

Header

Dental Materials

DH1140 301

Instructor Information

Faculty

Phone:

Email:

Office Location:

Office Hours

Best Time to Contact:

Course Description

Study of chemical and physical composition and uses of dental materials. Emphasis on effects of various materials in the oral environment and why specific materials are used.

Prereq: DH 1050, DH 1060, DH 1100, DH 1110, DH 1330, DH 1340, and DH 1350

Coreq: DH 1150

Semester: Spring

Dental Materials DH 1140 is designed to work together with Dental Materials Lab DH 1150 to help the student integrate didactic information from the lecture course to the lab through practical application, demonstrations, and hands-on experiences.

Course Student Learning Outcomes

- Describe physical, electrical, and mechanical properties of dental materials.
- Identify types of restorations and restorative materials.
- Describe selection of materials for particular dental procedures.
- Discuss minimum standards of dental materials set by ADA, federal, and international organizations.
- Discuss preventive dental materials.
- Discuss impression materials, cements, bases, alloys, and gypsum products.
- Describe dental casting process and porcelain fabrication.
- Describe heat cured and room temperature cured dental plastics.
- Describe the hazards and proper management of dental materials and their effect on living tissue.

College Wide Student Learning Outcomes

- Develop quantitative literacies necessary for their chosen field of study
- Think critically & creatively
- Develop civic literacy and the capacity to be community-engaged learners who act in mutually beneficial ways with community partners
- Develop knowledge and skills to work with others in a professional & constructive manner
- Develop computer & informational literacy
- Develop the attitudes and skills for lifelong wellness
- Communicate effectively

Class Schedule

Due Date	Assignment Name	Assignment Type	Points
	Professional Handouts for Research Presentation 4/10/24	Discussion	0
	Professional Handouts for Research Presentation 4/17/24	Discussion	0
	Professional Handouts for Research Presentation 4/3/24	Discussion	0
	Research Paper	Assignment	60

Due Date	Assignment Name	Assignment Type	Points
	Research Presentation	Assignment	40
1/12	Weekly Quiz 1	Quiz	20
1/19	Weekly Quiz 2	Quiz	20
1/26	Weekly Quiz 3	Quiz	20
2/2	Weekly Quiz 4	Quiz	20
2/9	Weekly Quiz 5	Quiz	20
2/21	Midterm Exam (Testing Center)	Quiz	100
3/1	Weekly Quiz 8	Quiz	10
3/15	Weekly Quiz 10	Quiz	20
3/22	Weekly Quiz 11	Quiz	20
3/29	Weekly Quiz 12	Quiz	20
4/30	Dental Materials Comprehensive Final (Testing Center)	Quiz	100

Brief Description of Assignments/Exams

- Weekly quiz material will consist of 10 - 20 multiple-choice questions. Quizzes will focus on topics covered in class and will not overlap with material covered in previous quizzes. Weekly quizzes will be posted to Canvas and be timed to 60 minutes.
- A midterm exam will cover a limited number of topics studied up to that date. Exam material will consist of approximately 100 multiple-choice questions. Midterm will be given in the Testing Center.

- A final exam will be comprehensive with an emphasis on integration of basic principles and application of theory to clinical practice. Exam material will consist of approximately 100 multiple-choice questions. Exam will cover information presented in reading assignments, homework assignments, and lab and lecture notes. Final will be given in the Testing Center.
- A research paper and presentation will be used to enhance the student's experience. The student will be graded according to a rubric.

