



# CATALOG ADDENDUM: MARCH 2024

Below are listed additions and corrections to the 2023-24 Bucks County Community College Catalog since its publication. All corrections listed below have been made in the main online catalog sections to which they apply. They do not appear, however, in the PDF version of the full catalog.

## SECTION 2: MAJORS AND CERTIFICATE PROGRAMS

[Phlebotomy, Certificate Program \(Curriculum Code 3166\)](#): The program has been updated as follows:

Biology Option – Complete one of the following:

- i. BIOL115  
Or
- ii. BIOL181 and BIOL182

## SECTION 3: COURSE DESCRIPTIONS

Dance Movement Technique (DANC100): This new course has been added:

- I. Course Number and Title: DANC 100 Dance Movement Technique
- II. Number of Credits: 3
- III. Number of Instructional Minutes: 4500
- IV. Prerequisites: None
- V. Corequisites: None
- VI. Other Pertinent Information  
This course is repeatable for credit.

VII. Catalog Course Description

This course provides the student with development and practice in the principles of Modern and Ballet dance techniques. Emphasis is on active participation in center, movement across the floor, proper alignment, improvisation, and personal growth within performance techniques. As the dancer progresses more diverse methods are introduced to support the development of their creative style. (3 credits 6 studio hours)

VIII. Required Course Content and Direction

A. Course Learning Goals

Students will:

1. Perform dances using ballet techniques;
2. Perform dances using modern techniques;
3. Apply kinesthetic principles to enhance expressive dance; and
4. Create movement studies as part of a small group.

B. Planned Sequence of Topics and/or Learning Activities

1. Body placement and technical dance fundamental principles.
2. Body control, warm-ups, stretches and combinations that directly influence and relate to the study of Ballet and Modern dance.
3. Recognize and apply the terminology and techniques associated with Classical Ballet and Modern Dance techniques;
4. Dance movement: focus, dimension, direction, level, improvisation, and execution.
5. Discussion/reflection on the chosen text.

C. Assessment Methods for Course Learning Goals

Movement assessments: The semester consists of three movement assessments in addition to the midterm/final exams. These assessments focus on the culmination of 2-3 weeks' worth of movement ideas to demonstrate the students' knowledge and understanding of the current course work.

D. Reference, Resource, or Learning Materials to be used by Student:

See course syllabus.

Dance Repertoire (DANC110): This new course has been added:

I. Course Number and Title: DANC 110 Dance Repertoire

II. Number of Credits: 1

- III. Number of Instructional Minutes: 1500
- IV. Prerequisites: None
- V. Corequisites: DANC100 Dance Movement
- VI. Other Pertinent Information  
Students must participate in the performance repertoire to pass this course. This course is repeatable for credit.
- VII. Catalog Course Description  
Students perform a repertoire demonstrating the skills developed in DANC100 Dance Movement Technique. Students apply critique skills by evaluating the performances of their peers.
- VIII. Required Course Content and Direction
  - A. Course Learning Goals  
Students will:
    - 1. perform selected repertoire in a performance setting; and
    - 2. articulate critiques of peer performances.
  - B. Planned Sequence of Topics and/or Learning Activities
    - 1. practice performance of repertoire from Studio Technique and Advanced Studio Technique class.
    - 2. perform repertoire.
    - 3. critique student performances with attention to criteria, such as accurate dance technique, rhythm, body dynamics, stylistic integrity, and related topics as applicable.
    - 4. discussion of performance critique methodologies.
    - 5. critical evaluations of performances of peers.
  - C. Assessment Methods for Course Learning Goals  
The instructor assesses students according to the following criteria: performance of selected repertoire before an audience, and participation in peer evaluation.
  - D. Reference, Resource, or Learning Materials to be used by Student:  
See course syllabus.

[Phlebotomy Procedures and Techniques \(MEDA204\)](#): The Master Course Outline has been updated, Section IV. Prerequisite or Corequisite: MEDA120, and BIOL115 OR BIOL181 and BIOL182.

