economic principles.
- 12. Analyze current events reported upon in the news media. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Assess market conditions applying laws of supply and demand.
- 2. Assess economic growth using the principles of aggregate demand and supply.
- 3. Determine the various roles of public policy on market economies.
- 4. Describe the role of the Federal Reserve Bank in the domestic and global economy.
- 5. Evaluate economic growth from both a domestic and global perspective.
- 6. Describe and evaluate differing perspectives of income distribution, standards of living, poverty, and

Methods of Instruction

- Lecture/Discussion
- Other
- Simulation exercises

Distance Education

Delivery Methods

Online

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Writing Assignments Other Assignments

1.) Complete the following table and use it to answer questions (a) - (e):

Disposable Income	Consumption	Savings
\$0		-\$60
150		0
300		60
450		120
600		180
750		240
900		300
1050		360
1200		420
1350		480
1500		540

- a.) What is autonomous consumption?
- b.) What is the Marginal Propensity to Consume (MPC)? What is the Marginal Propensity to Save (MPS)?
- C.) What is the equation for the Consumption Function?
- d.) Graph the Consumption Function on graph paper. (Be sure to label everything and include a 45° line)
- e.) At an income level of \$2,200, what is the level of consumption? What is the level of savings?

2.) Given the following:

Autonomous Consumption:	\$20
Marginal Propensity to SAVE:	0.20
Autonomous Investment:	\$80

a.) Complete the table on the next page:

Income	Consumption	Savings	Investment	C + I
\$0				
100				
200				
300				
400				
500				
600				
700				
800				
900				
1,000				

b.) What is the equation for the Aggregate Expenditure Function?

C.) Graph the Aggregate Expenditure Function on graph paper.

d.) What is the equilibrium level of GNP?

e.) What is the Multiplier?

- f.) If investment decreased by \$25, what is the new equilibrium level of GNP?
- 3.) Assume the land of Wilsonia has the following characteristics:

Marginal Propensity to Consume:	0.75
Autonomous Consumption:	\$600
Autonomous Investment:	\$500

- a.) What is the Aggregate Expenditure Function?
- b.) What is the equilibrium level of GNP?
- C.) What is the Multiplier for Wilsonia?
- d.) If the level of savings decreased by \$200 in the land of Wilsonia, what is the new equilibrium level of GNP?

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Participation
- Problem Solving Exercises
- Quizzes
- Research Project
- Other
 - Written news analyses

Course Materials

Textbooks:

1. Slavin, Stephen L. . *Macroeconomics*, 11th ed. McGraw-Hill, 2014, ISBN: 978-0-07-764155-9 Equivalent text is acceptable

Other:

- 1. Online homework package such as Aplia or MyEconLab at instructor's discretion
- 2. Current subscription to newspaper, magazines also at instructor's discretion.

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Yuba College Course Outline

Course Information

Course Number: ECON 1B Full Course Title: Elementary Economics-Micro Short Title: Micro Economics Effective Term: Spring 2016

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Economics (Masters Required)

Course Description

An introduction to Microeconomic concepts, principles, scarcity problems and policies. Theories include: equilibrium price, supply and demand, elasticity, marginal utility, cost and revenue concepts, market structure, labor economics, comparative economic systems and pricing the factors of production. Students learn to use economic principles to analyze the economic challenges facing the individual and business organization.

Conditions of Enrollment

Completion with a C or better in: (MATH 101 or MATH 101B or. Other: Qualifying score on the mathematics placement test.)

Advisories

• Language - recommended eligibility for English 1A To successfully complete this class, a student needs to be able to read and understand the textbook reading and the assignments required for a passing grade

Content

- 1. Resource Utilization
 - a. Scarcity
 - b. Resource allocation
 - c. Opportunity Cost
 - d. Production Possibilities Curve
- 2. Mixed Economy
 - a. The three basic economic questions: What do we produce, how much, for whom?
 - b. Price Mechanism
 - c. Equity and Efficiency

- d. Circular Flow Model
- e. Economic role of the government
- f. Market Failures
- 3. Supply and Demand
 - a. Surpluses and Shortages
 - b. Shifts in Demand and Supply
 - c. Price Ceilings and Price Floors
 - d. Equilibrium Price and Equilibrium Quantity
 - e. Graphing Demand and Supply curves
- 4. Price Elasticities of Demand and Supply
 - a. Calculating the price elasticity of demand
 - b. Elastic, Inelastic and Total Revenue
 - c. Income Elasticity of Demand
 - d. Cross Elasticity of Demand
 - e. Price Elasticity of Supply
 - f. Tax Incidence
- 5. Theory of Consumer Behavior
 - a. Utility, Marginal Utility and Total Utility
 - b. Consumer Surplus
- 6. Cost Theory
 - a. Fixed Cost, Variable Cost, Total Cost and Marginal Cost
 - b. Short Run and Long Run
 - c. Average Fixed Cost, Average Variable Cost and Average Total Cost
 - d. Graphing all cost curves
 - e. Production Function and the Law of Diminishing Returns
 - f. Shut down decisions
- 7. Market Structures
 - a. Perfect Competition
 - b. Monopoly
 - c. Monopolistic Competition
 - d. Oligopoly
- 8. Labor Markets
 - a. Demand and Supply of Labor
 - b. Minimum Wage and Living Wage
- 9. Income Distribution, Poverty and Market Failures
 - a. Equity and Efficiency
 - b. Government Transfer Programs
 - c. Poverty defined and solutions
- 10. International Trade and Finance
 - a. Absolute Advantage, Comparative Advantage, Specialization
 - b. Trade Balances, tariffs, and quotas
 - c. Exchange Rate Systems

Objectives

- 1. Define and apply the economic theories such as scarcity, trade-offs, opportunity costs and rationalization to everyday experiences.
- 2. Relate economic theory to the "real world".
- 3. Infer possible policy solutions and evaluate the effectiveness of these solutions.
- 4. Synthesize the ideas in this course in order to derive new solutions to economic problems.
- 5. Formulate sound business operating decisions grounded in economic theory.
- 6. Address and explain reasons for market failures and appropriate government regulation.
- 7. Explain and relate personal consumer experiences to economic theories.

- 8. Develop optimal economic solutions under varying market structures. **Requires Critical Thinking**
- 9. Define, calculate and interpret the different measurements of elasticities. **Requires Critical Thinking**
- 10. Synthesize and analyze production data, resource allocation and pricing scenarios. ****Requires Critical** Thinking**
- 11. Analyze consumer behavior in face of scarce resources. **Requires Critical Thinking**
- 12. Research U.S. and world markets and apply economic theories to the decisions that have been made. **Requires Critical Thinking**
- 13. Define and calculate production costs, quantity choices and pricing strategies for different types of firms in the short run and the long run.

Student Learning Outcomes

- 1. Mathematically and graphically demonstrate a clear understanding of microeconomic principles of supply, demand, and equilibrium price and quantity.
- Assess the marginal cost and revenue dynamics of market structures, including perfect competition, monopoly, oligopoly and monopolistic competition.
- 3. Describe and evaluate domestic and global issues of income, poverty, and healthcare.
- 4. Assess consumer and business decision making using theories of utility and elasticity.
- 5. Develop opinions and synthesize microeconomic principles to current and historical economic trends and issues.
- 6. Demonstrate in writing and graphically the dynamics of the labor market, including factors such as unemployment, minimum wage, and labor unions.

Methods of Instruction

Lecture/Discussion

Distance Education

Delivery Methods

• Online

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Writing Assignments Other Assignments

1.) Use the following INDUSTRY Demand/Supply schedule to answer questions (a) – (c):

PRICE	QUANTITY DEMANDED	QUANTITY SUPPLIED
\$180	0	100
170	5	95
160	10	90
150	15	85

140	20	80
130	25	75
120	30	70
110	35	65
100	40	60
90	45	55
80	50	50
70	55	45
60	60	40
50	65	35
40	70	30
30	75	25
20	80	20

NOTE: \$20 is the shut-down price for this Industry. No output is produced at prices below \$20.

a.) Assume that the above schedule represents a **PERFECTLY COMPETITIVE INDUSTRY**.

Graph the Industry Demand Curve and the Industry Supply Curve on graph paper.

- 1a.) What is the Industry's Equilibrium Price and Quantity?
- 2a.) On your graph, shade in the area which represents Consumer Surplus and Producer Surplus for this Industry.
- 3a.) What is the **numerical** value for Consumer Surplus? What is the **numerical** value for Producer Surplus?
- b.) Now assume that the above schedule represents a **MONOPOLY INDUSTRY.** On a new graph, graph the Monopolist's Demand Curve, Supply Curve, and Marginal Revenue Curve.
 - 1b.) Assuming that the Marginal Cost Curve is identical to the Supply Curve, how much will the Monopolist produce? What price will the Monopolist charge?
 - 2b.) On your graph, shade in the area which represents Consumer Surplus, Producer Surplus, and Deadweight Loss for this industry.
 - 3b.) What is the **numerical** value for Consumer Surplus? What is the **numerical** value for Producer Surplus? What is the **numerical** value for the Deadweight Loss?
- c.) Comparing your answers from (a) to your answers from (b), discuss the resulting effects on this Industry and the economy of going from a Perfectly Competitive Industry to a Monopoly.
- 2.) Consider the following Demand Schedules for Adult theater tickets and Children's theater tickets at Molly's Theater:

PRICE (per ticket)	QUANTITY DEMANDED	QUANTITY DEMANDED
\$15	0	0
14	2	0
13	4	0
12	6	0
11	8	0
10	10	0
9	12	1
8	14	2
7	16	3
6	18	4
5	20	5
4	22	6
---	----	----
3	24	7
2	26	8
1	28	9
0	30	10

Assuming that Molly is able to charge different prices to Adults and Children, and using a graph similar to the one we did in class (Auto a.) Insurance Example), graph the following: 1a.) Demand Curve for Adult Theater Tickets

- Marginal Revenue Curve for the Adult Theater Market 2a.)
- Demand Curve for Children's Theater Tickets 3a.)
- Marginal Revenue Curve for the Children's Theater Market 4a.)́ 5a.) Marginal Cost Curve (Assuming a constant Marginal Cost of \$5)
- Using your graph from (a), find the following:
- 1b.) # of Adult Theater Tickets Sold:
- 2b.) Price of Adult Theater Tickets:
- # of Children's Theater Tickets Sold: 3b.)
- Price of Children's Theater Tickets: Molly's Total Revenue for ticket sales 4b.) 5b)
 - to both Adults and Children:

Now assume that Molly can no longer discriminate and must charge the SAME price to adults and children:

- Graph Molly's "Market Demand Curve" depicting total demand for tickets at each price level. c.)
 - d.) Graph Molly's Marginal Revenue Curve and Marginal Cost Curve. (Assuming a constant Marginal Cost of \$5)
 - Using your new graph, find the following:
 - # of Tickets Sold 1e.)
 - Price of each Ticket: 2e.)
 - Molly's Total Revenue for ticket sales: 3e.)
 - How much revenue did Molly lose by not being able to practice price discrimination?

