

## Course Abstract

*If you need accommodations due to a disability, contact Disability Services in Edison Hall Room 100, 732.906.2546.*

*To foster a productive learning environment, the College requires that all students adhere to the Code of Student Conduct which is published in the college catalog and website.*

### **Course ID and Name:**

#### **Department: Radiography Education**

Chairperson or Course Coordinator: E. Dikun

Office Location: LH 108

E-mail Address: Edikun@middlesexcc.edu

Telephone: 732-548-6000 ext # 3334

**Prerequisites:** RAD 145, 146

**Co-requisites:** RAD 248, 275, 220, 230

**Course Description:** A presentation of anatomy, cross-sectional anatomy, positioning and pathology of the cranium, sella turcica, facial bones (nasal bones, zygomatic arch, mandible and temporomandibular joints), paranasal and mastoid sinuses, orbits, optic foramina and mammary gland.

### **General Education Status:**

**Credits: 2**

**Lecture Hours: 2**

**Lab Hours: 0**

### **Learning Outcomes:**

1. Identify and locate topographical planes, landmarks and positioning lines.
2. Discuss routine radiographic positions/projections for the area of interest.
3. Identify anatomical and bony structures as demonstrated radiographically.
4. Discuss exam variations to include trauma studies, mobile radiography and age specific examinations.
5. Evaluate radiographs and discuss corrective measures if radiographs are not diagnostic quality.
6. Discuss optional views, pathology and other modalities including crania computed tomography.

### **Course Content Areas:**

**At the end of each lecture, class discussion and reading assignment, the student will define each topic objective outlined in the course syllabus.**

1. Terminology associated with the Cranium
2. General Positioning Objectives
  - a. Cranium
  - b. Sella Turcica
  - c. Facial Bones
  - d. Nasal Bones
  - e. Zygomatic Arches
  - f. Mandible
  - g. Temporomandibular Joints
  - h. Paranasal Sinuses
  - i. Mastoid sinuses
  - j. Orbits
  - k. Optic Foramina
3. Optional Radiographic Projections
4. Related Pathology
5. Mammography Positioning

**Textbook Requirement:**

Trajectory On-line Competency Evaluation Subscription  
 Bontrager & Anthony, "Textbook of Positioning & Related Anatomy", 9th Edition, C.V. Mosby-2018  
 Bontrager & Anthony, "Workbook for the Textbook of Positioning & Related Anatomy", 9th Edition, C.V. Mosby-2018  
 Bontrager & Lampignano, "Handbook of Radiographic Positioning and Techniques", 9th Edition, C.V. Mosby-2018

**Grading Standard:**

<b>A</b>	<b>94-100</b>
<b>A-</b>	<b>90-93.99</b>
<b>B+</b>	<b>88-89.99</b>
<b>B</b>	<b>84-87.99</b>
<b>B-</b>	<b>80-83.99</b>
<b>C+</b>	<b>78-79.99</b>
<b>C</b>	<b>75-77.99</b>
<b>D</b>	<b>70-74.99</b>
<b>F</b>	<b>&lt;70</b>

**Success Criteria:**

The student must earn a minimum course grade of "C" (75%) or higher in order to continue in sequencing of radiography courses. The following course grade distribution will be utilized:

Average of Quizzes	60%
Midterm Examination	20%
Final Examination	20%
<b>Total- 100%</b>	

## Program Policy and Regulation Compliance:

- Students are expected to attend all classes.
- Any student found cheating or plagiarizing will, at minimum, receive a grade of zero for that test or assignment. The instructor reserves the right to fail the student for the course and/or pursue further action including the enforcement of the “Code of Student Conduct.” Students are encouraged to become familiar with the “Code of Student Conduct” as described in the College Catalog- <http://www.middlesexcc.edu/registrar/images/cosc.pdf>. Cheating and/or plagiarism will not be condoned and will result in a course grade of “F”.
- No make-up tests will be given. If you arrive late for a test and a student has handed in a test, you will not be permitted to take that test.
- Assignments are due on the date specified by the instructor. Late assignments will receive a grade penalty.
- Quizzes on Respondus Lockdown and Monitor are moderated. If you are having difficulty accessing the quiz, please contact me via email ASAP.
- During a Respondus quiz you must not access other resources (a phone, tablet, notes, books, etc.) or communicate with others. Please stay in your seat and focus on the computer screen until the quiz is complete. If an interruption occurs, briefly explain what happened by speaking directly to your webcam. And finally, remember that you cannot exit the quiz until all questions are completed and submitted for grading. Do not share any content with your classmates. If you have technical questions about anything mentioned above, please don’t hesitate to submit a ticket at <https://support.respondus.com> Links to an external site.
- All lecture sessions will be live-remote via Canvas or Zoom. Canvas lecture recordings will only be available for a maximum of two weeks after the live-remote session. You are expected to have an updated laptop or tablet, with a webcam.
- **All on-line quizzes will auto-launch** – If a quiz or test requires the use of LockDown Browser, it will automatically launch from your regular browser session. At the end of the quiz, LockDown Browser will close, allowing you to continue with your standard browser. **To be clear, the LockDown Browser application must first be installed to the computer or device.** But once installed, it will automatically launch (and close) as needed.
- Zoom or Canvas etiquette: Here are five easy-to-follow rules to ensure you are making the best virtual impression.
- **Clothing is NOT optional.** Remember that even though you may be alone at home, your professor and classmates can SEE you!
- **Be aware of your surroundings.** Your professor and classmates can also see BEHIND you. Let your family, partner, or roommate know you are in a live class session using your webcam.
- **Mute is your friend.** Once you log in to the virtual classroom, be sure to mute your microphone (lower left-hand corner). This will help to eliminate background noise that could distract others.
- **Raise your hand and wait to be called upon.** If you wish to speak, use the "Raise Hand" button at the center of the bottom of your screen when using Zoom. Once the