Grading	Possible Points	Percent of Grade
Weekly Quizzes	180 points	20%
Research Paper/Presentation	100 points	20%
Midterm (multiple choice exam)	100 points	25%
Final Exam	100 points	<u>35%</u>
		100%

Grading Scale

A = 100 – 95 %	B = 86 – 83 %	C = 77 – 75 %	D = 66 – 64%
A- = 94 – 90 %	B- = 82 – 80 %	C- = 74 – 71%	D- = NA
B+ = 89 – 87 %	C+ = 79 – 78 %	D+ = 70 – 67%	E = 63 – and below

A : For outstanding work which demonstrates exceptional mastery of course material

B : For good work which is clearly beyond simple mastery of material

C : For acceptable work indicating a mastery of the basic concepts of a course (75% and above)

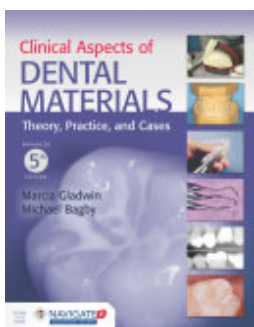
D : For unacceptable work that fails to meet course requirements

E : For unacceptable work that fails to meet course requirements

REQUIREMENT FOR SUCCESSFUL COMPLETION OF THIS COURSE:

A minimum passing grade of a C or 75% is required for successful completion of this course.

Required Text or Materials



Title: Clinical Aspects of Dental Materials

Subtitle: Theory, Practice, and Cases

ISBN: 9781284221770

Authors: Marcia (Gladwin) Stewart, Michael Bagby

Publisher: Jones & Bartlett Learning

Publication Date: 2020-06-17

Edition: 5th

For more information on textbook accessibility, contact Accessibility & Disability Services at ads@slcc.edu.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

[SLCC Student Academic Calendar](#)

Course Outline and Calendar

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
	WEEK ONE		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
JAN. 10th DH 1140 CLASS	Introduction and Syllabus Overview <i>Service-Learning Discussion: What is Service Learning?</i> Introduction to Dental Materials (ch. 1) Materials Science and Dentistry (ch. 2)	Pg. 3 - 32	
JAN. 12th DH 1150 LAB	Dental Materials Lab Introduction: Review Lab Requirements Lab Tour and Safety Rules Inventory Dental Material Kits and Supplies Care and Maintenance of Dental Instruments (ch. 19) Infection Control and Safety (ch. 20)	Pg. 243 - 273	QUIZ
	WEEK TWO		
JAN. 17th DH 1140 CLASS	Physical and Mechanical Properties (ch. 3) Dental Cements (ch. 7)	Pg. 33 - 45 Pg. 93 - 108	
JAN. 19th DH 1150 LAB	General Rules for Handling Dental Materials (ch. 22) Mixing Liners, Bases, and Cements (ch. 23) <i>Zinc Phosphate, Glass Ionomer, Zinc Oxide-Eugenol</i>	Pg. 280 - 294	QUIZ/ EQUIP. QUIZ
	WEEK THREE		
JAN. 24th DH 1140 CLASS	Impression Materials (ch. 8) Gypsum Materials (ch. 9) <i>Service-Learning Discussion: Advocacy for the Underserved</i>	Pg. 109 - 136	

