

RADT M01AL: RADIOGRAPHIC CLINICAL LAB I

Originator
atorabyan

College

Moorpark College

Discipline (CB01A)

RADT - Radiologic Technology

Course Number (CB01B)

M01AL

Course Title (CB02)

Radiographic Clinical Lab I

Banner/Short Title

Radiographic Clinical Lab I

Credit Type

Credit

Start Term

Spring 2021

Catalog Course Description

Provides an opportunity for practical application of theory on patients in a clinical setting. Includes proper positioning and exposure of the upper and lower extremities, shoulder girdle, bony thorax, pelvic girdle and spinal column.

Taxonomy of Programs (TOP) Code (CB03)

1225.00 - *Radiologic Technology

Course Credit Status (CB04)

D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)

B (Transferable to CSU only)

Course Basic Skills Status (CB08)

N - The Course is Not a Basic Skills Course

SAM Priority Code (CB09)

B - Advanced Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

Course Prior to Transfer Level (CB21)

Y - Not Applicable

Course Noncredit Category (CB22)

Y - Credit Course

Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

Course Program Status (CB24)

1 - Program Applicable

General Education Status (CB25)

Y - Not Applicable

Support Course Status (CB26)

N - Course is not a support course

Field trips

Will not be required

Grading method

Letter Graded

Does this course require an instructional materials fee?

No

Repeatable for Credit

No

Is this course part of a family?

No

Units and Hours

Carnegie Unit Override

Yes

In-Class

Lecture

Activity

Laboratory

Minimum Contact/In-Class Laboratory Hours

245

Maximum Contact/In-Class Laboratory Hours

245

Total in-Class

Total in-Class

Total Minimum Contact/In-Class Hours

245

Total Maximum Contact/In-Class Hours

245

Outside-of-Class

Internship/Cooperative Work Experience

Paid**Unpaid****Total Outside-of-Class****Total Outside-of-Class****Total Student Learning****Total Student Learning****Total Minimum Student Learning Hours**

245

Total Maximum Student Learning Hours

245

Minimum Units (CB07)

4.5

Maximum Units (CB06)

4.5

Prerequisites

RADT M10A, RADT M10AL and RADT M10B

Corequisites

RADT M01A and RADT M11

Limitations on Enrollment

Criminal background clearance

Current CPR certification for health care provider (American Heart Association) or professional rescuer (American Red Cross)

Drug and alcohol clearance

Proof of freedom from and immunity to communicable diseases

No acrylic or long nails in clinical settings

Current negative TB test or chest x-ray

Others (specify)

Physical examination demonstrating general good health

No visible tattoos or visible body piercings except single studs in earlobes

Other Limitations on Enrollment

Admission to the Radiologic Technology Program

CPR BLS Provider card from American Heart Association only

Los Angeles Hospital Fire and Life Safety Card

Proof of health Insurance

Proof of professional liability insurance

Entrance Skills**Entrance Skills**

RADT M10A

Prerequisite Course Objectives

RADT M10A-discuss the philosophy and regulations of the Moorpark College Radiography program.

RADT M10A-describe the practice standards for the radiographer as defined by The American Society of Radiologic Technologists (ASRT) and the State of California.

RADT M10A-recall the historic events and individuals that have contributed greatly to the field of radiology.

RADT M10A-identify the advanced imaging modalities and career opportunities in the field of radiology.

RADT M10A-describe the structure and function of a typical x-ray department.

RADT M10A-discuss the importance of documenting and reporting patient history and symptoms.

RADT M10A-identify therapeutic communication techniques and barriers; and how to overcome the barriers to effectively communicate with patients.

RADT M10A-describe the ALARA (As Low As Reasonably Achievable) concept.

RADT M10A-describe standard positioning terms and procedural considerations of radiographic exams.

RADT M10A-describe the prime factors of mA, kVp, seconds, and distance, that must be considered in radiographic technique.

RADT M10A-identify the different image receptors used for radiographic imaging.
RADT M10A-identify key components of an automatic film processor and analyze the steps in the processing cycle by providing the specific action and duration of time for each step.
RADT M10A-evaluate and critique radiographic images.

