

**COURSE SYLLABUS (Fall 2022)**

v. 6/14/2022

**COURSE:** ORAL RADIOLOGY I DNHY 3002 (Lecture - 2 Credit Hours)

**DAY/TIME:** Tuesday & Thursday 11:00 – 11:50 AM

**LOCATION:** Centennial Hall Room 103

**INSTRUCTOR:** Ray H. Hyde DDS, FICOI, FAGD Associate Professor  
Centennial Hall, Room #128  
Telephone 397-4650 Cell/Text 940-704-7847  
Email: ray.hyde@msutexas.edu

Office Hours: Mon, Wed & Thurs 1-5:00 PM  
Friday 8-12:00  
(Or by appointment)

**REQUIRED**

**TEXTS:** Essentials of Dental Radiography for Dental Assistants & Hygienists, 10<sup>th</sup> Ed, Thomson & Johnson

Wilkins' Clinical Practice of the Dental Hygienist; 13<sup>th</sup> edition by Boyd, Mallonee & Wyche

**Supplemental Resources Available from Dental Hygiene Program**

Radiographic Interpretation for the Dental Hygienist, Haring & Lind

Principles of Dental Imaging, Langland & Langlais

Oral Radiology Principles and Interpretation, 3<sup>rd</sup> Ed., Goaz & White

**COURSE**

**DESCRIPTION:** As published in the most current MSU Catalog (2020-2021)

An in-depth introduction to dental radiography. Subject matter includes the history of dental x-rays; theoretical aspects of x-ray production, the x-ray machine; radiation protection; applications of dental x-ray film; normal radiographic anatomy; and patient education.

**COURSE**

**PURPOSE:** The purpose of this course is to introduce the student to the basics of radiation physics, biological effects, how radiation is used for diagnostic purposes and legal/ethical responsibilities of the dental professional regarding radiation. Radiographic equipment, film/ film processing and digital image receptors will be discussed. Students will be able to identify basic landmarks and all structures of the teeth and alveolus on radiographs. This course must be successfully completed in order to take Oral Radiology II, the didactic/lab course in which they will practice the intraoral technique skills necessary to expose diagnostic radiographs.

## **COURSE**

**OBJECTIVES:** Given lecture, discussion and slide identification, upon successful completion of this course the student should be able to:

1. Discuss the progress of radiography from its discovery to the present, naming the pioneers and their contributions.
2. Identify techniques that have helped to make x-ray a safe and reliable diagnostic tool.
3. Differentiate between the various atomic and molecular structures important to radiography and the common characteristics of radiation.
4. Identify ways dental x-rays interact with matter.
5. Discuss the major components and functions of a dental x-ray machine.
6. Identify the factors involved in x-ray generation and the sequential steps that must be followed in operating the x-ray machine.
7. Identify the basic requirements of an acceptable diagnostic radiograph.
8. Differentiate between the effect of variations in milliamperage, kilovoltage, distance, and exposure time on the resulting radiograph.
9. Compare the theories of biological damage and the effect of radiation on somatic and genetic cells.
10. Identify the body cells in order of their radiosensitivity and the factors that determine radiation injuries.
11. List the sequence of events following exposure to radiation and the possible short and long term effects of irradiation, including the effects of oral radiation therapy.
12. Identify the areas of professional responsibility and discuss radiation safety in regards to:
  - a. Legislation affecting radiation
  - b. Procedures for maintaining radiation safety
  - c. Goals of quality assurance programs
13. Identify the terms used to measure radiation.
14. Differentiate between the terms used in radiation safety procedures and describe various radiation monitoring devices.
15. Identify the parts, identification marks, sizes, customary usage, and film speed of various intraoral dental x-ray films.
16. Differentiate between intraoral and extraoral films including, cassettes and the correct methods of film handling and storage.
17. Identify the sequence of steps in processing radiographs and the problem areas in quality control during processing.
18. Identify all items of darkroom equipment, the compartments of processing tanks, and the safelight.
19. Compare and contrast manual, automatic, rapid processing, and film duplicating procedures.
20. Identify the major ingredients in processing solutions and explain the function of each ingredient.
21. Recognize and identify normal radiographic landmarks of the face and head and locates these landmarks on the maxilla and mandible.
22. Differentiate between the terms radiopaque and radiolucent, recognizing and describing all structures of the teeth and alveolus.
23. Identify radiopaque/radiolucent dental materials, dental caries, radiopaque/radiolucent pathology, and alveolar bone loss.
24. Identify the types of radiographic errors caused by faulty exposure techniques, faulty processing techniques, and conditions that cause film fog.
25. Identify and understand an appropriate infection control protocol for the radiographic procedure.