[Music Theory I \(MUSC111\)](#): The Master Course Outline has been updated in the following areas:

- IV. Prerequisites / Corequisites  
None
- VI. Catalog Course Description  
Music Theory I explores elements of diatonic harmony (including triads, chord progressions, cadences, and part-writing principles).

[Music Theory II \(MUSC112\)](#): The Master Course Outline has been updated in the following areas:

- IV. Prerequisites: MUSC111 (C or better)  
Corequisites: None
- VI. Catalog Course Description  
Music Theory II explores elements of diatonic and chromatic harmony including qualities and inversions of triads and seventh chords, nonharmonic tones, secondary dominants, and modulation to closely related keys.
- VII. Required Course Content and Direction
  - A. Course Learning Goals  
Students will:
    1. Apply analytical and construction skills to diatonic and chromatic harmonies such as chord qualities, inversions of triads and seventh chords, non-harmonic tones, secondary dominants, and modulations to closely related keys.
  - B. Planned Sequence of Topics and/or Learning Activities
    1. define, identify, and construct 1st inversion triads, six-four chords, and secondary dominants in all major/minor keys
    2. demonstrate proper usage of 1st inversion triads, six-four chords, and secondary dominants via applied harmonization tasks
    3. examine the use of non-chord tones (passing tones, neighbor tones, escape tones, pedal tones, appoggiaturas, suspensions, retardations, and anticipations etc.) in functional harmony and practice their proper applications in part-writing tasks
    4. define, identify, and construct diatonic seventh chords with regard to their qualities and inversions in all major/minor keys

5. practice modulation to closely-related keys in a homophonic setting

C. Assessment Methods for Course Learning Goals

Course-specific content will be assessed via homework assignments (workbook and instructor-generated), quizzes, and exams. A departmentally-generated final comprehensive examination will be administered to assess all subject matter components that are detailed in the Learning Goals for this course.

D. Reference, Resource, or Learning Materials to be used by Student:

See course syllabus.

Musicianship I (MUSC117): This new course has been added:

I. Course Number and Title: MUSC117 Musicianship I

II. Number of Credits: 3

III. Number of Instructional Minutes: 3000

IV. Pre-req/Co-req: None

V. Other Pertinent Information

Students must have access to an acoustic piano or digital keyboard with weighted action for practice purposes. Practice facilities with appropriate instruments are available at the college. Students need access to a computer to use software and complete assignments.

VI. Catalog Course Description

Musicianship I applies the aural skills of sight-singing, rhythmic, melodic, and harmonic dictation in diatonic relationships (including triads, chord progressions, and cadences), and introduces fundamental concepts of music reading via group instruction in piano.

VII. Required Course Content and Direction

A. Course Learning Goals

Students will:

1. Apply sight-singing and music dictation to diatonic melodies and harmonies such as chord qualities, triads, chord progressions and cadences;
2. Read basic music notation; and

3. Perform basic sight-reading tasks, major scales, simple major chord progressions, and elementary repertoire using proper fingering and hand position at the piano.

B. Sequence of Topics

1. Introduction to basic music reading
2. Vocally practice movable-do solfege system by demonstrating the ability to sing all major scales and simple diatonic melodies.
3. Conduct, vocalize, and notate simple meters, beat subdivision, anacrusis, and note values involving dots and ties.
4. Notate and identify all major and minor intervals (intervallic dictation)
5. Notate diatonic melodies in all major keys (melodic dictation)
6. Notate diatonic melodies in all simple meters (rhythmic dictation)
7. Notate melodies, which outline basic chord progressions
8. Notate and identify harmonic progressions, which employ cadential six-four chords and 1st inversion triads
9. Introduction to proper keyboard hand position
10. Execution of major scales and chord progressions with proper fingering
11. Performance of simple sight-reading exercises and assigned repertoire

C. Assessment Methods

Course-specific content will be assessed via homework assignments, quizzes, and exams.

D. Reference

See course syllabus.

