

**I. CATALOG INFORMATION**

A. Discipline: RADIOLOGIC TECHNOLOGY (RADT)

B. Subject Code and Number: RADT M12

C. Course Title: Radiographic Lab II

D. Credit Course units:

Units: 1

Lecture Hours per week: 0

Lab Hours per week : 3

Variable Units : No

E. Student Learning Hours:

Lecture Hours:

Classroom hours: 0 - 0

Laboratory/Activity Hours:

Laboratory/Activity Hours 52.5 - 52.5

**Total Combined Hours** in a 17.5 week term: 52.5 - 52.5

F. Non-Credit Course hours per week \_\_\_\_\_

G. May be taken a total of:  1  2  3  4 time(s) for credit

H. Is the course co-designated (same as) another course: No  Yes

If YES, designate course Subject Code & Number: \_\_\_\_\_

I. Course Description:

Provides an opportunity for practical applications of theory focuses on fluoroscopic and contrast media procedures of the gastrointestinal and genitourinary systems with an introduction to angiographic and interventional procedures through simulated clinical experiences in a radiography skills lab. Offers hands-on positioning with a mock patient as well as the creation of actual radiographs of an x-ray phantom using conventional and digital equipment.

J. Entrance Skills

\*Prerequisite: No  Yes  Course(s)

RADT M01A and RADT M01AL and RADT M11

\*Corequisite: No  Yes  Course(s)

RADT M02A and RADT M02AL and RADT M02B and RADT M02BL

Limitation on Enrollment: No  Yes

\_\_\_\_\_

Recommended Preparation: No  Yes  Course(s)

\_\_\_\_\_

Other: No  Yes

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K. Other Catalog Information:

## II. COURSE OBJECTIVES

Upon successful completion of the course, a student will be able to:

		<b>Methods of evaluation will be consistent with, but not limited by, the following types or examples.</b>
1	perform simulated lab procedures utilizing a fellow student as the mock patient using non-energized x-ray equipment.	Mid-Term and Final evaluation exam
2	simulate positioning for exams of the gastrointestinal tract, intravenous urogram, and skull series.	Mid-Term and Final evaluation exam
3	align the mock patient, central ray and image receptor system properly.	Mid-Term and Final evaluation exam
4	show the proper way to apply gonadal shielding to the mock patient whenever possible.	Mid-Term and Final evaluation exam
5	perform all the assigned skills lab procedures utilizing a radiographic phantom and the energized x-ray tube.	Mid-Term and Final evaluation exam
6	align the phantom, central ray, and image receptor properly.	Mid-Term and Final evaluation exam
7	select correct technique on the energized console, make the exposure on the phantom, and process the image.	Mid-Term and Final evaluation exam
8	perform a minimum of one (1) dark room/digital reader rotation during the lab period.	Mid-Term and Final evaluation exam
9	demonstrate radiation protection methods according to the California Radiation Health Code (Title 17).	Mid-Term and Final evaluation exam
10	evaluate and critique the procedure performance and the radiographs exposed with the assistance of faculty.	Mid-Term and Final evaluation exam

**III. COURSE CONTENT**

Estimated %	Topic	Learning Outcomes
<b>Lecture</b> (must total 100%)		
<b>Lab</b> (must total 100%)		
10.00%	Upper G.I./barium swallow (gastrointestinal)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Small/large bowel	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	I.V.U. (intravenous urogram)	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Cranium	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Paranasal/facial	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Facial/nasal/mandible bones	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Trauma skull/facial	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
20.00%	Surgical c-arm	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
10.00%	Pediatric	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

**IV. TYPICAL ASSIGNMENTS****A. Writing assignments**

Writing assignments are required. Possible assignments may include, but are not limited to:

1	write correctly filled out x-ray requisitions for each exam covered in RADT M12.
2	record in writing the technique required for each exam in their positioning pocket book.
3	complete written assignments in the workbook.