Methods of Evaluation

- Essay/Paper
- Exams

b.)

e.)

f.)

- Homework
- Oral Tests/Class Performance
- Participation
- Problem Solving Exercises
- Quizzes
- Research Project
- Other

Students will be expected to read, interpret and analyze current economic events. Students will also be responsible for participation in debates regarding current economic events.

Course Materials

Textbooks:

1. Slavin, Stephen L.. Microeconomics, 11th ed. McGraw Hill, 2014, ISBN: 978-0-07-764154-2 Equivalent text is acceptable

Other:

- 1. Online homework package such as Aplia or MyEconLab at instructor's discretion
- 2. Current subscription to newspaper or magazine at instructor's discretion

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Yuba College Course Outline

Course Information

Course Number: GEOG 2 Full Course Title: Cultural Geography Short Title: Cultural Geography Effective Term: Fall

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Geography (Masters Required)

Course Description

Survey of human populations and their relationship with the physical environment; past and present development of cultures.

Content

Course Lecture Content

Introduction to Cultural Geography

- I. Culture & cultural geography
 - A. Environmental determinism versus possibilism
 - B. Globalization of culture and economy
 - C. Processes and measures of population change
- II. Arithmetic population density and physiological population density
 - A. Crude birth rate and crude death rate
 - B. Rate of natural increase
 - C. Demographic transition model
 - D. Government population policy
- III. Migration
- IV. Push and pull factors
 - A. Economic
 - 1. Political
 - 2. Environmental
 - 3. International migration
 - B. Forced migration and refugees
 - 1. Voluntary migration
 - 2. Migration to the United States
 - C. Migration before 1960
 - 1. Migration after 1960
 - 2. Introduction to language

V.Languages and dialects

- A. Pidgin and creole languages
- B. Historical geography of the English language
- VI. Development of dialects in Britain
 - A. Development of dialects in the United States

B. Geography of Religion- history, fundamental beliefs and diffusion of the major religions of the world. VII. Judaism

- A. Christianity
- B. Islam
- C. Hinduism
- D. Buddhism
- E. Ethnic religions
- F. Animism
 - 1. Shinto
 - 2. Religious conflicts
- G. History of Agriculture

VIII. Systems of food production and agriculture

IX. Hunting and gathering

- A. Pastoral nomadism
- B. Shifting cultivation
- C. Wet-rice agriculture
- D. Plow and mechanized agriculture
- E. The agricultural ecology of shifting cultivation, wet-rice agriculture and plow agriculture
- F. The "Green Revolution"
- X. Geography of nutrition, health, and disease
- XI. measuring economic development
- XII. Gross national product per capita
 - A. Infant mortality rate
 - B. Literacy rate
 - C. Female literacy vs. male literacy
 - 1. Promoting economic development
- XIII. International trade approach
 - A. Government economic development policies
 - B. Gender and economic development
- XIV. Political geography
- XV. Nations
 - A. States
 - B. Nation-states
 - C. Establishing state boundaries
 - D. Nationalism
- XVI. Multi-national states
 - A. Multi-state nationalities
 - B. Colonialism and historical geography of the modern world
- XVII. Political and economic legacies of colonialism
 - A. Colonialism as a process of globalization

Objectives

- 1. Identify early forms of humans and reconstruct migration routes.
- 2. Synthesize past, present, and future population trends. **Requires Critical Thinking**
- 3. Reconstruct and analyze the history and processes of domestication and the effects of climate on food production. **Requires Critical Thinking**
- 4. Identify and predict Earth's resources as used by humans. **Requires Critical Thinking**
- 5. Compare and evaluate technical and cultural progress through time and relate it to the future. ****Requires** Critical Thinking**

6. Classify and distinguish the impacts of housing, settlement patterns, manufacturing, communications, and trade on past and modern human life. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Describe and explain major concepts and traditional approaches to the study of culture and cultural geography
- 2. Assess the processes and consequences of the globalization of culture and economy in the contemporary world
- Appraise the distribution of the human population and the historical and contemporary processes that shape this distribution.
- 4. Assess the origins, diversity, and distribution of basic geographical patterns, such as language, religion, urbanization, nationalities, and human-environment interactions.
- 5. Describe and explain the political, economic, and geographic legacies of colonialism around the world, and relate these to processes of globalization.

Methods of Instruction

- Lecture/Discussion
- Other
- audio-visual aids

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments

Weekly reading assignment from required textbook. Other Assignments

Sample 1: Review the current events making world headlines (urls for relevant readings will be provided) and answer the questions relating them to recently learned course concepts.

Sample 2: Select 10 name-brand consumer goods that you own and use on a regular basis. These goods could be as simple as the ball point pen that you use in class, to an article of clothing, to the car you drive to school, etc. Select only those goods that are not manufactured in the United States (this should not be difficult; choose items manufactured in at least 7 different countries). Then perform the following and fill in all information in the table provided.

a. Identify the country and the city that the item was manufactured in. To do this, look for the information directly on the product. Or, you may have to look up the information on the Internet using the name brand. For example, I have a shirt that is of the brand "Mudoc". The tag on it says "made in Argentina". But, it doesn't tell me which city. So, I typed the brand name into the Google search engine on the Internet and found the company's website. On the website, I clicked on "About Us", and found the following information: Moduc t-shirts are are manufactured in Buenos Aires, Argentina. If you cannot find the exact city after searching use the country capital as the default location.

b. Determine the latitude and longitude of each city (round to whole degrees). Use any of the maps in your book; "googling" will return a different answer than your estimation from the book.

c. Use a map in your textbook to determine both the language family and the specific language spoken in the manufacturing location. (ex: in Indonesia the map color corresponds to the language family of "Austronesian" while the map indicates the specific language is "Javanese" thus Javanese is in the Austronesian language family; list both on the worksheet, family first)

d. Use the map in textbook to determine the specific religion practiced in the location. Be specific (i.e. be sure to

differentiate between different branches of Christianity, Islam, etc.)

e. Use the map in textbook to determine life expectancy in the location.

f. Use the map in textbook to determine what percentage of the region's population is engaged in agriculture.

2. Using the information from step "b", precisely plot a dot at the source location of each of your goods on the world map provided. Using blue or red ink and a ruler, draw a thin, straight line from the 10 source location dots to Yuba College.

3. Define "per capita income" in your own words. Refer to the per capita income map in your textbook to help explain the patterns you see emerging.

Methods of Evaluation

- Exams
- Homework
- Participation
- Quizzes

Course Materials

Textbooks:

1. Rubenstein, James.. *The Cultural Landscape: An Introduction to Human Geography*, 12th ed. Pearson, 2016, ISBN: 978-0134206233 Equivalent text is acceptable

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Yuba College Course Outline

Course Information

Course Number: GEOL 40 Full Course Title: Geology of Yosemite Short Title: Geology of Yosemite Effective Term:

Course Standards

Lecture Hours: 12.000 - 24.000 Activity Hours: 12.000 - 24.000 Lab Hours: 0.000 Total Units: 1.000 - 2.000 Total Hours: 24.00 - 48.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

- Earth Science (Masters Required) Or
- Geology (Masters Required)

Course Description

This field course focuses on the geology of Yosemite National Park, with emphasis on the tectonic and erosional history of the area. The course includes study of the various intrusive rocks and the minerals they contain, as well as the relative ages of the plutons. Glacial erosional and depositional processes will be discussed.

Content

Course Lecture Content

- 1. Evolution of the Sierra Nevada mountain range
- 2. Igneous rocks and their minerals and plutonic structure
- 3. Glacial features (roche moutonee, striations, polishing, erratics, moraines, cirques, aretes, horns)
- 4. Joint formation and exfoliation
- 5. Glacial history of Yosemite Valley
- 6. Water resources and landscape effects (Mirror Lake and/or Hetch Hetchy)
- 7. Accreted terranes and amalgamation of California

Course Lab/Activity Content

1) Tectonic setting specific to emplacement of Sierra Batholith

- a. Explore the tectonics of the region, sketch and identify evidences of tectonic processes.
- b. Map and identify tectonics specific to California today
 - i. Movement along eastern fault block
 - ii. Classification differences (rock type) throughout the range
- 2) Rocks and minerals found in the region
 - a. Site specific samples will be examined and classified according to textbook classification

schemes.

b. Learn and use various techniques for field identification of site specific minerals.