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
JAN. 26th DH 1150 LAB	Taking Alginate Impressions (ch. 27) Fabrication and Trimming of Study Models (ch. 28)	Pg. 324 - 344	QUIZ
	WEEK FOUR		
JAN. 31st DH 1140 CLASS	Amalgam (ch. 6) Polishing Materials and Abrasion (ch. 16) <i>Service-Learning Discussion: Legislation to Improve Access to Care</i>	Pg. 79 - 92 Pg. 205 - 222	
FEB. 2nd DH 1150 LAB	Application and Removal of the Rubber Dam (ch. 24) Amalgam Placement and Carving (ch. 26) Composite Placement <i>Trimming Study Models</i>	Pg. 295 – 301 Pg. 309 – 323	QUIZ
	WEEK FIVE		
FEB. 7th DH 1140 CLASS	Adhesive Materials (ch. 4) Direct Polymeric Restorative Materials (ch. 5)	Pg. 46 – 78	
FEB. 9th DH 1150 LAB	Amalgam Finish/Polishing (ch. 26) Composite, Finishing and Polishing (ch. 36) <i>Finish Trimming Study Models</i>	Pg. 309 – 323 Pg. 394 – 400	QUIZ
	WEEK SIX		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
MONDAY FEB. 12th DH 1150 LAB	Field Trip to Dental & CAD Lab <i>EvoDent Dental Lab, 12222 S. 1000 E. STE 1 Draper, UT 84020</i> (See Canvas Calendar for driving directions) <i>Sign-up using this link</i> <i>*12 students attend <u>Monday at 2:15 PM</u> (301 & 1/2</i>		
WEDNESDAY FEB. 14th DH 1140 CLASS	Materials for Fixed Indirect Restorations and Prostheses (ch. 10) Removable Prostheses and Acrylic Resins (ch. 11) <i>*12 students attend <u>Wednesday at 2:15 PM</u> (1/2 302 & 303)*</i>	Pg. 137 – 164	
FEB. 16th DH 1150 LAB	NO LAB due to Field Trip <i>**Field Trip Reflection Due**</i>		
	WEEK SEVEN		
FEB. 21st DH 1150 LAB	Midterm Exam: Modules for weeks 1-6 <i>**Testing Center**</i>		
FEB. 23rd DH 1150 LAB	Utah Dental Hygienists' Association Lobby Day Please arrange to be at the Utah State Capitol from 8:00 AM to 12:30 PM! Wear Purple!!		
	WEEK EIGHT		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
FEB. 28th DH 1140 CLASS	Clinical Detection and Management of Dental Restorative Materials During Scaling/Polishing (ch. 14) Radiographic Appearance of Dental Tissues and Materials (ch. 15) <i>Service-Learning Discussion: Troubled Teens.</i> <i>What is the cause and social issue?</i>	Pg. 187 – 204	
MAR. 1st DH 1150 LAB	Service-Learning Activity: Alginate impressions for fabrication of mouth guards for troubled teens from West Ridge High School Alginate impressions for bleach trays and pour-ups <i>**Lobby Day Reflection Due**</i> Skill Performance Evaluations <i>*Alginate Impressions</i>	Pg. 477	QUIZ
	WEEK NINE		
MAR. 6th DH 1140 CLASS	SPRING BREAK- NO CLASS		
MAR. 8th DH 1150 LAB	SPRING BREAK- NO LAB		
	WEEK TEN		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
MAR. 13th DH 1140 CLASS	Dental Implants (ch. 12) Disinfection of Impressions, Dentures, and Other Appliances and Materials (ch. 21) <i>Service-Learning Discussion: How does providing service change or not change preconceived ideas?</i>	Pg. 165 – 173 Pg. 274 – 279	
MAR. 15th DH 1150 LAB	Elastomeric Impressions (ch. 30) Debonding Orthodontic Resins (ch. 32) Temporary Crowns (ch. 35) Skill Evaluations Trim models for mouth guards and bleach trays	Pg. 353 – 356 Pg. 370 – 374 Pg. 387 – 393	QUIZ
	WEEK ELEVEN		
MAR. 20th DH 1140 CLASS	Tooth Whitening (ch. 17) Oral Appliances (ch. 18)	Pg. 223 – 242	
MAR. 22nd DH 1150 LAB	Vital Tooth Whitening: Patient-Applied, Professionally Supervised Clinical and Laboratory Procedures (ch. 31) Fabricate and finish mouth guards and bleach trays	Pg. 357 – 369	QUIZ
	WEEK TWELVE		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
MAR. 27th DH 1140 CLASS	Specialty Materials (ch. 13) Silver Diamine Fluoride (SDF) and SMART Restorations Tips for the New Hygienist (ch. 37) Case Studies	Pg. 174 – 186 Pg. 401 – 410 Pg. 411 – 431	
MAR. 29th DH 1150 LAB	Placement of the Periodontal Dressing (ch. 33) Removal of the Periodontal Dressing and Sutures (ch. 34) Skill Performance Evaluations <i>*Placement of the Periodontal Dressing</i> <i>*Periodontal Dressing Removal</i> <i>*Suture Removal</i> <i>*Mixing Zinc Phosphate Cement for Luting and as a Base</i> <i>*Mixing Glass Ionomer Cement- Luting Consistency</i> <i>*Mixing Zinc Oxide-Eugenol as a Base or Temp Restorative</i>	Pg. 375 – 386 Pg. 489 Pg. 491 Pg. 493 Pg. 463 Pg. 465 Pg. 467	QUIZ
	WEEK THIRTEEN		
APR. 3rd DH 1140 CLASS	Research Paper/Presentations		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
APR. 5th DH 1150 LAB	Skill Performance Evaluations <i>*Rubber Dam Application and Removal</i> <i>*Amalgam Placement and Carving</i> <i>Composite Placement</i> <i>*Debonding Orthodontic Resins</i> <i>*Elastomeric Impressions</i> Deliver mouth guards at 1:45 PM to West Ridge High	Pg. 469 Pg. 473 Pg. 487 Pg. 483	
	WEEK FOURTEEN		
APR. 10th DH 1140 CLASS	Research Paper/Presentations		
APR. 12th DH 1150 LAB	Skill Performance Evaluations <i>*Bleach Tray Construction- Clinical</i> <i>*Amalgam Finishing and Polishing</i> <i>*Composite Finishing and Polishing</i> <i>*Trimming and Finishing Study Models</i> <i>*Constructing a Temporary Crown</i> Clean lab and inventory supplies.	Pg. 485 Pg. 475 Pg. 497 Pg. 479 Pg. 495	
	WEEK FIFTEEN		
APR. 17th DH 1140 CLASS	Research Paper/Presentations <i>Service-Learning Discussion: Now What? How does this experience change how you view troubled teens or others in similar circumstances?</i>		