Musicianship II (MUSC118): This new course has been added:

- I. Course Number and Title: MUSC118 Musicianship II
- II. Number of Credits: 3
- III. Number of Instructional Minutes: 3000
- IV. Pre-req/Co-req: MUSC117 (C or better)
- V. Other Pertinent Information  
Students must have access to an acoustic piano or digital keyboard with weighted action for practice purposes. Practice facilities with appropriate instruments are available at the college. Students need access to a computer to use software and complete assignments.

VI. Catalog Course Description

Musicianship II applies the aural skills of sight-singing, rhythmic, melodic, and harmonic dictation in diatonic relationships (including qualities and inversions of triads and seventh chords, and nonharmonic tones), and further reinforces and develops music reading skills via group instruction in piano.

VII. Required Course Content and Direction

A. Course Learning Goals

Students will:

1. Apply sight-singing and music dictation to diatonic and chromatic melodies and harmonies such as chord qualities, inversions of triads and seventh chords, non-harmonic tones, secondary dominants, and modulations to closely related keys;
2. Read intermediate-level music notation; and
3. Perform intermediate-level sight-reading tasks and repertoire, minor scales, and simple minor chord progressions using proper fingering and hand position at the piano.

B. Planned Sequence of Topics

1. Develop intermediate-level music reading skills
2. Vocally practice movable-do solfege system by demonstrating the ability to sing all minor scales and simple diatonic melodies.
3. Conduct, vocalize, and notate compound meters, triplets, duplets, and syncopation.
4. Notate diatonic melodies in all minor keys (melodic dictation)
5. Notate diatonic melodies in all compound meters (rhythmic dictation)
6. Notate and identify harmonic progressions in minor.
7. Execution of minor scales and chord progressions with proper fingering
8. Performance of sight-reading exercises and assigned repertoire

C. Assessment Methods

Course-specific content will be assessed via homework assignments, quizzes, and exams.

D. Reference

See course syllabus.

Class Guitar (MUSC175): This new course has been added:

I. Course Number and Title: MUSC175 Class Guitar

II. Number of Credits: 1

III. Number of Instructional Minutes: 750

IV. Pre-req/Co-req: None

V. Other Pertinent Information

Students must have access to a guitar for practice purposes.

VI. Catalog Course Description

This course offers group instruction in guitar and introduces the reading of standard notation. Students practice right and left hand techniques, including strumming/plectrum and finger styles as applied to scales and melodies, provide primary chord accompaniment for melodies and perform simple works for solo guitar.

VII. Required Course Content

A. Course Learning Goals

Students will:

1. read standard notation;
2. demonstrate right and left hand techniques, including strumming/plectrum and finger-picking styles;
3. provide primary chord accompaniment for melodies; and
4. perform simple works for solo guitar

B. Planned Sequence of Topics and/or Learning Activities

1. introduction to standard notation;
2. execution of scales and melodies using right and left hand techniques, including strumming/plectrum and finger-picking styles;
3. perform primary chord accompaniment for melodies; and
4. perform simple works for solo guitar

C. Assessment Methods for Course Learning Goals

Students are assessed on the basis of active participation and demonstration of proper right and left hand technique in the contexts of the execution of scales, primary chord accompaniment, and performance of assigned repertoire.

D. Reference, Resource, or Learning Materials to be used by Student:

See course syllabus.



[Music Styles and Literature: Music Before 1750 \(MUSC201\)](#): The course name has been updated to “Music History and Analysis Before 1750.” The Master Course Outline has also been updated in the following sections:

- I. Course Number and Title: MUSC201 Music History and Analysis Before 1750
  
- IV. Pre-req/Co-req: MUSC111 (C or better)
  
- VII. Required Course Content
  - B. Planned Sequence of Topics and/or Learning Activities
    1. examine the chronological development of music of the Medieval, Renaissance, and Baroque Periods in an historical context
    2. define, identify, examine, and analyze the representative forms, styles, genres, and compositional techniques of the Medieval, Renaissance, and Baroque Periods in both written and aural formats
    3. perform critical listening and aural analysis tasks, both real-time and prepared
    4. perform analysis tasks (formal, harmonic, contrapuntal, comparative, and stylistic) in class and/or as homework
    5. prepare an analysis project which correctly and effectively applies appropriate analytical methods (formal, harmonic, contrapuntal, comparative, and/or stylistic) and strategies to achieve the stated objective(s)
  
  - C. Assessment Methods for Course Learning Goals  
Course-specific content will be assessed via homework and in class assignments, quizzes, exams, and an analysis project. A final comprehensive examination will be administered to assess all subject matter components that are detailed in the Course Learning Goals for this course.