- 3) Weathering processes shaping the landscape (erosion, deposition)
 - a. Investigate site specific erosional rates and relate to the local weathering processes.
 - b. Use a topographic map to identify large scale erosional features and locate onsite.
- 4) Geomorphology and related volcanic structures
 - a. Investigate site specific landscape modification due to volcanism
 - b. Use a topographic map to identify large scale geomorphic features and locate onsite.
- 5) Natural hazards of the region
 - a. Identify, explain and sketch, site specific examples of natural hazards.
 - b. Locate and identify volcanic hazards on topographic and geologic maps

Objectives

- 1. Examine glacial features and analyze how they affected the rocks and landscape.
- 2. Evaluate the various intrusive igneous bodies in terms of their mineral composition, relative age, and intrusive relationships.
- 3. Analyze the development of the modern Yosemite landscape in terms of rock formation, tectonic history, erosional processes and human impact.
- 4. Explain how metamorphic accreted terranes form, and how they created the variety of rocks present in the foothills of the Sierra Nevada.
- 5. Evaluate the environmental impact and usefulness of Hetch Hetchy reservoir as a water resource.
- 6. Students will be required to maintain a field journal which will necessitate observations and evaluation and interpretation of the geology and geologic evolution of the region. ****Requires Critical Thinking****
- 7. Additionally, students will participate in field trip discussions comparing different rocks and landscapes, and evaluating the possible causes of the differences and similarities. **Requires Critical Thinking**

Student Learning Outcomes

1. Analyze the development of the modern Yosemite landscape in terms of rock formation, tectonic history, and glacial processes.

Methods of Instruction

- Lecture/Discussion
- Other
 - Field observations and activities

Assignments

Hours per week on assignments outside of the class: 2

Other Assignments Field Notebooks with particular emphasis on natural history and environmental studies

INTRODUCTION

An outstanding field notebook serves many potential purposes.

- 1. It is a valuable record of what you have seen, heard, discussed, and thought about in the field.
- 2. It may contain the data which will lead to an oral presentation, a paper, and/or a thesis.
- 3. It may be a graded portion of a course.
- 4. It may be something you and your relatives will find interesting decades in the future.

A field notebook should enhance and not interfere with learning. Don't write down everything a field trip leader says without thinking about it or asking questions. You are not a tape recorder; filter the information through your brain. Don't focus so much on a relatively immovable aspect (e.g., rocks or vegetation) that you miss something fleeting (e.g., an eagle or a sunset).

Neatness and organization are essential. Efficiency may be important; use standard abbreviations (e.g., the geologic time symbols). A labeled sketch may be more valuable than 100s of words.

BEFORE THE FIELD

1. Write your name with indelible ink on the front and back of your notebook. Write your name, address(es), and phone number(s) near the front.

2. Consider putting a title on the inside and an abbreviated title on the outside (e.g., Alaska, 2000).

3. Paginate the entire notebook; start a table of contents near the front.

4. Depending on the situation, enter appropriate emergency information near the front or back: e.g., who to contact and how, allergies, search and rescue phone number, hospital address, phone number of embassy.5. Start an "address book" of key contacts, potential people to visit, people who might provide information, people who might help with transportation in the field, etc. This list might include home and work addresses,

email address, and home, work, and cellular phone numbers.

6. Consider gluing or taping into the notebook (near the back and/or front) one or more of the following: maps, lists of flora and fauna, geologic time scale, stratigraphic column, checklists of data to be recorded.

7. How is your notebook going to be organized? One way is to put observations and sketches on the right, and interpretations and questions on the left.

IN THE FIELD, EVERY DAY

1. General location: country, state, county, mountain range, coast, island, national or state park, nearest town, etc.

2. Weather: temperature, precipitation, wind velocity and direction (winds are named from whence they come), humidity, cloud cover, visibility, etc. This information may be pertinent to soils or vegetation, or may help you remember the day and/or location. If the weather varies much during the day, note the changes.

3. If your particular focus is geology, mention the soils and vegetation. They may be important clues to the geology (e.g., particular plants grow on serpentinite). The approximate age of landforms such as moraines and landslide scars may be revealed by vegetation. If your focus is bedrock geology, note landforms (e.g., fault scarps) and surficial deposits. If your focus is geomorphology and surficial geology, note the bedrock geology (e.g., resistance to weathering and erosion).

4. If your particular focus is biology, mention the geology. Plant distribution is greatly influenced by bedrock types, landforms, surficial deposits, and soils. Particular plants have specific requirements for moisture (soil porosity and permeability) and trace elements (mineralogy) Burrowing animals may prefer one surficial sediment to another. The flora and the fauna are very much influenced by aspect (the direction a slope faces) due to temperature and moisture differences, and by drainage (e.g., a wetland vs. a hilltop).

5. As appropriate, expand the "address book" mentioned in BEFORE THE FIELD.

IN THE FIELD, EVERY STOP

1. Specific site. This location should be described accurately enough so that you could get back here. It might include a street address, latitude and longitude or UTM co-ordinates, elevation, aspect, which side of stream,

how far and in what direction from a landmark, etc.

2. Data on whatever may be relevant: humans, animals, plants, ecosystems, ecotones, rocks, sediments, soils, structures, landforms, processes, rates, facilities, pollution, scenery. Some of this data may be re-entered elsewhere in your notebook, as I mention later.

3. Consider drawing and labeling a sketch, diagram, map, or cross-section. My general rule-of-thumb is one sketch per site, but some require more and some need none. Remember, a sketch can be much better than, or <u>can</u> reduce the length of, an outline or narrative. Do not worry if you don't think you're an artist. You never will be if you don't try, and your sketches will improve with practice. Would color help? Some sketches stand alone without labels. You might be drawing scenery or a flower; such sketches should have titles (e.g., Hunter Peak across Clarks Fork, Indian paintbrush on Hood Canal bluff). Most sketches need lots of labels (e.g., rock types and ages, landforms, fauna and flora). Maps and cross-sections need scale, and orientation (e.g., north arrow or direction of view).

4. Multiple working hypotheses, questions, tentative interpretations and conclusions (e.g., the geologic or human history as determined at this specific site).

5. Notes about photographs taken. What is it? What is the scale? What direction are you facing? Some people prefer to record photos site by site; others record all photos in a separate section of the notebook.

EVERY EVENING AFTER FIELD WORK

1. Review your field notes. Is there anything that might be important that you remember now but did not note in the field?

2. Consider re-entering data into a computer for analysis and/or separate storage.

3. Summarize the day's observations, hypotheses, conclusions, etc.

- 4. Do you need to revisit any of the sites?
- 5. Consider making separate lists of fauna (including birds) and flora observed.

6. If there is field work the next day, plan for it. Be prepared.

Methods of Evaluation

- Oral Tests/Class Performance
- Participation
- Other

Field notebook Discussions

Course Materials

Textbooks:

1. Huber, N. King, . *The Geologic Story of Yosemite National Park,* USGS Bulletin, 1989, ISBN: -0939666499

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Yuba College Course Outline

Course Information

Course Number: COUNS 15 Full Course Title: Orientation To College Short Title: Orient to College Effective Term: Fall 2013

Course Standards

Lecture Hours: 18.000 Total Units: 1.000 Total Hours: 18.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Counseling (Masters Required)

Course Description

Designed to provide students with information and skills to facilitate their transition to college. Familiarize students with the college community, rules, regulations, and policies. Introduce the use of student and campus services. Develop a thorough understanding of program requirements and the knowledge necessary for sound educational planning.

Content

Course Lecture Content

- 1. Introduction to YCCD Student Services and resources including: EOP&S, DSPS, College Success Center, WIA, CalWorks, Career Center, Transfer Center, CARE, College Library.
- 2. Academic regulations, scholarship standards, probation, dismissal, student rights and esponsibilities.
- 3. Regulations and policies: Drug Free Schools Policy, Sexual Assault Policy, Sexual Harassment Policy.
- 4. Programs and requirements: Associate Degrees and Certificates, Pre-transfer programs, General Education for AA/AS and BA/BS.
- 5. Survival skills for college: setting goals, study skills, strategies for tests and exams, time management, note taking, reading techniques, values clarification, and stress management.
- 6. Cultural Diversity and Gender Equity.

Objectives

- 1. Demonstrate awareness of Yuba Community College District (YCCD) services.
- 2. Describe and apply the scholarship standards and academic regulations of the YCCD.
- 3. Describe the YCCD Drug Free School Policy, Policy on Sexual Assault, Sexual Harassment Policy.

- 4. Identify the physical and emotional effects of alcohol/drug abuse.
- 5. Demonstrate knowledge of YCCD Programs for Student Assistance.
- 6. Demonstrate understanding of requirements of YCCD's academic and occupational programs.
- 7. Demonstrate understanding of CSU/GEB requirements and CSU transfer acceptance requirements.
- 8. Demonstrate understanding of IGETC and UC transfer admission requirements.
- 9. Develop an educational plan for a variety of the goals available to a YCCD student.
- 10. Identify personal interests and goals and relate them to potential careers.
- 11. Demonstrate knowledge of study skills techniques and various learning styles.
- 12. Assess personal value systems through values clarification exercises and class discussion.
- 13. Identify sources of stress and potential means for stress management.
- 14. Develop an understanding of cultural diversity and gender bias.
- 15. Analyze and categorize courses by general education categories, major prerequisites, and graduation requirements to develop an efficient educational plan. **Requires Critical Thinking**
- 16. Analyze and categorize the factors that constitute a logical and satisfying career plan. ****Requires Critical Thinking****
- 17. Categorize the personal, social, and environmental factors that lead to college success. ****Requires** Critical Thinking**
- 18. Describe academic regulations and their impact on student progress. **Requires Critical Thinking**

Student Learning Outcomes

- 1. List the steps for AA,AS and ADT degree completion.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

Methods of Instruction

- Lecture/Discussion
- Other
 - Reading college catalog and schedule of classes

Assignments

Hours per week on assignments outside of the class: 2

Reading Assignments

Read pages 50 and 51 of the catalog. Be ready to discuss the requirements to graduate from Yuba College. Writing Assignments

List one class from each of the six General education areas to meet the graduation requirements.