DATE	TOPIC/ACTIVITY	READING PAGE #'s	QUIZZES
APR. 19th DH 1150 LAB	Make-up Lab <i>Complete any lingering requirements</i> <i>**Service Learning Reflection Due- Mouth Guards**</i> Clean lab and inventory supplies.		
	WEEK SIXTEEN		
APR. 24th DH 1140 CLASS	Review for Comprehensive Final		
APR. 26th DH 1150 LAB	NO LAB- Reading Day		
	FINALS WEEK		
MAY 1st DH 1140 CLASS	Comprehensive FINAL EXAM <i>**Testing Center**</i>		

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

You can access the document by clicking on the following link: <https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>

Additional Policies

LATE WORK POLICY:

Late work will not be accepted in this course. Students will show organization, responsibility, and accountability. Excuses will not be accepted to invalidate the policy. Late assignments, quizzes, or exams will be given a '0' grade.

PLAGIARISM POLICY:

Students are expected to reference all sources of information. Any plagiarism will result in failure of the assignment and possible failure of the course. Information must not be copied from other students work, textbooks or internet sources.

Teaching Methods and Learning Activities

Assigned reading from text (prior to class session)

Handouts

Lectures

Audio visuals

Guest speakers

Demonstrate different dental materials

Group discussion

Classroom activities

Research paper

Problem solving

Research paper

Classroom activities

Service-learning discussions

Professionalism

Professionalism is expected and includes at a minimum the following capabilities and traits :