Entrance Skills

RADT M10AL

Prerequisite Course Objectives

RADT M10AL-assemble the Clinical Portfolio for clinical practicum and review student handbook.
RADT M10AL-operate radiographic unit and accessories.
RADT M10AL-select the prime factors of mA (milliamps), kVp (kilovolt peak) seconds, and distance on the x-ray console.
RADT M10AL-employ the use of radiation shielding devices for both patient and personnel.
RADT M10AL-describe techniques of radiation protection using parameters of time, distance and shielding.
RADT M10AL-apply radiation protection methods during mobile radiographic procedures.
RADT M10AL-practice, through demonstration, the basic body positions used when positioning patients for radiographic examinations.
RADT M10AL-observe, assist and perform radiographic procedures of the chest including adult, geriatric, and trauma.
RADT M10AL-observe, assist and perform radiographic procedures of the abdomen including adult, geriatric, and trauma.
RADT M10AL-demonstrate the procedures for gowning and gloving for you or another to maintain a sterile field.

Entrance Skills

RADT M10B

Prerequisite Course Objectives

RADT M10B-describe Bohr's theory of atomic structure.
RADT M10B-explain the processes of ionization and excitation
RADT M10B-describe the electromagnetic spectrum.
RADT M10B-describe wavelength and frequency and explain their relationship to velocity.
RADT M10B-explain the wave-particle duality phenomena of x-rays.
RADT M10B-identify the properties of x-rays.
RADT M10B-describe the different types of x-ray equipment, including diagnostic and fluoroscopic.
RADT M10B-define potential difference, current, and resistance.
RADT M10B-identify the general components of the primary, secondary and filament circuits of an x-ray machine.
RADT M10B-discuss permanent installation of radiographic equipment in terms of purpose, components, types, and applications.
RADT M10B-describe functions of components of automatic exposure control devices (AEC).

Requisite Justification**Requisite Type**

Corequisite

Requisite

RADT M01A

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by statute or regulation

Requisite Type

Corequisite

Requisite

RADT M11

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by statute or regulation

Requisite Type

Enrollment Limitation

Requisite

Criminal background clearance
 Drug and alcohol clearance
 Proof of freedom from and immunity to communicable diseases
 No acrylic or long nails in clinical settings
 Current negative TB test or chest x-ray
 Physical examination demonstrating general good health
 No visible tattoos or visible body piercings except single studs in earlobes
 Other (specify)
 Administration to the Radiologic Technology Program
 CPR BLS Provider card from American Heart Association only
 Los Angeles Hospital Fire and Life Safety Card
 Proof of health insurance
 Proof of professional liability insurance

Requisite Description

Credit program requisite (credit only)

Level of Scrutiny/Justification

Required by statute or regulation

Requisite Type

Prerequisite

Requisite

RADT 10A

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by statute or regulation

Requisite Type

Prerequisite

Requisite

RADT 10AL

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by statute or regulation

Requisite Type

Prerequisite

Requisite

RADT 10B

Requisite Description

Course in a sequence

Level of Scrutiny/Justification

Required by statute or regulation

Student Learning Outcomes (CSLOs)**Upon satisfactory completion of the course, students will be able to:**

- | | |
|---|---|
| 1 | perform all the assigned clinical lab procedures utilizing an actual patient and the clinical affiliate's routine for each procedure. |
| 2 | evaluate the quality and accuracy of each position as it appears on the finished radiograph. |

Course Objectives**Upon satisfactory completion of the course, students will be able to:**

- | | |
|----|---|
| 1 | execute medical imaging procedures under the appropriate level of supervision. |
| 2 | assess the patient and complete appropriate documentation in Radiologic Information System (RIS) |
| 3 | select technical factors to produce quality diagnostic images with the lowest radiation exposure possible. |
| 4 | integrate the use of appropriate and effective written, oral and nonverbal communication with patients, the public and members of the health care team in the clinical setting. |
| 5 | maintain patient confidentiality standards and meet HIPAA (Health Insurance Portability and Accountability Act of 1996) requirements. |
| 6 | provide patient-centered, clinically effective care for all patients regardless of age, gender, disability, special needs, ethnicity or culture. |
| 7 | adapt procedures to meet age-specific, disease-specific and cultural needs of patients. |
| 8 | critique images for appropriate anatomy, image quality, and patient identification with the clinical instructor. |
| 9 | demonstrate competency in principles of radiation protection standards in accordance with California Radiation Health Code (Title 17). |
| 10 | produce a minimum of four radiographic exam competencies. |

Course Content**Lecture/Course Content**

None

Laboratory or Activity Content**Radiographic imaging techniques in the skills lab and in a hospital setting for the following body parts:**

