

**Midwestern State University**  
**Dental Hygiene Program**

**COURSE:** DENTAL MATERIALS (DNHY 3013) Syllabus (Fall 2020)

**DAY/TIME/LOCATION:** Tuesday 1:00–5:00 p.m. in Centennial Hall, Room #103

**INSTRUCTOR:**

Ray H. Hyde, DDS  
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**REQUIRED TEXTS:**

Dental Materials: Clinical Applications for Dental Assistants and Dental ; 3<sup>rd</sup> Edition by Hatrick, Eakle & Bird

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

**Course Description:**

This course explores the properties of the materials used in dentistry and the influence of manipulation upon those properties as related to clinical practice.

**Methods of Instruction:**

This course includes lectures, group discussion, and hands on clinical instruction and participation.

**COURSE PURPOSE:**

The area of dental materials is continually evolving as researchers and manufacturers improve existing materials and develop new materials. As important members of the oral health team, dental hygienists must have a working knowledge of dental materials and possess the skills to properly utilize many of these products. Dental hygienists are instrumental in educating patients about treatment care options as well as providing education on home care and prevention of disease and destruction. Many dental materials may be directly placed by the dental hygienist. The purpose of this course is to establish a solid foundation for the lifetime learning of dental materials by the dental hygienist.

**KEY CONCEPTS:**

1. An understanding of the composition, properties and manipulative variables of dental materials and their relation to the clinical setting is necessary for effective and safe dental hygiene instrumentation.
2. Knowledge of dental materials is needed in order to provide well informed professional service and advice to the patient.

**COURSE GOALS:**

This course is designed to:

1. Present theoretical and practical knowledge of the composition, properties, manipulative variables and uses of restorative and preventive dental materials.
2. Familiarize the student with materials and instruments used in dentistry so that he/she will understand specific indications, characteristics, strengths and weaknesses of materials as they relate to patient treatment and education.
3. Provide experience in manipulation of materials through laboratory and clinical experiences, enabling the student to perform selected patients treatment procedures to clinical competency.
4. Prepare the student to function as a reliable member of the dental team.

### **COURSE OBJECTIVES:**

Upon completion of the course the student should be able to:

1. Understand the general handling and safety requirements for dental materials.
2. Explain the materials development process including the standards and specifications that apply.
3. Explain why dental materials are used in dentistry and why they are important to the patient's total health.
4. List the qualities of the oral environment that make it challenging for dental material performance.
5. Describe the major diseases and destructive forces that lead to tooth destruction.
6. Identify and describe materials routinely used in dentistry.
7. Discuss the advantages and disadvantages of materials routinely used in dentistry based upon evidence based decision making.
8. Appraise, compare and evaluate dental material options.
9. Share materials information with dental patients that will facilitate their informed consent
10. Manipulate selected materials with confidence and proficiency.
11. Make alginate impressions and fabricate study models.

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

### **COURSE EVALUATION:**

One grade will be given for this course. It will be based on three examinations, satisfactory completion of all laboratory exercises, and weekly quizzes. Requirements will be weighted as follows:

Lab projects & discussions	20%
Weekly Quizzes	20%
Exam #1	20%
Exam #2	20%
Exam #3	20%

### **COURSE GRADING SCALE:**

100-92	A
91-83	B
82-75	C
74-65	D

Student must achieve a minimum of a “C” grade to successfully complete the course in accordance with program policies. A course grade will not be released until all checked out items are returned in good condition.

### **Lab Grading:**

Laboratory grading will be based on proficiency achieved through application and manipulation of dental materials. Case based discussions will also be assigned and graded.

### **Weekly Quizzes:**

At the beginning of each lecture session there will be a short quiz pertaining to the reading assignment. The quizzes will be multiple choice and fill in the blank questions. The quiz should only take 5-10 minutes to complete. Please make every effort to arrive on time, you will not be allowed extra time to complete the quiz if you are late for class. Weekly quizzes are worth 20% of your final grade.

**Attendance: More than two (2) absences for any reason will result in a loss of 5 points from the final course grade for EACH absence over the allowed 2.** This includes the lecture and scheduled clinical sessions. 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.

**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.**

### **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.

### **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**

## Course Schedule

Dates	Activity	Assignment
Week 1 8/25	1 Introduction 4 Handling & Safety Read the Chapters Review Instructor Notes	ADA Seal products Homework
Week 2 9/1	2 Oral Environment 3 Physical Properties Read the Chapters Review Instructor Notes	Safety Quiz
Week 3 9/8	16 Gypsum Products Read the Chapter Review Instructor Notes	Properties Quiz
Week 4 9/15	15 Impression Materials Hydrocolloids Read the Chapter Review Instructor Notes	Gypsum Products Quiz
Week 5 9/22	15 Impression Materials Polymers Read the Chapter Review Instructor Notes	Hydrocolloids Quiz
Week 6 9/29	7 Fluorides Read the Chapter Review Instructor Notes	Exam 1
Week 7 10/6	10 Dental Amalgam Read the Chapter Review Instructor Notes	Rubber dam materials Amalgam materials
Week 8 10/13	5 Principles of Bonding 6 Composites Read the Chapters Review Instructor Notes	Amalgam Quiz

Dates	Activity	Assignment
Week 9 10/20	6 Glass Ionomers 7 Sealants Read the Chapters Review Instructor Notes	Bonding & Composite Quiz
Week 10 10/27	7 Desensitizers Read the Chapter Review Instructor Notes	Exam 2
Week 11 11/3	19 Appliances 8 Whitening Read the Chapters Review Instructor Notes	Preventive Materials Quiz
Week 12 11/10	16 Waxes 11 Metals 14 Cements Read the Chapters Review Instructor Notes	Whitening Quiz
Week 13 11/17	17 Polymers 13 Abrasives Read the Chapters Review Instructor Notes	Cements Quiz
Week 14 11/24	12 Implants Read the Chapters Review Instructor Notes	Care of Removable Prosthetics 8.11
Week 15 12/1	Review for Final Exam Review the Chapters Review Instructor Notes	Course Critique
Week 16 12/8	Final Exam	Comprehensive Final Exam