Methods of Evaluation

- Exams
- Oral Tests/Class Performance
- Participation
- Other
 - Class presentations

Course Materials

Textbooks:

1. Cari Cannon. *How to Flunk Out of a Community College: 101 Surefire Strategies that Guarantee Failure,* 4 ed. Kendall Hunt, 2015, ISBN: 8791465276476 Equivalent text is acceptable

Other:

1. Current college catalog and schedule of classes. Graduation and transfer advisement guides.

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Methods of Evaluation

- Exams
- Oral Tests/Class Performance
- Participation
- Other
 - Class presentations

Course Materials

Textbooks:

1. Cari Cannon. *How to Flunk Out of a Community College: 101 Surefire Strategies that Guarantee Failure,* 4 ed. Kendall Hunt, 2015, ISBN: 8791465276476 Equivalent text is acceptable

Other:

1. Current college catalog and schedule of classes. Graduation and transfer advisement guides.

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Yuba College Course Outline

Course Information

Course Number: RADT 1 Full Course Title: Fundamentals of Radiologic Science and Health Care Short Title: Rad Sci Fund Effective Term: Fall 2017

Course Standards

Lecture Hours: 72.000 Total Units: 4.000 Total Hours: 72.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

Radiological Technology

Course Description

Introduction to the field of Radiologic Technology. Basic imaging principles, patient diversity and care, medical ethics and laws; the clinical environment, basic pharmacology, and communication.

Conditions of Enrollment

Other: Acceptance into the Radiologic Technology Program.

Content

Course Lecture Content

- 1. Introduction to Imaging
- 2. Professional Organizations
- 3. Introduction to Critical Thinking
- 4. Introduction to the Clinical Environment
- 5. Hosptial Adminstration
- 6. Radiographic Equipment
- 7. Radiobiology
- 8. General patient care
 - a. Obtaining vital signs
 - b. Infection control
 - c. Emergency situations
 - d. Patient immobilization and transportation
 - e. Serile/Non Sterile Techniques
 - f. Handwashing
 - g. Drug Administration
- 9. Diversity and Patient Care
- 10. Professionalism and Medical Ethics

- 11. Cardiac Monitoring
- 12. Health Information Management
- 13. Basic radiation protection and imaging principles

Objectives

- 1. Describe and demonstrate good principles of body mechanics applicable to the technologist and patients.
- 2. Describe patient vital signs and discuss the significance in the assessment of patient condition.
- 3. Discuss and demonstrate the apprpopriate methods of sterile/nonsterile techniques.
- 4. Demonstrate an understanding of medical/radiologic professionalism.
- 5. Recognize appropriate patient care for patients of various ages, cultures and disabilities. ****Requires** Critical Thinking**
- 6. Identify the basics of radiation production and imaging procedures. **Requires Critical Thinking**
- 7. Demonstrate an understanding of basic radiation protection procedures. **Requires Critical Thinking**
- 8. Show an understanding of Radiopharmaceuticals and their use. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Students will illustrate human diversity and how this affects the profession of Radiologic Technology.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Global Awareness Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 2. Students will simulate proper general patient care skills using sterile and non-sterile technique.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 3. Students will recognize basic radiation and imaging principles.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

Methods of Instruction

Lecture/Discussion

Powerpoints Scenarios Videos Case Studies Discussion Demonstration

Assignments

Hours per week on assignments outside of the class: 8

Reading Assignments

Reading assigned chapters and other information.

Answer review questions and submit.

Writing Assignments

Research a given culture and how it relates to radiologic technology. Prepare and submit a written report as well as an oral presentation to the class.

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Laboratory Assignments
- Oral Tests/Class Performance
- Problem Solving Exercises
- Quizzes
- Research Project
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

1. Adler, Arlene and Richard Carlton. *Introduction to Radiography and Patient Care,* 6th ed. Mosby, 2015, ISBN: 978-0-323-08581-6

Other:

1. RT Student Policy and Procedure Handbook

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Yuba College Course Outline

Course Information

Course Number: RADT 2 Full Course Title: Radiation Physics and Equipment Short Title: Rad Phys and Equip Effective Term: Fall 2017

Course Standards

Lecture Hours: 72.000 Total Units: 4.000 Total Hours: 72.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Introduction to radiation physics; fundamentals of x-ray equipment; x-ray production and x-ray beam characteristics.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program.

Content

Course Lecture Content

- 1. Radiation physics concepts
- 2. Electromagnetic radiation
- 3. X-ray imaging system
- 4. Image quality
- 5. Medical imaging in computer science
- 6. Production and characteristics of radiation
- 7. Computed radiography
- 8. Digital radiography
- 9. Basic radiation protection as it relates to x-ray production

Objectives

1. Define and describe principles of physics that relate to x-radiation.

- 2. Explain the process of ionization and its importance to radiologic science. **Requires Critical Thinking**
- 3. Define and discriminate the differences between characteristic and Bremsstrahlung radiation. **Requires Critical Thinking**
- 4. Explain the inverse square law.
- 5. Identify the interactions between matter and magnetic fields. **Requires Critical Thinking**
- 6. Describe the general design of the x-ray tube
- 7. Describe each of the five x-ray interactions with matter.

Student Learning Outcomes

- 1. Students will contrast electron-target interactions.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
- 2. Students will demonstrate x-ray interactions with matter.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
- 3. Students will compute the intensity of radiation by using the inverse square law.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.

Methods of Instruction

Lecture/Discussion
Power Points Demonstrations Videos Class Discussions Lecture Lab experiments

Assignments

Hours per week on assignments outside of the class: 8

Reading Assignments Textbook reading Other Assignments

- 1. Perform mathematical calculations that relate to inverse-square law and the direct square law.
- 2. Calculate various technique problems using changes in mAs and kVp formulas.
- 3. Identify the parts of x-ray machine.
- 4. Workbook completion

Methods of Evaluation

- Essay/Paper
- Exams

- Homework
- Laboratory Assignments
- Participation
- Problem Solving Exercises
- Quizzes
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

1. Bushong. Radiologic Science for Technologist Physics, Biology and Protection, 11th ed. Elsevier , 2017, ISBN: 9780323353779

Manuals:

1. Bushong. Radiologic Science for Technologists Workbook, 11th ed. Elsevier, 2017, ISBN: 9780323375108

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Yuba College Course Outline

Course Information

Course Number: RADT 3A Full Course Title: Radiographic Procedures 1 Short Title: Rad Procedures 1 Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Activity Hours: 0.000 Lab Hours: 54.000 Total Units: 3.000 Total Hours: 90.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Knowledge and skills necessary to perform standard radiographic procedures that are of optimal diagnostic quality. Skills necessary for image critique. Areas studied: thorax, abdomen, pelvis and upper and lower extremities.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program -

Content

Course Lecture Content

Lecture:

- 1. Radiographic terminology
- 2. Radiographic anatomy, positioning, and pathology
 - a. Thorax
 - b. Abdomen
 - c. Pelvis
 - d. Extremities (upper and lower)
- 3. Image Critique

Course Lab/Activity Content

Laboratory:

- 1. Radiographic positioning demonstrations:
 - a. Thorax
 - b. Abdomen
 - c. Pelvis
 - d. Extremities (upper and lower)
- 2. Image Critique
- 3. Lab experiments

Objectives

- 1. Describe general procedural considerations for radiographic examinations.
- 2. Apply the skills necessary to position patients for routine radiographic views of the thorax, abdomen, pelvis, upper, and lower extremities. **Requires Critical Thinking**
- 3. Evaluate images for quality in terms of anatomy demonstrated, position, and exposure. ****Requires** Critical Thinking**
- 4. Through role-playing, demonstrate the ability to use appropriate considerations for patients with varying needs, backgrounds, body habitus, and gender identity.
- 5. In a laboratory setting, simulate the radiographic routine applying the principles of radiographic positioning. **Requires Critical Thinking**
- 6. Evaluate images for quality in terms of anatomy demonstrated, position, and exposure. **Requires Critical Thinking**
- 7. Identify radiographic anatomy

Student Learning Outcomes

- 1. Students will demonstrate appropriate positioning for a radiologic exam.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Students will correctly identify the elements of image evaluation criteria.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 3. Students will employ knowledge of human anatomy to obtain diagnotic quality radiographic images.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Laboratory
 - Scenarios Simulations Discussion Demonstration Experiements

• Lecture/Discussion Powerpoints Discussion Demonstrations Scenarios Simulations

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments

Read Textbook chapters

Workbook Assignments

Writing Assignments

Students are required to complete the workbook

Students are to complete a written research project related to Radiologic Technology

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Laboratory Assignments
- Oral Tests/Class Performance
- Problem Solving Exercises
- Quizzes
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

1. John Lampignano and Leslie Kendrick. *Textbook of Radiographic Positioning and Related Anatomy*, 9 ed. Elsevier, 2018, ISBN: 9780323399661

Manuals:

1. John Lampignano and Leslie Kendrick. Workbook for Textbook of Radiographic Positioning and Anatomy, 9 ed. Elsevier, 2018, ISBN: 9780323481878

Other:

- 1. Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258
- 2. Student Program Handbook