[Music Styles and Literature: Music after 1750 \(MUSC202\)](#): The course name has been updated to “Music History and Analysis After 1750.” The Master Course Outline has also been updated in the following sections:

- I. Course Number and Title: MUSC202 Music History and Analysis After 1750
  
- IV. Pre-req/Co-req: MUSC111 (C or better)
  
- VII. Required Course Content
  - B. Planned Sequence of Topics and/or Learning Activities

1. define, identify, examine, and analyze the representative forms, styles, genres, and compositional techniques of the Classical, Romantic, and Modern Periods in both written and aural formats
2. examine the development of music of the Classical, Romantic, and Modern Periods in an historical context
3. perform analysis tasks (formal, harmonic, contrapuntal, comparative, and stylistic) in class and/or as homework
4. prepare and deliver to the class an oral presentation
5. prepare an analysis project, which correctly and effectively applies appropriate analytical methods (formal, harmonic, contrapuntal, comparative, and/or stylistic) and strategies to achieve the stated objective(s)

C. Assessment Methods for Course Learning Goals

Course-specific content will be assessed via homework and in-class assignments, a large-scale analysis project, quizzes, and exams. A final comprehensive examination will be administered to assess all subject matter components that are detailed in the Course Learning Goals for this course. The Oral Communication component of this course, will be scored according to College-approved outcomes assessment rubric for oral communication.

[Concert Choir \(MUSE101\)](#): The Master Course Outline has been updated in the following sections:

- IV. Pre-req/Co-req: None
- V. Other Pertinent Information  
Students are expected to practice their parts at home. Total rehearsal time for this course is 150 minutes/ week. Students will be charged an ensemble fee for this course.
- VI. Catalog Course Description  
Concert Choir is a mixed vocal ensemble that prepares stylistically diverse music repertoire for one or more public performances each semester. It is open to all students.
- VII. Required Course Content
  - A. Course Learning Goals  
Students will:
    1. Perform music repertoire in a choral ensemble environment.

B. Planned Sequence of Topics and/or Learning Activities

1. perform appropriate vocal warm-up exercises (vocalizes) at the beginning of rehearsals
2. practice appropriate musical responses to conducting gestures
3. examine critically all music repertoire that is to be performed
4. prepare, rehearse, and subsequently perform all music repertoire with attention to accurate pitch, rhythm, dynamics, and stylistic considerations
5. apply stylistically accurate phrasing, balance, blend, articulation, vocal techniques, proper diction, etc., in the preparation, rehearsal, and performance of all music repertoire
6. perform selected music repertoire in the venue of one or more public concerts

C. Assessment Methods for Course Learning Goals

Course-specific content will be assessed continually by the conductor via standard rehearsal techniques, as the assigned music repertoire is prepared to a mastery level compatible with public performance. Mandatory student performance in the culminating concert(s) is the musical equivalent of a final comprehensive examination and shall be weighted as such in all instructor-generated grading schemes. (See course syllabus.)

D. Reference, Resource, or Learning Materials to be used by Student:

Music scores for all repertoire under study will be provided at no additional charge to students.

[Jazz Orchestra \(MUSE115\)](#): The course name has been updated to “Cover Band.” The Master Course Outline has also been updated in the following sections:

- I. Course Number and Title: MUSC115 Cover Band
- II. Number of Credits: 3
- III. Number of Instructional Minutes: 3000
- IV. Pre-req/Co-req: None
- V. Other Pertinent Information  
Students are expected to practice their parts at home. Students may be required to bring their own instrument(s) to class.  
This course meets the General Education requirement for Arts/Humanities.
- VI. Catalog Course Description

Cover Band is an instrumental and vocal ensemble in which students prepare diverse music repertoire such as rock, pop, and other contemporary styles for one or more public performances each semester. It is open to all students.