**B. Appropriate outside assignments**

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:

1	conduct field observations during RADT M02AL clinical rotations.
2	review covered radiographic procedures before each lab.
3	complete assigned readings from text to prepare for the specific exams.

**C. Critical thinking assignments**

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	appraise patient condition and revise exam as necessary when dealing with a trauma patient.
2	develop a step-by-step procedure for each radiographic exam.
3	evaluate the understanding of a pediatric patient in order to complete the required images.

**V. METHODS OF INSTRUCTION**

Methods of instruction may include, but are not limited to:

- Distance Education – When any portion of class contact hours is replaced by distance education delivery mode (Complete DE Addendum, Section XV)
- Lecture/Discussion
- Laboratory/Activity
- Other (Specify) Group projects; labs at designated clinical sites.
- Optional Field Trips
- Required Field Trips

**VI. METHODS OF EVALUATION**

Methods of evaluation may include, but are not limited to:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Essay Exam                      | <input checked="" type="checkbox"/> Classroom Discussion | <input checked="" type="checkbox"/> Skill Demonstration |
| <input checked="" type="checkbox"/> Problem Solving Exam | <input type="checkbox"/> Reports/Papers/Journals         | <input checked="" type="checkbox"/> Participation       |
| <input type="checkbox"/> Objective Exams                 | <input checked="" type="checkbox"/> Projects             | <input checked="" type="checkbox"/> Other (specify)     |

Mid-term and Final lab evaluation exam.

**VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS**

Bontrager, Kenneth, and John Lampignano. Textbook of Radiographic Positioning and Related Anatomy. 8th ed. Elsevier, 2014.

Bontrager, Kenneth, and John Lampignano. Workbook for Textbook of Radiographic Positioning and Related Anatomy. 8th ed. Mosby, 2013.

Frank, Eugene D., Bruce W. Long, and Barbara J. Smith. Mosby's Radiography Online: Anatomy and Positioning for Merrill's Atlas of Radiographic Positioning and Procedures. 12th ed. Mosby, 2011.

**VIII. STUDENT MATERIALS FEES**

- No  Yes

**IX. PARALLEL COURSES**

College	Course Number	Course Title	Units
Cabrillo College	RT 60L	Principles of Radiographic Imaging Lab	.5
Foothill College	RT 53BL	Applied Radiographic Technology Lab II	1

**X. MINIMUM QUALIFICATIONS**

**Courses in Disciplines in which Masters Degrees are not expected:**  
 Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

**XI. ARTICULATION INFORMATION**

A. Title V Course Classification:

1. This course is designed to be taken either:

- Pass/No Pass only (no letter grade possible); or  
 Letter grade (P/NP possible at student option)

2. Degree status:

- Either  Associate Degree Applicable; or  Non-associate Degree Applicable

B. Moorpark College General Education:

1. Do you recommend this course for inclusion on the Associate Degree General Education list?

Yes:  No:  If YES, what section(s)?

- A1 - Natural Sciences - Biological Science
- A2 - Natural Sciences - Physical Science
- B1 - Social and Behavioral Sciences - American History/Institutions
- B2 - Social and Behavioral Sciences - Other Social Behavioral Science
- C1 - Humanities - Fine or Performing Arts
- C2 - Humanities - Other Humanities
- D1 - Language and Rationality - English Composition
- D2 - Language and Rationality - Communication and Analytical Thinking
- E1 - Health/Physical Education
- E2 - PE or Dance
- F - Ethnic/Gender Studies

C. California State University(CSU) Articulation:

1. Do you recommend this course for transfer credit to CSU? Yes:  No:

2. If YES do you recommend this course for inclusion on the CSU General Education list?

Yes:  No:  If YES, which area(s)?