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Yuba College Course Outline

Course Information

Course Number: RADT 3B Full Course Title: Radiographic Procedures 2 Short Title: Rad Procedures 2 Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Activity Hours: 0.000 Lab Hours: 54.000 Total Units: 3.000 Total Hours: 90.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Knowledge and skills necessary to perform standard radiographic procedures that are of optimal diagnostic quality. Skills necessary for image critique. Areas studied: spine, skull, facial bones, trauma, portable, OR.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

Lecture:

- 1. Radiographic Terminology
- 2. Radiographic anatomy, positioning, and pathology.
 - a. Spine
 - b. Skull
 - c. Facial bones
 - d. Sinus
 - e. Trauma
 - f. Portable exams
 - g. Operating Room Exams
 - 3. Image Critique

Course Lab/Activity Content

- 1. Radiographic positioning demonstrations:
 - a. Spine
 - b. Skull
 - c. Facial bones
 - d. Sinus
 - e. Trauma f. Portable exams
 - g. Operating Room Exam
 - 2. Image Critique
 - 3. Lab Experiments

Objectives

- 1. Describe general procedural consideration for radiographic examinations.
- 2. Identify the skills necessary to position patients for routine radiographic views. ****Requires Critical Thinking****
- 3. Evaluate images for quality in terms of anatomy demonstrated, position, and exposure. **Requires Critical Thinking**
- 4. Through role-playing, demonstrate the ability to use appropriate considerations for patients with varying needs, backgrounds, body habitus, and gender identity. ****Requires Critical Thinking****
- 5. In a laboratory setting, simulate the radiographic routine applying the principles of radiographic positioning. **Requires Critical Thinking**
- 6. Evaluate images for quality in terms of anatomy demonstrated, position, and exposure.

Student Learning Outcomes

- 1. Students will demonstrate appropriate positioning for a radiologic exam.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Students will correctly identify the elements of image evaluation criteria.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 3. Students will employ knowledge of human anatomy to obtain diagnostic quality radiographic images.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

Laboratory

Scenarios Simulations Discussion Demonstration Experiements • Lecture/Discussion Powerpoints Discussion Demonstrations Scenarios Simulations

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments Reading Assigned chapters and other documentation Writing Assignments

Complete assignments in the workbook for submission

Journal article review

Description of anatomy and image review written exam

Methods of Evaluation

- Exams
- Homework
- Laboratory Assignments
- Oral Tests/Class Performance
- Problem Solving Exercises
- Quizzes
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

1. John Lampignano and Leslie Kendrick. *Bontrager's Textbook of Radiographic Positioning and Related Anatomy*, 9th ed. Elsevier, 2018, ISBN: 9780323399661

Manuals:

1. John Lampignano and Leslie Kendrick. Workbook Bontrager's Textbook of Radiographic Positioning and Related Anatomy, 9th ed. Elsevier, 2018, ISBN: 9780323481878

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Yuba College Course Outline

Course Information

Course Number: RADT 3C Full Course Title: Radiographic Procedures 3 Short Title: Rad Procedures 3 Effective Term: Fall 2017

Course Standards

Lecture Hours: 54.000 Total Units: 3.000 Total Hours: 54.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Knowledge and skills necessary to perform advanced radiographic procedures; advanced image critique; advanced imaging modalities

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

Lecture:

- 1. Enhanced medical and radiologic terminology
- 2. Radiographic anatomy, positioning, and pathology
 - a. Contrast Studies
 - b. Venipuncture
 - c. Pharmacology
 - d. Fluoroscopy

Objectives

1. Describe appropriate general considerations for varying patient conditions and types.

- 2. Demonstrate awareness for the preparatory considerations administering iodinated contrast.
- 3. Given radiographs, evaluate images for quality in terms of positioning, anatomy, centering and technical factors. ****Requires Critical Thinking****
- 4. Describe advanced imaging modalities and explain what body systems are visualized by each.
- 5. Illustrate proper venipuncture technique.
- 6. Identify the best radiation protection skills utilized during fluoroscopy.

Student Learning Outcomes

- 1. Students will successfully perform 10 venipuncture procedures.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 2. Identify proper techniques for administration of oral and IV contrast.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 3. Differentiate between osmolarity, osmolality, and osmotic activity
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.

Methods of Instruction

- Lecture/Discussion
- Power Points Videos Lecture Discussion Modeling Demonstration
- Other

Demonstration Simulation

Assignments

Hours per week on assignments outside of the class: 6

Reading Assignments Reading assignments Writing Assignments

Case studies

Homework

Other Assignments Venipuncture simulator

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Laboratory Assignments
- Problem Solving Exercises

Quizzes

- Research Project
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

- 1. John Lampignano and Leslie Kendrick. *Textbook of Radiographic Positioning and Related Anatomy*, 9th ed. Elsevier, 2018, ISBN: 978032339961
- 2. Steven Jensen and Michael Peppers. *Pharmacology and Drug Administration for Imaging Technologists,* 2nd ed. Elsevier, 2005, ISBN: 9780323030755

Manuals:

1. John Lampignano and Leslie Kendrick. *Workbook of Radiographic Positioing and Related Anatomy,* 9th ed. Elsevier, 2018, ISBN: 9780323481878

Other:

1. Fluoroscopy manual provided by Yuba College Bookstore. Information combined from numerous souces.

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Yuba College Course Outline

Course Information

Course Number: RADT 3D Full Course Title: Radiographic Procedures 4 Short Title: Rad Proc 4 Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Total Units: 2.000 Total Hours: 36.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Critical thinking skills necessary obtain the best radiographic image in various situations.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

- 1. Radiographic anatomy and positioning
 - a. Procedure adaptation using radiation physics
 - b. Spatial relationships in positioning
 - c. Specific trauma and mobile positions
 - d. Advanced special rules of all body systems
 - e. Pediatric and Geriatric patient considerations
- 2. Patient case studies

Objectives

1. Describe the process for obtaining advanced projections of all body systems. ****Requires Critical Thinking****

- 2. Describe and utilize the standard positioning aids and accessory equipment for positioning.
- 3. Evaluate radiographic images for quality in terms of positioning, anatomy, centering and technical factors. **Requires Critical Thinking**
- 4. Describe recommendations for facilitating and achieving high quality radiographs on trauma and mobile projections of all anatomical portions of the body ****Requires Critical Thinking****
- 5. Evaluate patient positioning to determine alternative approaches to imaging. ****Requires Critical Thinking****
- 6. Students will give reasons for adaptions in radiographic technique, positioning, and communication in the geriatric patient. **Requires Critical Thinking**
- 7. Students will give reasons for adaptions in radiographic technique, positioning, and communication in the pediatric patient. **Requires Critical Thinking**

Student Learning Outcomes

- 1. List the order in which specific projections should be taken of a trauma patient for a given case study.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
- 2. Express technique corrections and adaptions to improve image quality.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

Lecture/Discussion

Lecture Power Points Case Studies Scenarios Discussion Image Analysis

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments

Textbook reading

Other reading assignments

Writing Assignments

Describe (in writing) how you would address a multi-patient multi-trauma radiology examination.

Methods of Evaluation

- Exams
- Homework
- Laboratory Assignments
- Oral Tests/Class Performance
- Problem Solving Exercises
- Quizzes
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

1. Carroll, Quinn and Bowman, Dennis. Adaptive Radiography, 1st ed. Delmar, 2014, ISBN: 9781111541200

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Yuba College Course Outline

Course Information

Course Number: RADT 4 Full Course Title: Principles of Radiation Physics Biology & Protection Short Title: Prin of Rad Phy Bio Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Total Units: 2.000 Total Hours: 36.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

Radiological Technology

Course Description

Principles of the interaction of ionizing radiation with the living system; effects on biological molecules and organisms and factors affecting biological response; radiation protection responsibilities of the radiographer for patients, personnel and the public.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program.

Content

Course Lecture Content

- 1. Effects of ionization on human cells, tissues and organs
 - a. Radiation syndromes
 - b. Genetic effects
 - c. Somatic effects
- 2. Radiation detection and measurement
- 3. Personnel protection
- 4. Radiation dose-limiting standards
- 5. Regulatory radiation agencie

Objectives

1. Explain radiation effects on human cells, tissues, and organs. **Requires Critical Thinking**

- 2. Explain differences in cellular radiosensitivity. **Requires Critical Thinking**
- 3. Describe radiation carcinogenesis.
- 4. Compare exposures and doses in diagnostic radiology. **Requires Critical Thinking**
- 5. Discuss radiographer radiation protection responsibility as it pertains to patients, personnel and the public.
- 6. Discuss the purpose, characteristics, advantages, and disadvantages of personnel monitoring devices.
- 7. Discuss and explain all components involved in good sound patient radiation protection.
- 8. Recognize the various agencies related to radiation protection regulations.

Student Learning Outcomes

- 1. Students will demonstrate sound radiation protection skills.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Explain the effects of ionizatiion on human cells, tissues, and organs.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Global Awareness** Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

Methods of Instruction

Lecture/Discussion

Lecture Power Point Discussions Demonstrations Scenarios Case Studies Videos

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments

Read assigned pages in the text

Writing Assignments

Case study submission

Homework

Workbook submissions

Other Assignments

Please respond to the following:

- 1. Calculate inverse-square law for the understanding of radiation exposure at various distances.
- 2. Convert traditional radiographic dose units: traditional to SI and SI to traditional
- 3. Explain the cardinal rules of radiation safety in the clinical setting as noted.