professor calls on you, unmute yourself and begin speaking. When you have finished speaking, indicate you are done by saying something like "That's all" or "Thank you" and then mute your microphone again. When using Canvas you will need to interrupt me to ask your question since the chat box is not always visible when the screen is enlarged.

- **If you don't have anything nice to say...**The Zoom and Canvas chat feature is a tool to make comments and ask questions without interrupting the speaker but be aware that your comments are public and are recorded in the minutes of the session.

### **Student Class Absence Due to Covid-19-related Illness**

- If you need to miss a class due to COVID-19-related illness, you are responsible for contacting your instructor to let them know of the need as soon as possible.
- You are responsible for completing any work that you might miss due to COVID-19-related illness, including assignments, quizzes, tests, and exams.
- If you might need to miss more than two consecutive weeks of classes in any one semester due to COVID-19-related illness, you must contact the Dean of the Division of your major (Dr. Theresa Orosz, [TOrosz@middlesexcc.edu](mailto:TOrosz@middlesexcc.edu), Liberal Arts Division; Dr. Donna Howell ([DHowell@middlesexcc.edu](mailto:DHowell@middlesexcc.edu)) Business, STEM, and Health Professions Division). You may be required to provide a doctor's note of explanation. The Dean will communicate the receipt of the note (with expected end date) to the relevant faculty.

### **General Course Objectives:**

#### **General Course Objective -Terminology Associated with the Cranium**

1. Define and differentiate terms: Skull, Cranium, and Calvarium.
2. Identify and differentiate the terms associated with the three (3) basic skull types
3. Identify and locate the basic topographical planes, surface landmarks and positioning lines.

#### **General Positioning Objectives**

1. Name and identify the functions and articulations of the bones and joints.
2. Identify the developmental stages, anatomical structures and the location of the pediatric and adult skeleton.
3. Identify and discuss the routine radiographic positions/projections for the area of interest.
4. Identify the anatomical and bony structures as demonstrated radiographically.
5. If applicable, discuss exam variations to include trauma studies, mobile radiography and age specific examinations.
6. Evaluate radiographs and discuss corrective measures if radiographs are not of diagnostic quality.
7. Identify and discuss other modalities used to examine the area of interest.

#### **Discuss Optional Radiographic Projections**

- a) **Cranium**
  - i) Submentovertex
  - b) Sella Turcica
    - i) PA 25 degree Cephalad (Haas Method)

- c) **Facial Bones**
  - i) Modified Parietoacanthial (Modified Waters method)
- d) Nasal Bones
  - i) PA (Caldwell Method)
  - ii) Superoinferior (Axial)
- e) Zygomatic Arches
  - i) Townes
  - ii) Panorex
- f) Temporomandibular Joints
  - i) Axiolateral 15 degree Oblique (Modified Law Method)
  - ii) Axiolateral (Schuller Method)
- g) **Paranasal Sinuses**
  - i) Parietoacanthial transoral (Open Mouth Waters)
- h) **Optic Foramina**
  - i) Modified parietoacanthial (Modified Waters Method)
  - ii) **Foreign Body Localization projections** (Waters, Lateral)

**Discuss Related Pathology**

- a) Fracture Types
  - i) Depressed
- b) Named fractures
  - i) Blowout
  - ii) Tripod
- c) Brain Trauma
- d) Carcinoma

**Mammography Anatomy, Positioning & Imaging**

1. Identify the anatomy of the breast.
2. Identify the stages of breast development.
3. Discuss the radiographic positioning of the breast.
  - a. Craniocaudal projection
  - b. Mediolateral Oblique projection
  - c. Axillary projection
4. Identify radiographic positioning of the breast via radiographs.
5. Explain "Patient Respiration and Motion Control" as applicable to procedure.
6. Explain "Patient Preparation" as applicable to procedure.
7. Discuss technique and positioning variation as applicable to body habitus.
8. Discuss related pathologies.
9. Identify alternate modalities used to examine the area of interest.
10. Discuss patient education according to the American Cancer Society guidelines.

<b>AGENDA</b> Week #1	Cranial topography Skull Morphology
Week #2	Cranial Anatomy Basic Positioning
Week #3	Cranial Pathology Trauma Radiography
Week #4	Facial Bones (Basic) Anatomy & Positioning Maxilla
Week #5	Facial Bones (cont.) Nasal Bones
Week #6	Facial Bones (cont.) Zygomatic Arch
Week #7	Midterm Exam
Week #8	Facial Bones Mandible
Week #9	Facial bones Temporomandibular joint
Week #10	Sinuses
Week #11	Orbits Optic Foramina
Week #12	Trauma positioning
Week #13	Mammography- anatomy
Week #14	Mammography- positioning
Week #15	Final Exam