- A1     A2     A3     B1     B2     B3     B4

C1  C2  D1  D2  D3  D4  D5  
  
 D6  D7  D8  D9  D10  E

D. University of California (UC) Articulation:

1. Do you recommend this course for transfer to the UC? Yes:  No:
2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes:  No:

IGETC Area 1: English Communication

- English Composition
- Critical Thinking-English Composition
- Oral Communication

IGETC Area 2: Mathematical Concepts and Quantitative Reasoning

- Mathematical Concepts

IGETC Area 3: Arts and Humanities

- Arts
- Humanities

IGETC Area 4: Social and Behavioral Sciences

- Anthropology and Archaeology
- Economics
- Ethnic Studies
- Gender Studies
- Geography
- History
- Interdisciplinary, Social & Behavioral Sciences
- Political Science, Government & Legal Institutions
- Psychology
- Sociology & Criminology

IGETC Area 5: Physical and Biological Sciences (mark all that apply)

- Physical Science Lab or Physical Science Lab only (non-sequence)
- Physical Science Lecture only (non-sequence)
- Biological Science
- Physical Science Courses
- Physical Science Lab or Biological Science Lab Only (non-sequence)
- Biological Science Courses
- Biological Science Lab course
-

- First Science course in a Special sequence
- Second Science course in a Special Sequence
- Laboratory Activity
- Physical Sciences

IGETC Area 6: Language other than English

- Languages other than English (UC Requirement Only)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)
- U.S. History, Constitution, and American Ideals (CSU Requirement ONLY)

**XII. REVIEW OF LIBRARY RESOURCES**

- A. What planned assignment(s) will require library resources and use?

The following assignments require library resources:

Reading assignments in radiographic and medical journals using the Library's print and online resources.

- B. Are the currently held library resources sufficient to support the course assignment?

YES:  NO:

If NO, please list additional library resources needed to support this course.

**XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION**

Requisite Justification for RADT M01A

- A. Sequential course within a discipline.

1. name the basic body positions used when positioning patients for radiographic examinations.
2. list and describe the terms employed in radiographic positioning using lines, planes, bony landmarks and localization points.
3. recall the methods of basic radiation protection for both patient and personnel, especially time, distance and shielding.
4. discuss the importance of documenting and reporting patient history and symptoms, and incident reporting.
5. list the projections, both routine and special, for each anatomical area.
6. identify on radiographs and drawings the anatomy and positions for each anatomical area.
7. describe and explain each examination assigned utilizing the prescribed position of part, direction of the central ray, anatomical structures and pathology demonstrated.
8. critique each radiographic film for diagnostic quality including part position, anatomy visualized, contrast, density, markers, and film size.

9. compare and contrast special considerations for trauma, pediatric and geriatric patients with the normal adult.

10. discuss the establishment of rapport with the patient considering cultural awareness, clinical situations, communications barriers, and radiation safety concerns.

- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

and

#### Requisite Justification for RADT M01AL

- A. Sequential course within a discipline.
  1. execute medical imaging procedures under the appropriate level of supervision.
  2. assess the patient and record clinical history.
  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 clerical duties needed to process the exam.

10. demonstrate competency in principles of radiation protection standards in accordance with California Radiation Health Code (Title 17).

11. produce a minimum of four radiographic exam competencies.

- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

and

#### Requisite Justification for RADT M11

- A. Sequential course within a discipline.
  1. perform simulated lab procedures utilizing a fellow student as the mock patient using non-energized x-ray equipment.
  2. simulate positioning for exams of the upper and lower extremities, vertebral column and bony thorax.
  3. align the mock patient, central ray and image receptor system properly.
  4. show the proper way to apply gonadal shielding to the mock patient whenever possible.
  5. perform all the assigned skills lab procedures utilizing a radiographic phantom and the energized x-ray tube.
  6. align the phantom, central ray, and image receptor properly.
  7. select correct technique on the energized console, make the exposure on the phantom and process the image.
  8. perform a minimum of one (1) dark room rotation during the lab

period.

9. demonstrate radiation protection methods according to the California Radiation Health Code (Title 17).

10. evaluate and critique the procedure, performance, and the radiographs exposed with the assistance of faculty.

- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

Requisite Justification for RADT M02A

- A. Sequential course within a discipline.
- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

and

Requisite Justification for RADT M02AL

- A. Sequential course within a discipline.
- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

and

#### Requisite Justification for RADT M02B

- A. Sequential course within a discipline.
- B. Standard Prerequisite or Corequisite required by universities.
- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

and

#### Requisite Justification for RADT M02BL

- A. Sequential course within a discipline.
- B. Standard Prerequisite or Corequisite required by universities.

- C. Corequisite is linked to companion lecture course.
- D. Prerequisite or Corequisite is authorized by legal statute or regulation.  
Code Section: \_\_\_\_\_
- E. Prerequisite or Corequisite is necessary to protect the students' health and safety.
- F. Computation or communication skill is needed.
- G. Performance courses: Audition, portfolio, tryouts, etc. needed.

#### **XIV. WORKPLACE PREPARATION**

Required for career technical courses only. A career technical course/program is one with the primary goal to prepare students for employment immediately upon course/program completion, and/or upgrading employment skills.

Detail how the course meets the Secretary of Labors Commission on the Achievement of Necessary Skills (SCANS) areas. (For a description of the competencies and skills with a listing of what students should be able to do, go to:

<http://www.ncrel.org/sdrs/areas/issues/methods/assment/as7scans.htm>)

The course will address the SCANS competency areas:

1. Resources: the students will identify weekly learning objectives; devise a plan to allocate adequate study time to learn the weekly objectives; learn to organize the steps involved in radiography procedures; meet assignment deadlines and be prepared to participate in class discussions.
2. Interpersonal: the students will work in collaboration with other students and bring radiographs from the clinical setting and present case studies to strengthen the skills of each member of the class and help gain clinical proficiency; experience the importance of collaboration and of being a team member in the health care field.
3. Information: the students will refer to radiographic technique charts to select the correct amount of radiation for imaging the body part of interest; use computers in the skills lab, which prepares them to evaluate, organize and communicate information in the clinical facility; make use of professional health care and radiography journals to keep abreast of the state of the art in medical imaging.
4. Systems: the students will learn to follow specific protocols for the safe use of radiation production equipment.
5. Technology: the students will differentiate between electronic and conventional imaging equipment.

The course also addresses the SCANS skills and personal qualities:

1. Basic Skills: the students will read professional journals and manuals related to new radiographic techniques and equipment.
2. Thinking Skills: the students will describe how to alter radiographic procedures for the pediatric, geriatric, and trauma patient; describe how to prioritize radiographic procedures when there are multiple exams ordered.
3. Personal Qualities: the students will demonstrate accountability through regular attendance and punctuality in class; demonstrate reliability by completing assignments as instructed and in a timely manner; show respect for each other, others with whom they come in contact, and those in authority.

**XV. DISTANCE LEARNING COURSE OUTLINE ADDENDUM**

RADT M12: Not Applicable

**XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM**

RADT M12: Not Applicable

**XVII. STUDENT MATERIALS FEE ADDENDUM**

RADT M12: Not Applicable

**XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041**

RADT M12: Not Applicable

**XIX. CURRICULUM APPROVAL**

Course Information:

Discipline: RADIOLOGIC TECHNOLOGY (RADT)

Discipline Code and Number: RADT M12

Course Revision Category: Outline Update

Course Proposed By:

Originating Faculty Guadalupe Aldana 01/15/2014

Faculty Peer: Robert Darwin 01/30/2014

Curriculum Rep: Linda Loiselle 01/16/2014

Department Chair: Carol Higashida 01/24/2014

Division Dean: Kimberly Hoffmans 01/24/2014

Approved By:

Curriculum Chair: Jerry Mansfield 03/01/2014

Executive Vice President: Lori Bennett 03/05/2014

Articulation Officer: Letrisha Mai 02/06/2014

Librarian: Mary LaBarge 02/06/2014

Implementation Term and Year: Fall 2014

Approval Dates:

Approved by Moorpark College Curriculum Committee: 03/04/2014

Approved by Board of Trustees (if applicable): \_\_\_\_\_

Approved by State (if applicable): \_\_\_\_\_