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Laboratory Assignments
- Problem Solving Exercises
- Quizzes
- Research Project
- Skills Demonstrations/Performance Exam

Course Materials

Textbooks:

- 1. Statkiewicz Sherer, Mary Alice; Visconti, Paula J and Ritenour, E. Russell . *Radiation Protection in Medical Radiography*, 8th ed. Elevier, 2018, ISBN: 9780323446662
- 2. Bushong, Stewart. Radiologic Science for Technologist, Physics, Biology, and Protection, 11th ed. Elsevier, 2017, ISBN: 9780323353779

Manuals:

- 1. Mary Alice Statkiewicz Sherer, Paula Visconti, Russel Ritenour, Kelli Haynes. *Workbook for Radiation Protection in Medical Radiography*, 8th ed. Elsevier, 2018, ISBN: 9780323555098
- 2. Bushong, Stewart. Radiologic Science for Technologists Workbook, 11th ed. Elsevier, 2017, ISBN: 9780323375108

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Yuba College Course Outline

Course Information

Course Number: RADT 5 Full Course Title: Principles Radiation Exposure & Equipment Short Title: Rad Exp. & Equip. Effective Term: Fall 2017

Course Standards

Lecture Hours: 72.000 Total Units: 4.000 Total Hours: 72.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

Radiological Technology

Course Description

Knowledge of factors that govern and influence the production of the radiographic image; Digital radiography image production and review, Picture Archiving and Communication Systems, DICOM, HL7

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program.

Content

Course Lecture Content

- Image Factors
- Scatter Radiation and Grids
- · Digital and Computed Radiography systems
 - 1. Artifacts
 - 2. Quality assurance
 - 3. Image quality
 - 4. Image review
 - 5. Image Manipulation
- Networking and Communication Basics
 - 1. PACS
 - 2. DICOM
 - 3. HL-7

Experiments as related to exposure principles, CR systems, Networking and Communication

Objectives

- 1. Define radiographic density, contrast, distortion, and recorded detail and identify acceptable ranges.
- 2. Define beam limiting devices, beam filtration and their effects.
- 3. Define scattered radiation, its causes and methods of reduction.
- 4. Define, compare and explain the use of grids.
- 5. Perform appropriate manipulation of the digital image **Requires Critical Thinking**
- 6. Explain the differences between DR, CR and film equipment and imaging. **Requires Critical Thinking**
- 7. Describe the use of a PACS systems. **Requires Critical Thinking**
- 8. Discuss the use of digital imaging and communication in medicine (DICOM) in medical imaging. **Requires Critical Thinking**
- 9. Define HL-7 and its use in health care information systems. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Discuss the applications of PACS, DICOM, and HL7 in the digital imaging workplace.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Discuss the implications of Image Noise, Modulation Transfer Function, and Detector Quantum Efficiency (DQE) on the digital image.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 3. Compare and Contrast Computed Radiography Image systems with Digital Radiography Image systems.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 4. Explain the process and factors of digital image manipulation.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Scientific Awareness Students will understand the purpose of scientific inquiry and the implications and applications of basic scientific principles.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 5. Provide criteria for proper CR and DR image qualiity
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
Methods of Instruction

Lecture/Discussion
 Lecture Power Points Videos Discussion Manipulation of images on lab's equipment Image review

Assignments

Hours per week on assignments outside of the class: 8

Reading Assignments

Textbook reading assignments

Writing Assignments

Workbook submission

Worksheet submission

Research paper

Methods of Evaluation

- Exams
- Participation
- Quizzes

Course Materials

Textbooks:

- 1. Bushong, Stewart. *Radiologic Science for Technologists Physics, Biology and Protection,* 11th ed. Elevier, 2017, ISBN: 9780323353779
- 2. Christi Carter and Beth Veale. *Digital Radiography and PACS*, 2nd ed. Elsevier, 2013, ISBN: 9780323086448

Manuals:

1. Bushong, Stewart. *Radiologic Science for Technologists Workbook,* 11th ed. Elsevier, 2017, ISBN: 9780323375108

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Yuba College Course Outline

Course Information

Course Number: RADT 6A Full Course Title: Radiologic Technology Internship 1 Short Title: Rad Tech Intern 1 Effective Term: Fall 2017

Course Standards

Activity Hours: 0.000 Lab Hours: 300.000 Total Units: 5.500 Total Hours: 300.00 Repeatable: No Grading Method: Pass/No Pass Only

Minimum Qualifications

• Radiological Technology

Course Description

Beginning radiologic experience in clinical facilities under the supervision of the college instructor, staff technologists, and clinical instructors. Basic development of skills in correlation with current radiologic practices. Rotation in various facilities.

Conditions of Enrollment

Other: Acceptance into the Radiologic Technology Program.

Content

Course Lecture Content

Course Lab/Activity Content

- 1. Daily Operations
 - a. Learn clinical facility policy and procedures
 - b. Learn department policy and procedures
 - c. Learn department protocols
 - d. Learn department RIS and PACS
- 2. Radiologic Techniques all at the student beginning level of expertise
 - a. Radiation protection
 - b. Universal precautions
 - c. Image critique
- 3. Positioning Procedures
 - a. Extremities
 - b. Chest

- c. Abdomen
- d. Upper Extremities
- e. Lower Extremities
- 4. Student beginning level ability to work patients of varying cultures, abilities, ages, and mental alterations.

Objectives

- 1. With direct supervision operate a variety of x-ray machines. **Requires Critical Thinking**
- 2. Function within a hospital or clinic at an entry student level. **Requires Critical Thinking**
- 3. Demonstrate appropriate care for patients of various cultures and abilities. **Requires Critical Thinking**
- 4. With direct supervision, perform radiologic exams. **Requires Critical Thinking**
- 5. Communicate with patients at a level appropriate for the patients age, medical condition, and abilites. **Requires Critical Thinking**
- 6. Demonstrate appropriate radiation protection skills. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Perform Diagnostic Imaging chest exams at the level of a student technologist.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Perform Diagnostic Imaging abdomen exams at the level of a student technologist.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 3. Communicate effectively with patients.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Laboratory
- Other
- On the job training

Assignments

Hours per week on assignments outside of the class: 0

Writing Assignments

Given a specific prompt, students will record a written response and submit

Sstudents are required to complete paperwork and tracking documentation.

Methods of Evaluation

- Essay/Paper
- Homework
- Laboratory Assignments Participation
- Skills Demonstrations/Performance Exam

Course Materials

Other:

- 1. Student handbook
- 2. Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258
- 3. Trajecsys Clinical Recordkeeping for Health Education

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Yuba College Course Outline

Course Information

Course Number: RADT 6B Full Course Title: Radiologic Technology Internship 2 Short Title: Rad Tech Intern 2 Effective Term: Fall 2017

Course Standards

Activity Hours: 0.000 Lab Hours: 260.000 Total Units: 4.500 Total Hours: 260.00 Repeatable: No Grading Method: Letter Grade or Pass/No Pass

Minimum Qualifications

• Radiological Technology

Course Description

Beginning radiologic experience in clinical facilities under the supervision of the college instructor, staff technologists, and clinical instructors. Enhanced development of skills in correlation with current radiologic practices. Rotation in various facilities.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program.

Content

Course Lecture Content

- 1. Daily Operations
 - a. Clinical facility policy and procedures
 - b. Department policy and procedures
- 2. Radiologic Techniques
 - a. Radiation protection
 - b. Infection control
 - c. Image critique
 - d. Quality control
 - e. Fluoroscopic control
- 3. Positioning Procedures
 - a. Continue with extremities, thorax, abdomen, pelvis procedures
 - b. With supervision add spine, skull and urinary systems
 - c. Portable procedures
 - d. Fluoroscopic procedures including contrast studies
- 4. Laboratory experiments

5. Multicultural and disabled patient care

Course Lab/Activity Content

- 1. Daily Operations
 - a. Learn clinical facility policy and procedures
 - b. Learn department policy and procedures
 - c. Learn department protocols
 - d. Learn department RIS and PACS
- 2. Radiologic Techniques at the student beginning level of expertise
 - a. Radiation protection
 - b. Universal Prequations
 - c. Image critique
- 3. Positioning Procedures

a. skull

- b. facial bone
- c. sinus
- d. cervical spine
- e. thoracic spine
- f. lumbar spine
- g. sacrum
- h. coccyx
- i. trauma
- j. Operating Room
- k. Portable exams
- 4. Positioning of all exams previously studied at a student beginning level of expertise.
- 5. Student entry level ability to work patients of varying cultures, abilities, ages, and mental alterations.

Objectives

- 1. Operate a variety of x-ray equipment. **Requires Critical Thinking**
- 2. Function within a hospital or clinic with an increased understanding of the complexities of the patient condition ****Requires Critical Thinking****
- 3. Demonstrate appropriate patient care and radiation protection skills for patients of various cultures and abilities with increased patient interaction. **Requires Critical Thinking**
- 4. At a student beginning level, perform imaging exams for patients of varying cultures, abilities, ages, and mental alterations. **Requires Critical Thinking**
- 5. Communicate with patients at a level appropriate for the patients age, medical condition, and abilites.
- 6. With direct and indirect supervision, perform radiologic exams. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Perform Diagnostic Imaging upper extremity exams at the level of a student technologist.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Perform Diagnostic Imaging lower extremity exams at the level of a student technologist.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 3. Perform Diagnostic Imaging spine exams at the level of a student technologist.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 4. Communicate effectively with patients.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Laboratory
- Other
- On the job training

Assignments

Hours per week on assignments outside of the class: 0

Other Assignments

Students are required to do analysis of the work they have done and providewritten documentation of "repeat" images with a description of how the error occurred and methods to assure they will not repeat the error.

Students are required to complete paperwork and tracking documentation.

