I. CATALOG INFORMATION

A. Discipline: RADIOLOGIC TECHNOLOGY (RADT)

B. Subject Code and Number: RADT M02BL

C. Course Title: Radiographic Technique 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: [X] 1 [ ] 2 [ ] 3 [ ] 4 time(s) for credit

H. Is the course co-designated (same as) another course: No [X] Yes [ ]
If YES, designate course Subject Code & Number:

I. Course Description:

Applies radiation health and safety requirements in the acquisition of a radiograph with optimum image quality. Includes quality control (QC) and quality assurance (QA) experiments for radiographic equipment.

J. Entrance Skills

*Prerequisite: No [ ] Yes [X] Course(s)
RADT M01B and RADT M01BL

*Corequisite: No [ ] Yes [X] Course(s)
RADT M02A and RADT M02AL and RADT M02B and RADT M12

Limitation on Enrollment: No [X] Yes [ ]

Recommended Preparation: No [X] Yes [ ] Course(s)

Other: No [X] Yes [ ]

K. Other Catalog Information:

II. COURSE OBJECTIVES

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

		Methods of evaluation will be consistent with, but not limited by, the following types or examples.
1	perform and evaluate basic equipment quality control tests for digital equipment.	Questions at the end of each experiment Exams
2	differentiate between procedural problems and equipment malfunctions.	Questions at the end of each experiment Exams
3	evaluate image quality on a digital image.	Questions at the end of each experiment Exams
4	perform experiments which prove the different factors that affect image quality for digital systems.	Questions at the end of each experiment Exams
5	analyze the relationships of factors controlling image quality for digital systems.	Questions at the end of each experiment Exams
6	demonstrate how time, distance, and shielding may be manipulated to keep radiation exposures to a minimum.	Questions at the end of each experiment Exams
7	explain exposure factors and considerations involved in technique selection for digital systems.	Questions at the end of each experiment Exams
8	perform and evaluate radiation protection quality control experiments.	Questions at the end of each experiment Exams

III. COURSE CONTENT

Estimated %	**Topic**	**Learning Outcomes**

Lecture (must total 100%)		
Lab (must total 100%)		
15.00%	Time, distance, and shielding	4, 5, 6, 7, 8
25.00%	Digital image quality analysis	1, 2, 3, 4, 5, 6, 7, 8
30.00%	Radiation protection experiments pertaining to the radiographic room, medical imaging staff, and patient	1, 2, 3, 4, 5, 6, 7, 8
20.00%	Technical factors	1, 2, 3, 4, 5, 6, 7, 8
10.00%	QC for digital systems	1, 2, 3, 4, 5, 6, 7, 8

IV. TYPICAL ASSIGNMENTS

A. Writing assignments

Writing assignments are required. Possible assignments may include, but are not limited to:	
1	write answers to the questions at the end of each experiment.
2	write essay questions on the exam based on radiation protection techniques.
3	write summary of experiments and class demonstrations.

B. Appropriate outside assignments

Appropriate outside assignments are required. Possible assignments may include, but are not limited to:	
1	complete the radiobiology analysis worksheet based on research done on Hiroshima and Nagasaki.
2	research California Title 17 Code of Regulations.
3	obtain discarded radiographs and present a critique in class.

C. Critical thinking assignments

Critical thinking assignments are required. Possible assignments may include, but are not limited to:	
1	discuss and analyze data collected during each experiment.
2	use data for required radiation dose calculations.
3	formulate a conclusion as indicated at the end of each experiment.

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) Completion of workbook questions.

☐ Optional Field Trips

☐ Required Field Trips

VI. METHODS OF EVALUATION

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

☒ Essay Exam	☒ Classroom Discussion	☒ Skill Demonstration
☒ Problem Solving Exam	☒ Reports/Papers/ Journals	☒ Participation
☒ Objective Exams	☐ Projects	☒ Other (specify)

Completion of workbook questions at the end of each experiment.

VII. REPRESENTATIVE TEXTS AND OTHER COURSE MATERIALS

Bushong, Stewart. Radiologic Science for Technologists: Physics, Biology and Protection. 10th ed. Mosby, 2013.

Carlton, Richard, and Arlene Adler. Principles of Radiographic Imaging: An Art and a Science. 5th ed. Cengage, 2013.

Carlton, Richard, and Arlene Adler. Workbook to Accompany Principles of Radiographic Imaging: An Art and a Science. 5th ed. Cengage, 2013.

VIII. STUDENT MATERIALS FEES

☒ No ☐ Yes

IX. PARALLEL COURSES

College	*Course Number*	*Course Title*	*Units*
L.A. City College	RAD TEC 206	Radiographic Exposure	4
Cabrillo College	RT 61L	Radiographic Positioning Lab II	1
City College of San Francisco	DMI 51B	Radiographic Exposure Factors	2
Cypress College	RADT 153 C	Radiography Patient Care	3

X. MINIMUM QUALIFICATIONS

Courses in Disciplines in which Masters Degrees are not expected:
Bachelor's degree and two years experience or associate degree and 6 years experience, plus license in the discipline.

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 [X] 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: [X] 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: [X] No: [ ]

2. If YES do you recommend this course for inclusion on the CSU General Education list?
   Yes: [ ] No: [X] 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: [X]

2. If YES do you recommend this course for the Intersegmental General Education Transfer Curriculum (IGETC)? Yes: [ ] No: [X]

   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 (none-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:
Research using the Library's print and online resources on appropriate regulations such as the California Code of Regulations, Title 17.

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

YES: [X] NO: [ ]

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

XIII. PREREQUISITE AND/OR COREQUISITE JUSTIFICATION

RADT M02BL: Not Applicable

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 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 and stay current with continuing education requirements.

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 photostimulable phosphor (PSP) and direct acquisition technology.

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 best to use radiographic equipment for the pediatric, geriatric, and trauma patient.

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 M02BL: Not Applicable

XVI. GENERAL EDUCATION COURSE OUTLINE ADDENDUM

RADT M02BL: Not Applicable

XVII. STUDENT MATERIALS FEE ADDENDUM

RADT M02BL: Not Applicable

XVIII. REPEATABILITY JUSTIFICATION TITLE 5, SECTION 55041

RADT M02BL: Not Applicable

XIX. CURRICULUM APPROVAL

Course Information:

Discipline: RADIOLOGIC TECHNOLOGY (RADT)

Discipline Code and Number: RADT M02BL

Course Revision Category: Technical Course Revision

Course Proposed By:

Originating Faculty Robert Darwin 04/12/2016

Faculty Peer: Guadalupe Aldana 05/11/2016

Curriculum Rep: Linda Loiselle 08/14/2016

Department Chair: Carol Higashida 08/24/2016

Division Dean: Norman Marten 05/07/2016

Approved By:

Curriculum Chair: Jerry Mansfield 09/09/2016

Executive Vice President: Julius Sokenu 09/18/2016

Articulation Officer: Letrisha Mai 05/05/2016

Librarian: Mary LaBarge 05/04/2016

Implementation Term and Year: Spring 2017

Approval Dates:

Approved by Moorpark College Curriculum Committee: 09/06/2016

Approved by Board of Trustees (if applicable): _____

Approved by State (if applicable): 10/14/2016