

Cover Sheet: Request 14592

Course description modification for DEN6407C: Preclinical Operative Dentistry II

Info

Process	Course Modify Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Ana Dias Ribeiro ARibeiro@dental.ufl.edu
Created	1/9/2020 10:17:28 AM
Updated	9/9/2020 3:59:50 PM
Description of request	The proposed changes align with the planned new sequence for Operative Dentistry preclinical courses. Our main goals are to increase student critical thinking, provide for more clinical correlations with simulation activities, improve student preparation for clinical patient care and increase student engagement. These changes will result in better integration of operative dentistry instruction with cariology and biomaterials principles besides other clinical courses.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	DEN - Operative Dentistry 313405000	Deborah Dilbone		1/16/2020
DEN6407C- Preclinical Operative Dentistry II syllabus 01092020.docx					1/9/2020
College	Approved	DEN - College of Dentistry	Patricia Pereira		6/30/2020
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			6/30/2020
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|Modify for request 14592

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Submitter: Ana Dias Ribeiro ARibeiro@dental.ufl.edu
Created: 9/9/2020 4:18:50 PM
Form version: 2

Responses

Current Prefix DEN

Course Level 6

Number 407

Lab Code C

Course Title Preclinical Operative Dentistry II

Effective Term Earliest Available

Effective Year 2021

Requested Action Other (selecting this option opens additional form fields below)

Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Maximum Repeatable Credits 0

Change Course Description? Yes

Current Course Description This course will involve the use of silver amalgam and resin-based composite to treat teeth injured by carious lesions from simple, single surface lesions to multiple

surface lesions. This course also introduces the preparation and restoration of teeth with cast gold inlay/onlays.

Proposed Course Description (50 words max) This is the second course in a series of three courses that introduces fundamental concepts of operative dentistry emphasizing biomaterials science and its clinical application. Minimally invasive dentistry principles, direct and indirect restorative materials/ technique and ergonomics will be introduced focusing on development of psychomotor skills, self-assessment, and clinical judgment.

Change Prerequisites? No

Change Co-requisites? No

Rationale The proposed changes align with the planned new sequence for Operative Dentistry preclinical courses. Our main goals are to increase student critical thinking, provide for more clinical correlations with simulation activities, improve student preparation for clinical patient care and increase student engagement. These changes will result in better integration of operative dentistry instruction with cariology and biomaterials principles besides other clinical courses.

DEN6407C: Preclinical Operative Dentistry II

↑ Summer 2020

↑ Course Description:

This is the second course in a series of three courses which introduces fundamental concepts of operative dentistry emphasizing biomaterials science and its clinical application. Minimally invasive dentistry principles, direct and indirect restorative materials/ technique and ergonomics will be introduced focusing on development of psychomotor skills, self-assessment and clinical judgment.

I. General Information

Course Director: Dayane Carvalho Ramos Salles de Oliveira
Office: D9-21B
Email: doliveira@dental.ufl.edu
Phone: (352) 273-6909
Course Credits: 3
Semester: Summer
Office Hours: Tuesdays from 1pm to 3 pm

↑ Contributing Faculty

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↑ Support Staff

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Marilyn Vaughn	(352) 294-5499	MVaughn@dental.ufl.edu	TA

Prerequisite course: DEN5405C: Preclinical Operative Dentistry I/Biomaterials

II. Course Goals

This course is the second in a series of three courses, which are designed to provide the student with fundamental basic knowledge in Operative Dentistry focusing on the etiology, prevention, diagnosis and treatment of dental caries and its sequelae. Hand skills development in the preparation and restoration of class II carious lesions, complex class II lesions due to fractured cusps or large carious lesions and onlays. Restoration will focus on direct (resin-based composite and amalgam) and indirect (gold and ceramic) materials with a critical thinking component of decision-making process.