VII. Required Course Content

A. Course Learning Goals

Students will:

1. Perform music repertoire in a cover band environment

B. Planned Sequence of Topics and/or Learning Activities

1. practice appropriate musical responses to conducting gestures
2. examine critically all music repertoire that is to be performed
3. prepare, rehearse, and subsequently perform all music repertoire with attention to accurate pitch, rhythm, dynamics, and stylistic considerations
4. apply stylistically accurate phrasing, balance, blend, articulation, instrumental and vocal techniques, etc., in the preparation, rehearsal, and performance of all music repertoire
5. practice proper instrumental and vocal techniques with regard to amplification
6. perform selected music repertoire in the venue of one or more public concerts

C. Assessment Methods for Course Learning Goals

Course-specific content will be assessed continually by the director via standard rehearsal techniques, as the assigned music repertoire is prepared to a mastery level compatible with public performance. Mandatory student performance in the culminating concert(s) is the musical equivalent of a final comprehensive examination and shall be weighted as such in all instructor-generated grading schemes. (See course syllabus.)

D. Reference, Resource, or Learning Materials to be used by Student:

See course syllabus.

[Chamber Ensemble: Classical \(MUSE151\)](#): The course name has been updated to “Classical Ensemble.” The Master Course Outline has also been updated in the following sections:

I. Course Number and Title: MUSE151 Classical Ensemble

IV. Pre-req/Co-req: None

- V. Other Pertinent Information  
Students must participate in all concerts and performances. Total rehearsal time for this course is 50 minutes per week. Students will be charged an ensemble fee for this course.
- VI. Required Course Content
- A. Course Learning Goals  
Students will:
1. Perform music repertoire in a classical chamber ensemble environment.
- B. Planned Sequence of Topics and/or Learning Activities
2. critical examination of all music repertoire that is to be performed
  3. preparation, rehearsal, and subsequent performance of all music repertoire with attention to accurate pitch, rhythm, dynamics, and stylistic considerations
  4. stylistic application of accurate phrasing, balance, blend, articulation, etc., in the preparation, rehearsal, and performance of all music repertoire
  5. performance of selected music repertoire in the venue of one or more public concerts
- C. Assessment Methods for Course Learning Goals  
The director continually assesses course-specific content via standard rehearsal techniques in preparation of selected music repertoire for public performance. Successful student performance in the required public concert(s) is the musical equivalent of a final comprehensive examination.

[Chamber Ensemble: Jazz \(MUSE155\)](#): The course name has been updated to “Jazz Ensemble.” The Master Course Outline has also been updated in the following sections:

- I. Course Number and Title: MUSE155 Jazz Ensemble
- IV. Prerequisites: None  
Corequisites: None
- V. Other Pertinent Information  
Students must participate in all concerts and performances. Total rehearsal time for this course is 50 minutes per week. Students will be charged an ensemble fee for this course.
- VII. Required Course Content and Direction
- A. Course Learning Goals  
Students will:

1. Perform music repertoire in a jazz chamber ensemble environment.

B. Planned Sequence of Topics and/or Learning Activities

1. critical examination of all music repertoire that is to be performed
2. preparation, rehearsal, and subsequent performance of all music repertoire with attention to accurate pitch, rhythm, dynamics, and stylistic considerations
3. stylistic application of accurate phrasing, balance, blend, articulation, etc., in the preparation, rehearsal, and performance of all music repertoire
4. performance of selected music repertoire in the venue of one or more public concerts.

C. Assessment Methods for Course Learning Goals

The director continually assesses course-specific content via standard rehearsal techniques in preparation of selected music repertoire for public performance. Successful student performance in the required public concert(s) is the musical equivalent of a final comprehensive examination.

[Madrigal Singers \(MUSE201\)](#): The Master Course Outline for this course has been updated in the following sections:

V. Other Pertinent Information

Students must participate in all concerts and performances, including those held off campus. Total rehearsal time for this course is 100 minutes per week. Students will be charged an ensemble fee for this course.