1. **Appearance:** Displays appropriate professional appearance and is appropriately groomed as defined in the SLCC Dress Code.
2. **Attitudes:** Is actively concerned about others. Maintains a positive outlook toward others and toward assigned tasks. Recognizes and admits mistakes. Seeks and accepts feedback to improve performance.
3. **Dependability:** Completes tasks promptly and well. Arrives on time for online lectures and actively participates in clinical and didactic activities. Follows through and is reliable.
4. **Function under stress:** Maintains professional composure and exhibits good personal and clinical judgment in stressful situations. Recognizes the importance of maintaining professional behavior in the clinical setting, in spite of inappropriate action on the part of others.
5. **Initiative:** Independently identifies tasks to be performed and makes sure that tasks are completed satisfactorily. Performs duties promptly and efficiently. Is willing to spend additional time and to assume new responsibilities. Recognizes when help is required and when to ask for guidance.
6. **Integrity:** Displays honesty in all situations and interactions; is able to identify information that is confidential and maintain its confidentiality.
7. **Interpersonal relationships:** Provides support and is empathetic and considerate in interactions with peers, patients, faculty, and staff. Interacts effectively with "difficult individuals." Demonstrates respect for and complements the roles of other professionals. Is cooperative and earns respect.
8. **Tolerance:** Demonstrates ability to accept people and situations. Acknowledges his/her biases and does not allow them to affect patient care or contribute to inappropriate interactions with others.

Rules and Requirements

- **Student participation** in class and during group assignments is critical for maximum learning.

- Students are required to demonstrate high levels of **integrity and professionalism** at all times. Failure to show professionalism and integrity will lower the overall grade by one letter grade or could result in more severe consequences as outlined in the SLCC Honor Code and the Dental Hygiene Policies and Procedures Handbook.
- **Participation in lectures** is imperative for student success. If for any reason you are not able to attend the lecture, it is your responsibility to let the course instructor know via email/text prior to the beginning of the class session. One unexcused absence or tardy more than fifteen (15) minutes in either lab or lecture constitutes academic probation. More than one **absence or tardy** results in dismissal from the dental hygiene program as explained in the dental hygiene policy and procedures manual.
- An absence from class or a missed exam requires notification of the course instructor and department coordinator. It is also the students' responsibility to obtain missing readings and lecture notes, as well as arrange **make-up exams** with the course instructor. Only legitimate reasons will be considered for make-up exams. Failure to follow these guidelines will result in a grade of "0" for missed exam, quiz or homework assignment.
- The student is responsible to discuss any grading **discrepancy** with the instructor within 10 days from the posting of the grade.
- **Cell phone** usage (incoming or outgoing) is not allowed during lecture or lab. Important messages may be checked during breaks and before or after class time.
- Personal **laptop computers** are a benefit to some students. During lectures, please refrain from reading emails, surfing the web, or engaging in other activities not related to the lectures. If the student is found participating in distracting activities for themselves or others the student will lose that privilege.
- Any information obtained from this course may not be published or copied without written permission from the instructor. Any form of **plagiarism** in this course may result in failure of the course.

Electronic/Wireless Devices in the Classroom

The advent of technology use in the classroom as an instructional tool has caused both opportunities and distractions. The expectations for this course are that you are engaged and present during class time, which means that you will be free from technological distractions. Research has shown that these distractions cause individual inattentiveness and can make it difficult for others to stay focused on the immediate discussions. The following policies are in effect during our time together:

1. Cell phones, iPods, pagers, High-Resolution DVR Spy Pens with webcam and microphone or any device (excluding ADA authorized devices) that may distract from the class should be silenced before entering the classroom and may not be on the desk during class or exams. If you have an emergency and must use your cell phone, please exit the classroom to take the call. If you are discovered reading/sending text messages during class, you could be asked to leave the class and will be counted absent for that class session.
2. You are expected to engage in discussion for the class. You may use your computer to access your textbook, take notes, and research the discussion topic. However, some students may find it difficult to refrain from reading emails, surfing the web, and engaging in other activities not related to the class. Therefore, if you are discovered engaging in computer activities not directly related to the class, you will be asked to leave the class and will be counted absent for that class session.
3. You may not record or publish information from the class without written authorized use from the instructor. If used without authorization you have violated PRIVACY/INTELLECTUAL PROPERTY RIGHTS.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, please visit the Institutional Syllabus under the Tutoring and Learning Support tab:

<https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>. We encourage

you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, please visit the Institutional Syllabus under the Advising and Counseling Support Services tab: <https://slcc.instructure.com/courses/530981/pages/institutional-syllabus>. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.