**Learning Objectives** related to textbook chapters and topics will be given for each class session.

## **COURSE**

### **EVALUATION:**

#### **EXAMINATIONS:**

Four (4) examinations will be given for this course. Each exam will be comprehensive from the first class session. Each examination will comprise 25% of the final course grade.

#### **MAKE-UP EXAMINATIONS**

Students missing an examination due to illness will be allowed to make up the exam on the day of their return to school. No grade higher than a 90 will be given for a make-up examination. Students will be allowed to make up only one (1) exam per semester.

**Water bottles, cell phones, hand-held calculators/computers are not allowed in the room during any examination. Possession of any of these items during an exam will be construed as academic dishonesty and will be dealt with accordingly.**

#### **DENTAL HYGIENE PROGRAM GRADING SCALE**

92-100 = A

83-91 = B

75-82 = C

65-74 = D

**75 AVERAGE IS THE MINIMUM ACCEPTABLE GRADE  
FOR SUCCESSFUL COMPLETION OF THIS COURSE**

### **ATTENDANCE:**

**More than two (2) absences for any reason will result in a loss of 5 points from final course grade for EACH absence over the allowed 2.** In cases of extreme illness and/or hospitalization, individual decisions may be made. Two (2) tardies will be the equivalent of one (1) absence. Students must be present for the entire class period to get credit for a class session. Students leaving class early will be counted as absent.

### **PHONE**

#### **USE:**

Cell phone use (texting or verbal) is extremely disruptive to your fellow classmates and to the faculty teaching your course. Therefore, the use of cell phones will not be tolerated, FOR ANY REASON. If you utilize your cell phone it will be confiscated for the remainder of the scheduled day. Repeat offenders will be asked to leave the classroom and will be required to meet with the faculty and the chair of the Dental Hygiene Department. In cases of emergencies, please notify spouses, family and friends to contact you via the program secretary at 397-4764.

### **ACADEMIC DISHONESTY**

#### **Dental Hygiene Honor System:**

**All Dental Hygiene courses adhere to the MSU Code of Conduct.** In particular, academic dishonesty, however small, creates a breach in academic integrity. A student's participation in this course comes with the expectation that his or her work will be completed in full observance of the MSU Code of Student Conduct. A student should consult the current Student Handbook for answers to any questions about the code.

Many components of dental hygiene courses are designed to be highly interactive with students helping each other learn. Students are encouraged to take full advantage of many resources available including course resources, Internet sites, other textbooks and journals, faculty, and peers when answering objectives. This interactive collegial learning environment is conducive for life-long

learning.

Cheating includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) the acquisition of tests or other academic materials belonging to the university faculty or staff without permission.

Plagiarism includes, but is not limited to, the use of, by paraphrase or direct quotation without correct citation in the text and on the reference list, the published or unpublished works of another person. Students may NOT submit papers and assignments that they have previously submitted for this or other courses. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism.