Methods of Evaluation

- Essay/Paper
- Laboratory Assignments
- Oral Tests/Class Performance
- Participation
- Skills Demonstrations/Performance Exam

Course Materials

Other:

- Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258
 Student Handbook
 Trajecsys Clinical Recordkeeping for Health Education

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Yuba College Course Outline

Course Information

Course Number: RADT 6C Full Course Title: Radiologic Technology Internship 3 Short Title: Rad Tech Intern 3 Effective Term: Fall 2017

Course Standards

Activity Hours: 0.000 Lab Hours: 390.000 Total Units: 7.000 Total Hours: 390.00 Repeatable: No Grading Method: Pass/No Pass Only

Minimum Qualifications

• Radiological Technology

Course Description

Intermediate radiologic experience in clinical facilities under the supervision of the college instructor, staff technologists, and clinical instructor. Increased development of skills in correlation with current radiologic practices. Rotation in various facilities.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

- 1. Daily Operations
- a. Increased understanding of hospital and department specific policies and procedures
- 2. Increased Understanding and Implementation of Radiologic Techniques
 - a. Radiation protection
 - b. Infection control
 - c. Image critique
 - d. Quality control
- 3. Positioning Procedures
 - a. Increased ability to perform
 - i. Extremities
 - ii. Thorax
 - iii. Abdomen
 - iv. Pelvis
 - v. Spine
 - vi. Skull

- vii. Urinary system
- viii. Portables
- ix. Fluoroscopy procedures
- b. Addition of required ARRT competencies
- 4. Increased Ability and Understanding of Working with Multicultural and Disabled Patient Care

Course Lab/Activity Content

- 1. Daily Operations
 - a. Learn clinical facility policy and procedures
 - b. Learn department policy and procedures
 - c. Learn department protocols
 - d. Learn department RIS and PACS
- 2. Radiologic Techniques at the student intermediate level of expertise
 - a. Radiation protection
 - b. Universal Prequations
 - c. Image critique
- 3. Positioning of all exams previously studied at a student intermediate level of expertise.
- 4. Student intermediate level ability to work patients of varying cultures, abilities, ages, and mental alterations.

Objectives

- 1. Operate a variety of x-ray equipment with an increased understanding and execution. ****Requires Critical Thinking****
- 2. Function within a hospital or clinic at an advancing student level. **Requires Critical Thinking**
- 3. Demonstrate appropriate patient care skills for patients of various cultures and abilities. **Requires Critical Thinking**
- 4. Communicate with patients at a level appropriate for the patient's age, medical condition, and abilities. **Requires Critical Thinking**
- 5. Demonstrate appropriate patient radiation protection skills.
- 6. With direct and indirect supervision, perform radiologic exams. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Demonstrate competency performing spine exam at the level of a student technologist.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Demonstrate competency performing imaging exams of the upper extremities.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 3. Demonstrate competency performing imaging exams of the lower extremities.

- Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 4. Communicate effectively with patients.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Laboratory
- Other
- On the job training

Assignments

Hours per week on assignments outside of the class: 0

Other Assignments

students are required to complete paperwork and tracking documentation.

Methods of Evaluation

- Essay/Paper
- Exams
- Laboratory Assignments
- Participation
- Problem Solving Exercises
- Skills Demonstrations/Performance Exam

Course Materials

Other:

- 1. Trajecsys Clinical Recordkeeping for Health Education
- 2. Student Handbook
- 3. Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258

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Yuba College Course Outline

Course Information

Course Number: RADT 6D Full Course Title: Radiologic Technology Internship 4 Short Title: Rad Tech Intern 4 Effective Term: Fall 2017

Course Standards

Activity Hours: 0.000 Lab Hours: 436.000 Total Units: 8.000 Total Hours: 436.00 Repeatable: No Grading Method: Pass/No Pass Only

Minimum Qualifications

• Radiological Technology

Course Description

Advanced radiologic experience in clinical facilities under the supervision of the college instructor, staff technologists, and radiologists. Development of enhanced skills in correlation with current radiologic practices. Rotation in various facilities.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

- 1. Advancing Ability to Perform Daily Operations
 - a. Hospital and department specific policies and procedures
- 2. Advancing Ability to Perform Radiologic Techniques
 - a. Radiation protection
 - b. Infection control
 - c. Image critique
 - d. Quality control
- 3. Advancing Ability to Perform Positioning Procedures
 - a. Extremities
 - b. Spine and pelvis
 - c. Thorax
 - d. Skull
 - e. Abdomen
 - f. Contrast studies
 - g. Surgical procedures

h. Portable procedures

4. Advancing Ability to Work with Multicultural and Disabled Patients

Course Lab/Activity Content

Daily Operations

Learn clinical facility policy and procedures

Learn department policy and procedures

Learn department protocols

Learn department RIS and PACS

Radiologic Techniques at the student advanced level of expertise

Radiation protection

Universal Prequations

Image critique

Positioning of all exams previously studied at a student advanced level of expertise

Advanced ability level to image patients of varying cultures, abilities, ages, and mental alterations.

Radiologic Positioning

Contrast studies

Fluoroscopy

Trauma

Operating Room

Pediatrics

Objectives

- 1. With advancing skills, operate a variety of x-ray equipment. **Requires Critical Thinking**
- 2. Function within a hospital or clinic at an advanced student level.
- 3. With direct and indirect supervision, perform radiologic exams **Requires Critical Thinking**
- 4. With an advancing skill and ability, demonstrate appropriate patient care for all patients including those of various cultures and abilities. **Requires Critical Thinking**
- Communicate with patients at a level appropriate for the patient's age, medical condition, and abilities.
 Requires Critical Thinking
- 6. Demonstrate radiation protections skills. **Requires Critical Thinking**
- 7. Demonstrate professionalism.

- 1. Compently perform radiologic exams.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Communicate effectively with patients.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 3. Consistently demonstrate the ability to use ALARA
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 4. Respond and adapt to patient needs.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 5. Cooperate with technologists and demonstrates team approach.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

- Laboratory
- Other
- On the job training

Assignments

Hours per week on assignments outside of the class: 0

Other Assignments

students are required to complete paperwork and tracking documentation.

Methods of Evaluation

- Essay/Paper
- Exams
- Laboratory Assignments
- Participation
- Problem Solving Exercises
- Skills Demonstrations/Performance Exam

Course Materials

Other:

Trajecsys Clinical Recordkeeping for Health Education
 Student Handbook
 Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258

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Yuba College Course Outline

Course Information

Course Number: RADT 6E Full Course Title: Radiologic Technology Internship 5 Short Title: Rad Tech Intern 5 Effective Term: Fall 2017

Course Standards

Activity Hours: 0.000 Lab Hours: 464.000 Total Units: 8.500 Total Hours: 464.00 Repeatable: No Grading Method: Pass/No Pass Only

Minimum Qualifications

• Radiological Technology

Course Description

Advanced radiologic experience in clinical facilities under supervision by college instructor, staff technologists and Clinical Instructors. Increased development of skills in correlation with current radiologic practices. Rotation in various medical facilities.

Conditions of Enrollment

Other: Acceptance into the Radiologic Technology Program

Content

Course Lab/Activity Content

Daily Operations

Learn clinical facility policy and procedures

Learn department policy and procedures

Learn department protocols

Learn department RIS and PACS

Radiologic Techniques at the student advanced level of expertise

Radiation protection

Universal Prequations

Image critique

Positioning of all exams previously studied at a student advanced level of expertise

Advanced ability level to image patients of varying cultures, abilities, ages, and mental alterations.

Objectives

- 1. With advancing skills, operate a variety of x-ray equipment. **Requires Critical Thinking**
- 2. Function within a hospital or clinic at an advanced student level.
- 3. With indirect supervision, perform radiologic exams **Requires Critical Thinking**
- 4. With an advanced skill and ability, demonstrate appropriate patient care for all patients including those of various cultures and abilities. **Requires Critical Thinking**
- 5. Communicate with patients at a level appropriate for the patient's age, medical condition, and abilities.
- 6. Consistently demonstate radiation protection skills.
- 7. Demonstrate professionalism.
- 8. Ensure completion of all competencies as required to apply for admission to the American Registry of Radiologic Technologist certification/registration exam.

Student Learning Outcomes

- 1. Complete any competencies required to meet ARRT standards.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Competently perform radiologic exams.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 3. Consistently communicate effectively with patients.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 4. Consistently demonstrate the ability to use ALARA
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 5. Respond and adapt to patient needs.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 6. Cooperate with technologists and demonstrates team approach.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.

- Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 7. Consistently demonstrate professionalism.
 - **Communication** Students will effectively use language and non-verbal communication consistent with and appropriate for the audience and purpose.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

Methods of Instruction

• Other

On the job training

Assignments

Hours per week on assignments outside of the class: 0

Other Assignments

students are required to complete paperwork and tracking documentation.

Methods of Evaluation

- Exams
- Laboratory Assignments
- Oral Tests/Class Performance
- Participation
- Problem Solving Exercises
- Skills Demonstrations/Performance Exam

Course Materials

Other:

- 1. Trajecsys Clinical Recordkeeping for Health Education
- 2. Student Handbook
- 3. Bontragers Handbook of Radiographic Positioning and Techniques, 9th edition ISBN 9780323485258

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Yuba College Course Outline

Course Information

Course Number: RADT 7 Full Course Title: Advanced Radiographic Studies Short Title: Adv. Rad Studies Effective Term: Fall 2017

Course Standards

Lecture Hours: 18.000 Total Units: 1.000 Total Hours: 18.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Ethics and law in the radiologic sciences; advanced understanding of professionalism as related to a radiologic technologist.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

- 1. Advanced ethics and law in the radiographic sciences
- 2. Advanced consideration of the professional role of the radiologic technologist

Objectives

- 1. Define various legal terms as they relate to the medical environment.
- Demonstrate the importance of professionalism of the radiologic technologist. **Requires Critical Thinking**
- 3. Describe ethical considerations in the field of Radiologic Technology. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Demonstrate an understanding of professionalism as it relates to the field of Radiologic Technology.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Global Awareness Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.
- 2. Differentiate between ethical and unethical practices in Radiologic Technology.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - Global Awareness Students will articulate similarities and differences among cultures, times, and environments, demonstrating an understanding of cultural pluralism and knowledge of global issues.
 - **Personal and Social Responsibility** Students will interact with others by demonstrating respect for opinions, feelings, and values.