↑ This course also includes a continuation in dental biomaterials, focusing on the concepts of adhesive dentistry that includes principles of bonding, resin-based composite materials and light curing. Since Operative Dentistry and Biomaterials contribute to a major portion of the general practice of dentistry, it is important to concentrate early in the curriculum in developing excellent clinical skills and efficiency to provide optimal patient care. Such skill and efficiency are essential components for a successful dental practice.

↑ Finally, students will continue to learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry.

III. Course Overview

Direct instruction (lectures) and simulation labs are used in this course to introduce fundamental concepts related to Operative Dentistry. The course will be divided into four modules:

- 1- Introduction to Adhesive Dentistry;
- 2- Class II: Preparing and Restoring
- 3- Complex Class II: Preparing and Restoring
- 4- Onlay (extended damage)- Preparing and restoring.

Successful completion of this course is required to progress to DEN6408C: Preclinical Operative III. It is a required pre-requisite.

IV. Course Outline

1. Principles of Adhesion to Enamel and Dentin
2. Resin Based Composite: Composition and Handling
3. Resin Based Composite: Finishing and Polishing Techniques
4. Light curing
5. Principles of tooth preparation for resin-based composite and dental amalgam
6. Complex class II tooth preparation and restorative techniques for amalgam or resin-based composite dental materials
7. Fracture Mechanics and Survival of Resin Based Composite
8. Bulk-fill resin-based composites
9. Gold and Ceramic Onlays
10. Refurbish, repair or replacement of restorations

V. Course Material

Required textbooks: Textbooks can be ordered online or rented/purchased in the Health Science Center bookstore on the ground floor next to the Post Office. Students also have access to e-versions through the Dental Lib Guide link.

Dental Lib Guide: <http://guides.uflib.ufl.edu/dental>

1. "Summitt's Fundamentals of Operative Dentistry - A Contemporary Approach" by Hilton TJ et al, 4th ed., 2013. ISBN-13: 978-0867155280
2. "Phillips' Science of Dental Materials" by Kenneth J. Anusavice; H. Ralph Rawls; Chiayi Shen.;12th ed., Elsevier, 2012. ISBN-13: 978-1437724189
3. "Pulp-Dentin Biology in Restorative Dentistry" by Ivar A. Mjor, Quintessence books, 2002. ISBN-13: 978-0867154122

Other Resources:

Operative dentistry and dental biomaterials presentations, reading assignments and handouts will be posted on ECO or Canvas. <http://lss.at.ufl.edu>

VI. Course Objectives

The material in this course will be presented in lecture, online, laboratory, and self-study formats. Students will demonstrate application of this knowledge to the practice of dentistry:

1. Dental Caries

- Discuss the philosophy of the Department of Restorative Dental Sciences in prevention, diagnosis, and management of the caries process as well as its sequelae to the dental hard tissues.
- Describe the clinical aspects and classification of caries lesions for resin-based composite/ amalgam tooth preparations and restorations.
- Explain dental pulp physiology in the presence of active and chronic carious lesions.

2. Dental Instruments

- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Perform the sharpening and care of hand instruments.
- Describe rotary cutting instruments in reference to the following: design features and construction, shapes, sizes, numbering, functional characteristics, care and maintenance.
- Select the correct rotary and cutting instruments to obtain the ideal preparation according to the course rubrics.

3. Isolation of the Operating Field

- Discuss the rationale for using the rubber dam and other isolation techniques.

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- Demonstrate the proper placement and use of the rubber dam, clamps, gingival retractor and frame to achieve field isolation.
- Analyse the quality of a field isolation.
- Describe the best isolation method according to different clinical cases.

4. Prevention, Diagnosis and Treatment of Class II carious lesions

- Demonstrate ability to execute conservative and non-conservative tooth preparations and placement, adaptation or carving of resin-based composite and dental amalgam restorations.
- Describe the pulp-dentin reactions to dental caries and to cavity preparations.