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class. Whenever a student is unsure of whether a particular situation will be interpreted as academic dishonesty, he/she should ask the instructor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

#### PLEASE NOTE

*By enrolling in this course, the student expressly grants MSU a "limited right" in all intellectual property created by the student for the purpose of this course. The "limited right" shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity, and to detect for plagiarism*

### MSU COHSHS Student Conduct Appeals Committee

All Midwestern State University (MSU) students may legitimately appeal a course grade if 1) the student has not be evaluated according to the same criteria as his or her classmates, or 2) an error has been made in grading and/or posting (MSU Student Handbook, p. 37.) In addition, the Office of the Dean of Students has the responsibility to enforce standards of conduct for students as outlined in the MSU Student Handbook (p. 70-80).

When enrolled in the College of Health Sciences and Human Services (COHSHS), students are often assigned to community agencies, such as health care facilities, social service agencies, or athletic environments, as part of their academic process. During these experiences, the student is expected to behave in a manner required of professionals working in this environment. COHSHS students may also be required to successfully complete a licensing/certification process following graduation. As a result, students in these programs are often held to a different academic and/or behavioral standard than students in other MSU programs. For example, students may not be allowed to progress in a program if they have been unsuccessful (D or F) in a certain number of courses in the major. In these circumstances, COHSHS faculty and administration, all of whom have had similar professional experience, may make decisions which negatively impact students' programmatic progress.

COHSHS students have a right to a review of decisions made by the program faculty, which prevent individuals from progressing in their program in a timely manner. However, those who participate in the review must understand the context of the professions involved. Therefore, **issues concerning the professional conduct of students in the COHSHS will NOT be brought to the University Grade Committee, but to the COHSHS Student Conduct Appeals Committee.** Specifically, the COHSHS Student Conduct Appeals Committee will review faculty decisions related to:

- Student conduct in a clinical experience, internship, or other work-related environment that negatively impacts the student's academic progress. This conduct may include behavior which is prohibited by licensing and/or professional standards or departmental policy.
- Student removal from a program because of a) professional conduct issues or b) failure to maintain academic standards required specifically by the program\*

**SEE COHSHS WEB SITE FOR A COMPLETE COPY OF THIS POLICY**

### The Americans with Disabilities Act:

Midwestern State University does not discriminate on the basis of an individual's disability and complies with Section 504 and the Americans with Disabilities Act in its admission, accessibility, and employment of individuals in programs and activities. MSU

provides academic accommodations and auxiliary aids to individuals with disabilities, as defined by law, who are otherwise qualified to meet academic employment requirements. For assistance call (940) 397-4618 or (940) 397-4515. It is the student's responsibility to declare any disabilities. After declaration, preferably at the beginning of each semester, the student needs to contact individual instructors to determine any reasonable accommodations that may be required.

**COVID-19 Policies: Students must follow MSU and Clinical site protocols related to COVID-19. Students who test positive for the COVID-19 virus MUST provide TWO negative tests in order to return to class and clinicals. MSU is following the CDC guidelines recommending the two test criteria for health care workers to return to work. Wichita County Public Health requires the two test criteria if you work closely with other people, two negative tests 24 hours apart to be released from isolation.**

### **Concealed Handguns on Campus**

Senate Bill 11 passed by the 84<sup>th</sup> Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the University's webpage at <http://mwsu.edu/campus-carry/rules-policies>

### **Social Media**

#### **DO NOT:**

Do not use any social media site related to Midwestern State University or the Dental Hygiene Dept. /Program to harass, threaten, insult, defame or bully another person or entity; to violate any College policy; or to engage in any unlawful act, including but not limited to gambling, identity theft or other types of fraud.

- Post or store content that is obscene, pornographic, defamatory, racist, excessively violent, harassing, threatening, bullying or otherwise objectionable or injurious.
- Post copyrighted content (such as text, video, graphics or sound files) without permission from the holder of the copyright. Remember, even information that is widely available to the public (such as text, photographs, or other material posted on the Internet) may be subject to copyright restrictions that prohibit unauthorized duplication or dissemination