Methods of Instruction

Lecture/Discussion

Lecture Guest Speakers Case studies Discussion/Debate Power Points Scenarios

Assignments

Hours per week on assignments outside of the class: 3

Reading Assignments Reading assigned text, journal articles, and case studies. Writing Assignments Prepare a rational for the case study.

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Problem Solving Exercises
- Quizzes
- Research Project

Course Materials

Textbooks:

1. Doreen M. Towsley-Cook, Doreen M. Towsley-Cook, MAE, RT(R), FAERS) and Terese A. Young, JD, RT(R), CNMT. *Ethical and Legal Issues for Imaging Professionals,* Elsevier, 2007, ISBN: 9780323045995

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Yuba College Course Outline

Course Information

Course Number: RADT 8 Full Course Title: Radiographic Pathology and Film Critique Short Title: Rad. Patho Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Total Units: 2.000 Total Hours: 36.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Injuries and abnormalities most frequently encountered in Radiologic Technology. Key anatomy and physiology principles, imaging considerations for each disease, and its radiographic appearance, signs and symptoms, and treatment.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program

Content

Course Lecture Content

- 1. Introduction to Pathology
- 2. The Skeletal System
- 3. The Respiratory System
- 4. The Cardiovascular System
- 5. The Abdomen and Gastrointestinal System
- 6. The Hepatobiliary System
- 7. The Urinary System
- 8. The Central Nervous System
- 9. The Hemopoietic System
- 10. The Reproductive System
- 11. The Endocrine System
- 12. Traumatic Disease

Objectives

- 1. Discuss manifestation of pathological conditions and their relevance to radiographic procedures. **Requires Critical Thinking**
- 2. List the classifications of trauma and define each.
- 3. Discuss radiographic diagnoses for classifications of trauma.
- 4. List the systemic classifications of disease and define each.
- 5. Describe various diseases by explaining their etiologies, complications and prognoses.
- 6. Discuss complications connected with body repair and replacement tissues.
- 7. Evaluate radiographs for diagnostic quality and be able to recommend corrections in regards to patient positioning, pathology, and technical considerations. ****Requires Critical Thinking****
- Recognize and describe various pathologies on radiographic images and have the ability to critique the images for appropriate contrast and density. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Recognize pathology on the diagnostic image
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
- 2. Choose correct technique selection for a diagnostic image based on patholgy.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

• Lecture/Discussion Discussion Lecture Case Studies Scenarios Image Review/Discussion Presentations

Distance Education

Delivery Methods

Online

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments Textbook, journal articles, case studies on pathology Writing Assignments Write an analysis of a case study in radiolographic pathology

Methods of Evaluation

- Essay/Paper
- Exams

- Homework
- Problem Solving Exercises
- Quizzes
- Research Project

Course Materials

Textbooks:

1. Mace Kowalczyk, Nina. *Radiographic Pathology for Technologists,* 7th ed. Elsevier, 2018, ISBN: 9780323544122

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Yuba College Course Outline

Course Information

Course Number: RADT 9 Full Course Title: Advanced Modalities Short Title: Advanced Modalities Effective Term: Fall 2017

Course Standards

Lecture Hours: 36.000 Total Units: 2.000 Total Hours: 36.00 Repeatable: No Grading Method: Letter Grade Only

Minimum Qualifications

• Radiological Technology

Course Description

Advanced modalities in the field of Radiolgic Technology

Conditions of Enrollment

Other: Acceptance in Radiologic Technology Program.

Content

Course Lecture Content

- 1. Imaging Principles of:
 - a. Bone Density
 - b. Cardiac-intervential
 - c. Computed Tomography
 - d. Magnetic Resonance Imaging
 - e. Mammography
 - f. Medical Dosimetry
 - g. Nuclear Medicine
 - h. Radiation Therapy
 - i. Ultrasound/Sonography
 - j. Vascular-Intervential
- 2. Introduction to Sectional Anatomy

Objectives

- 1. Define, describe and discuss the anatomy and positioning of the human structure as demonstrated on Computer Tomography scans. **Requires Critical Thinking**
- 2. Define, describe and discuss the anatomy positioning of the human structures as demonstrated on Magnetic Resonance Imaging scans. ****Requires Critical Thinking****
- Define, compare, analyze and discuss the image differences between MRI and CT anatomy and positioning of the human structures as demonstrated during advanced special radiographic procedures.
 Requires Critical Thinking
- 4. Compare, analyze and discuss imaging differences between all advances modalities. **Requires Critical Thinking**
- Discuss the rationales for using a specific modaltiy for imaging of specific anatomic and patholgic conditions. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Identify advanced modalities in Diagnostic Imaging.
 - Critical Thinking Students will analyze data/information in addressing and evaluating problems and issues in making decisions.
 - **Information Competency** Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.
- 2. Identify cross-sectional anatomy on CT and MRI images.
 - **Critical Thinking** Students will analyze data/information in addressing and evaluating problems and issues in making decisions.

Methods of Instruction

- Lecture/Discussion
- On-line lecture On-line discussion board Presentations via Canvas portal Scenarios Case Studies

Distance Education

Delivery Methods

• Online

Assignments

Hours per week on assignments outside of the class: 4

Reading Assignments

Read assigned textbook chapter

Read assigned journal articles

Read on-line assignment

Writing Assignments

In a case study, using HIPPA regulations, describe patient conditions, what type of exam was performed, patient care procedures and radiation safety procedures.

Workbook completion

Methods of Evaluation

- Essay/Paper
- Exams
- Homework
- Problem Solving Exercises
- Quizzes
- Research Project

Course Materials

Textbooks:

- 1. John Lampignano and Leslie Kendrick. *Bontrager's Textbook of Radiographic Positioning and Related Anatomy*, 9th ed. Elsevier/Mosby, 2018, ISBN: 978-0-323-39966-1
- 2. Lorrie L. Kelley. ISBN: 9780323414876 Copyright: 2019 Page Count: 752 Imprint: Mosby List Price: \$122.00 Sectional Anatomy for Imaging Professionals, 4th ed. Elsevier, 2019, ISBN: 9780323414876

Manuals:

1. Lorrie L. Kelley. Workbook for Sectional Anatomy for Imaging Professionals, 4th ed. Elsevier, 2019, ISBN: 9780323569613

Other:

1. Computer access

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Yuba College Course Outline

Course Information

Course Number: RADT 12 Full Course Title: Radiologic Technology Board Review Short Title: Rad Brd Review Effective Term: Fall 2017

Course Standards

Lecture Hours: 27.000 Total Units: 1.500 Total Hours: 27.00 Repeatable: No Grading Method: Pass/No Pass Only

Minimum Qualifications

Radiological Technology

Course Description

Summary lectures for the testing of the four (4) content areas tested by State of California Radiation Health Branch and the American Registry of Radiologic Technology.

Conditions of Enrollment

Other: Acceptance into Radiologic Technology Program or Current active CRT's who need advanced placement to sit before ARRT exam may be admitted as part of the advanced requirement

Content

Course Lecture Content

- 1. Patient Care
- 2. Safety
- 3. Image Production
- 4. Procedures
- 5. Comprehensive exam

Objectives

- 1. Demonstrate, with the knowledge of an entry-level Radiologic Technologist, an understanding of patient care skills. **Requires Critical Thinking**
- 2. Demonstrate, with the knowledge of an entry-level Radiologic Technologist, an understanding of safety in Radiologic Technology. **Requires Critical Thinking**

- 3. Demonstrate, with the knowledge of an entry-level Radiologic Technologist, an understanding of image production in Radiologic Technology. ****Requires Critical Thinking****
- 4. Demonstrate, with the knowledge of an entry-level Radiologic Technologist, an understanding of radiographic procedures. **Requires Critical Thinking**
- 5. Using the information and skills obtained in the radiologic technology program, pass a comprehensive final exam. **Requires Critical Thinking**

Student Learning Outcomes

- 1. Employing all knowledge obtained in classroom and clinical settings, pass a comprehensive final exam, covering all areas of the American Registry of Radiologic Technologists exam.
 - **Computation** Students will use appropriate mathematical concepts and methods to understand, analyze, and communicate issues in quantitative terms.
 - Information Competency Students will conduct, present, and use research necessary to achieve educational, professional, and personal objectives.
 - **Technological Awareness** Students will be able to select and use appropriate technological tools for personal, academic, and career tasks.

2.

Methods of Instruction

Lecture/Discussion

Review of ARRT board exam contents Power Points Lecture Discussion Quiz review

Assignments

Hours per week on assignments outside of the class: 3

Reading Assignments Review of information in textbooks Other Assignments

Taking online/inclass tests representing the ARRT board exam.

Methods of Evaluation

- Exams
- Homework
- Laboratory Assignments
- Problem Solving Exercises
- Quizzes

Course Materials

Software:

- 1. *HESI Radiography Practice Test.* Elsevier, 2017 ed. ISBN 781455741762 Online practice tests for Radiologic Technology with instructor access for evaluation and assessment.
- 2. Elsevier Adaptive Quizzing for Imaging Sciences. Elsevier, 2nd ed. ISBN: 9780323511551 Online practice tests for Radiologic Technology with instructor access for evaluation and assessment.

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