- 5% - Routine Chest
- 5% - Routine Abdomen
- 25% - Upper Extremity
- 15% - Shoulder Girdle
- 20% - Lower Extremity
- 10% - Pelvic Girdle
- 10% - Vertebral Column
- 10% - Bony Thorax

Methods of Evaluation**Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply):**

Skills demonstrations

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Clinical demonstration
 Oral analysis/critiques
 Other (specify)
 Performances
 Participation
 Skills demonstrations

Other

maintenance of clinical portfolio

Instructional Methodology**Specify the methods of instruction that may be employed in this course**

Clinical demonstrations
Field experience/internship
Instructor-guided use of technology

Describe specific examples of the methods the instructor will use:

Clinical coordinator and the faculty liaison will follow up with the clinical instructor or the radiology technologist on consistent basis to be sure that the students get exposed to the American Registry of Radiologic Technologists (ARRT) exam competencies required by the ARRT.

Representative Course Assignments**Writing Assignments**

Written paperwork needed to process each radiographic exam such as for the shoulder girdle.
Written documentation of radiographic exam such as for the lower extremities in clinical portfolio.
Written assignments in workbook lab manuals.

Critical Thinking Assignments

Appraise radiographic images of the bony thorax for quality criteria.
Assess patient condition before start of exam and identify if modification is needed.
Design a step by step "how to" for each exam, such as for the pelvic girdle.

Reading Assignments

Read a peer reviewed article on "Imaging Traumatic Hand and Finger Injuries" from journal of the American Society of Radiologic Technologists (ASRT).
Read a peer reviewed article on "Reducing Errors in Radiology" from journal of the American Society of Radiologic Technologists (ASRT).

Skills Demonstrations

Skills demonstrated by completing competencies by performing radiographic imaging of upper extremity: hand, wrist, forearm or shoulder.
Skills demonstrated by completing competencies by performing radiographic imaging of lower extremity: pelvis, hip, femur, lower leg and foot.

Outside Assignments**Representative Outside Assignments**

Review positioning pocketbook on daily basis.
Review hospital protocol before start of clinical rotation on daily basis.
Review clinical notes before start of clinical rotation on daily basis.

Articulation**Equivalent Courses at other CCCs**

College	Course ID	Course Title	Units
Cabrillo College	RT 53A	Radiologic Technology Lab/Clinic I	5.5
Mt. San Antonio College	RAD 52A	Techniques of Radiologic Technology	5
Foothill College	R T 63A	Radiographic Clinical Practicum I	7.5

District General Education

A. Natural Sciences

B. Social and Behavioral Sciences

C. Humanities

D. Language and Rationality

E. Health and Physical Education/Kinesiology

F. Ethnic Studies/Gender Studies

Course is CSU transferable

Yes

CSU Baccalaureate List effective term:

Fall 1995

CSU GE-Breadth

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

IGETC

Area 1: English Communication

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

Area 4: Social and Behavioral Sciences

Area 5: Physical and Biological Sciences

Area 6: Languages Other than English (LOTE)

Textbooks and Lab Manuals

Resource Type

Other Instructional Materials

Description

Lampignano, John and Leslie E. Kendrick. *Bontrager's Handbook of Radiographic Positioning and Techniques*. 10th ed., Mosby, 2020.

Resource Type

Textbook

Classic Textbook

Yes

DescriptionLampignano, John and Leslie E. Kendrick. *Textbook of Radiographic Positioning and Related Anatomy*. 10th ed., Mosby, 2020.**Resource Type**

Textbook

Classic Textbook

Yes

DescriptionMcQuillen Martensen, Kathy. *Radiographic Image Analysis*. 5th ed., Saunders, 2019.**Library Resources****Assignments requiring library resources**

Utilize the Library's print and online resources (CINAHL, EBSCO Health Source: Nursing/Academic Edition, and Elsevier ScienceDirect) to find articles from radiography and medical journals.

Sufficient Library Resources exist

Yes

Example of Assignments Requiring Library Resources

Locate and analyze a peer-reviewed article on common causes of hip fractures.

Primary Minimum Qualification

RADIOLOGIC TECHNOLOGY

Review and Approval Dates**Department Chair**

06/02/2020

Dean

06/02/2020

Technical Review

09/03/2020

Curriculum Committee

09/15/2020

DTRW-I

MM/DD/YYYY

Curriculum Committee

MM/DD/YYYY

Board

MM/DD/YYYY

CCCCO

11/05/2020

Control Number

CCC000556028

DOE/accreditation approval date

MM/DD/YYYY