VII. Required Course Content

A. Course Learning Goals

Students will:

1. Perform advanced music repertoire in a choral ensemble environment.

B. Planned Sequence of Topics and/or Learning Activities

1. perform appropriate vocal warm-up exercises (vocalizes) at the beginning of rehearsals
2. practice appropriate musical responses to conducting gestures
3. examine critically advanced music repertoire that is to be performed
4. prepare, rehearse, and subsequently properly perform advanced music repertoire with attention to accurate pitch, rhythm, dynamics, and stylistic considerations

5. prepare, rehearse, and subsequently properly perform advanced music repertoire with attention to individual articulation of independent melodic lines
  6. apply stylistically accurate phrasing, balance, blend, articulation, vocal techniques, proper diction, etc., in the preparation, rehearsal, and performance of advanced music repertoire
  7. perform advanced music repertoire in the venue of one or more public concerts
- D. Reference, Resource, or Learning Materials to be used by Student:  
See course syllabus.

[Group Instruction in Piano \(MUSG165\)](#): The course name has been updated to “Class Piano.” The Master Course Outline has been updated in the following sections:

- I. Course Number and Title: MUSG165 Class Piano
- V. Other Pertinent Information  
Students must have access to an acoustic piano or digital keyboard with weighted action for practice purposes. Practice facilities with appropriate instruments are available at the college.
- VII. Required Course Content
  - A. Course Learning Goals  
Students will:
    - 3 perform elementary repertoire using proper fingering and hand position; and
  - B. Planned Sequence of Topics and/or Learning Activities
    1. Introduction to proper keyboard hand position

[Group Instruction in Ukulele \(MUSG185\)](#): The course name has been updated to “Class Ukulele.” The Master Course Outline, Section V. Other Pertinent Information: Remove “experimental” and Section VI. Catalog Course Description, change “an” to “and.”

[Introduction of Radiology \(RADI100\)](#): The Master Course Outline has been updated in the following sections:

- VIII. Required Course Content
  - A. Course Learning Goals  
Students will:
    1. identify the role of the radiographer in the patient's healthcare;

2. discuss the interrelationship between personal, community and societal values as they relate to utilization of the health care system;
  3. describe infection control including aseptic and sterile techniques;
  4. demonstrate correct principles of biomechanics and ergonomics;
  5. demonstrate proper procedures for determining vital signs;
  6. discuss basic radiation safety concepts.
- B. Planned Sequence of Topics and/or Learning Activities
1. Introduction to Radiologic and Imaging Sciences
  2. Professional Organizations, Development and Advancement
  3. Educational Survival Skills
  4. Critical-Thinking and Problem-Solving Strategies
  5. Introduction to Clinical Education
  6. Radiology Administration
  7. Medical Law and Ethics
  8. Patient Interactions and History Taking
  9. Biomechanics and Ergonomics
  10. Immobilization Techniques
  11. Vital Signs, Oxygen, Chest Tubes and Lines
  12. Infection Control
  13. Aseptic Techniques
  14. Nonaseptic Techniques
  15. Medical Emergencies
  16. Pharmacology
  17. Principles of Drug Administration

[Image Production and Evaluation \(RADI110\)](#): The Master Course Outline has been updated in the following sections:

- VI. Course Description
- This course is designed to provide a knowledge base of factors that influence the production and recording of radiologic images. Image receptors, image production, application of technical factors and related accessories are discussed. A basis for analyzing radiographic images is provided.
- VII. Required Course Content
- A. Course Learning Goals
- Students will:
1. discuss practical considerations in setting standards for acceptable image quality;
  2. define contrast, receptor exposure, spatial resolution, and distortion on radiographs;



3. distinguish the relationships of factors that control and affect image receptor exposure and contrast;
4. discuss beam limiting devices;
5. describe the differences and similarities of grid types; and
6. define exposure factor considerations involved in technique selection

#### B. Planned Sequence of Topics and/or Learning Activities

- a. Imaging quality standards
- b. Receptor Exposure
  - i. Definition
  - ii. Acceptable range
  - iii. Factors
- c. Radiographic contrast
- d. Spatial Resolution
  - i. Definition
  - ii. Components
    1. Umbra
    2. Focal spot blur
  - iii. Factors
- e. Distortion
- f. Exposure latitude
- g. Beam limiting devices
  - i. Definition
  - ii. Purpose
    1. Patient dose
    2. Scatter production
    3. Image receptor exposure
    4. Image contrast
  - iii. Types, function, and application of each
    1. Apertures/diaphragms
    2. Cones
    3. Collimator
    4. Lead masks
    5. Alignment
- h. Beam filtration
- i. Scattered and secondary radiation
- j. Control of exit radiation
- k. Technique formulations
- l. Exposure calculations
  - i. Factors
    1. Distance
    2. mAs

- 3. kVp
- 4. Grids
- 5. Image receptors
- 6. Focal spot
- 7. Digital exposure indicator
- ii. Calculations
  - 1. Receptor exposure/contrast
- m. Automatic exposure control
- n. Imaging standards

[Advanced Imaging I \(RADI135\)](#): The Master Course Outline has been updated in the following sections:

V. Course Description

This course provides the student with a detailed understanding of various radiographic imaging techniques, procedures, and equipment. Topics explored include introduction to computers, basic principles of digital radiography, picture archiving and communication systems, image intensification, fluoroscopy, photostimulable phosphor image receptors and digital image receptors.

VI. Required Course Content

A. Course Learning Goals

Students will:

- 1. describe digital fluoroscopic formation;
- 2. identify fluoroscopic equipment;
- 3. describe the function of each component of the image receptor;
- 4. define digital imaging and communication in medicine; and
- 5. describe electronic imaging equipment used in radiography and fluoroscopy and flat panel detectors used in digital electronic x-ray equipment.

B. Planned Sequence of Topics and/or Learning Activities

Introduction to Modalities

- 1. Characteristics of image receptors
  - a. Composition
    - i. Components
    - ii. Structure
    - iii. Function
  - b. Types
    - i. Photostimulable phosphors
    - ii. Thin Film Transistor Flat-Panel Array

- c. Definition, influence, and application of image receptor properties
  - i. Contrast
  - ii. Speed/sensitivity
  - iii. Latitude
  - iv. Spatial Resolution
- 2. Image receptor holders
  - a. Image receptor holders
    - i. Cassettes
      - 1. Purpose
      - 2. Construction
      - 3. Application
      - 4. Loading/unloading
      - 5. Maintenance
  - b. Image Receptors
    - i. Purpose
    - ii. Construction/composition
    - iii. Principles of function
      - 1. Fluorescence
      - 2. Phosphorescence
      - 3. Quantum mottle
      - 4. Technical influence

[Advanced Imaging II \(RAD1210\)](#): The Master Course Outline has been updated in the following sections:

- V . Course Description
 

This course is a continuation of RAD1135 and provides the student with a detailed understanding of various radiographic imaging techniques, procedures, and equipment. The major topics that are included are introduction to all modalities, drug administration and contrast media.
- VI. Required Course Content
  - A. Course Learning Goals
 

Students will:

    - 1. discuss the role of Mammography Quality Standards Act in mammography;
    - 2. explain the basic principles of Bone Densitometry, Radiation Therapy and Ultrasound;
    - 3. identify the equipment utilized in Interventional Radiology;
    - 4. explain the process of data acquisition in computed tomography;

5. describe the similarities and differences in the production of magnetic resonance imaging and computed tomography images; and
6. discuss the principles of drug administration with contrast media

B. Planned Sequence of Topics and/or Learning Activities

1. Introduction to Modalities
  1. Mammography
  2. Bone densitometry
  3. Computed tomography
  4. Magnetic resonance imaging
  5. Cardiac and Vascular Interventional Radiology
  6. Diagnostic Medical Sonography
  7. Nuclear Medicine
  8. Radiation Therapy and Medical Dosimetry
  9. Drug Administration and Contrast Media