5. Diagnosis and Treatment of Fractured Tooth or Large Caries Lesions (Complex and onlays)

- Demonstrate the ability to access and remove demineralized enamel and infected carious dentin prior to placement of protective as well as restorative materials
- Demonstrate the ability to execute complex tooth preparations, design retentive features, and placement/carving of dental amalgam restorations
- Demonstrate the ability to execute gold and ceramic onlay tooth preparations, design and retentive features.
- Demonstrate the ability to execute complex tooth preparation aiming the placement of resin-based composite materials.
- Demonstrate the ability of diagnosing clinical cases indicated for indirect inlay/onlay restorations.

6. Evidence-based Dental Practice/Critical Thinking

- Discuss the current clinical evidence for longevity amalgam restorations and resin-based composite materials
- Build-up the foundation for the use of low-shrinkage or bulk-fill resin-based composite materials
- Apply the acquired knowledge using case-based scenarios.

7. Dental Biomaterials

- Discuss bonding mechanism in terms of joining two chemically different materials, such as resin to enamel and resin to dentin
- Familiarize with polymers used in dentistry, identify different polymerization mechanisms and discuss their characteristic behaviors
- Explain how the molecular structure of polymers affects their properties such as glass transition temperature and hydrophobicity
- Define composites, identify components of dental composites and explain how each component affects the properties of a dental composite
- Explain how light-curing procedures affect the quality of the final composite and how errors introduced during this process can affect the clinical outcome
- Discuss the mechanism behind enamel and dentin etching and how deviations from the optimal technique affect enamel and dentin bonding
- Discuss the environment of oral cavity and its influence in the longevity of a resin-based composite restoration
 - Discuss mechanisms of failure and fracture of dental composite restoration
 - Review concepts for amalgam restorations
- Explain the indications and contraindications of gold and ceramic onlays
- Explain the advantages and disadvantages of gold and the different ceramic systems for onlays.
- Explain the principles of cavity preparation design for gold and for ceramic onlays.

8. Critical Thinking

- Discuss clinical cases and make decisions on which material would be indicated for each case;
- Discuss clinical cases and decide for the best type of preparation for each case.

VII. Evaluation

This course teaches to the following competencies in the ["Competencies for the New Dental Graduate"](#).

↑

↑Domain I: Critical Thinking

↑1: Critical Thinking: Use critical thinking and problem

Domain VI: Patient Care - A. Assessment, Diagnosis, and Treatment

↑12: Patient Assessment, Diagnosis, Treatment Planning and Informed Consent: Provide oral health care within the scope of general dentistry to include patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent.

↑

↑Domain VI: Patient Care - B. Establishment and Maintenance of Oral Health

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†17: Provide oral health care within the scope of general dentistry to include restoration of teeth.

†**Evaluation of student performance will consist of:**

†

†1) Didactic testing in the form of written quizzes and exams, and

†2) Psychomotor exams

Written Quizzes

Quizzes related to the Operative Dentistry portion of this course will be unannounced and will cover the assigned reading for the day and any material related to the topic at hand which was previously covered in lecture or laboratory. There will be a minimum of five and a maximum of eight quizzes scheduled during the lecture/sim lab sessions of this course. The quiz with the lowest score will be dropped from each student's accumulated quiz total when determining course final grades. If a student misses a class for any reason, that quiz will be the one dropped.

Quiz questions will include multiple choice, T/F, matching, or short/long answer items.

Written Examinations

There is a total of two written examinations, a midterm and a final exam.

- The first written exam will cover all course material given up to the respective exam date.
- The second written exam will be cumulative including all course material given up to the date of the second exam.

Written examinations questions will include multiple choice, patient-box, T/F with a 4 answer item, matching, or short answer items.

Psychomotor Examinations. Four psychomotor exams are scheduled in this course (see course schedule). These practical exams will require tooth preparations and/or restorations using amalgam. The scores of these exams will be included in determining the final course grade.

The grade for each psychomotor exam will be determined by the average of points received, which will be converted into percentages as determined by the **Operative Division**.

Psychomotor Grade Scale . Student performance is evaluated by an orderly decision-making process. Procedural items are scored 4, 3, 2, or 1 against defined criteria.

- A 4 indicates that the criteria were met at a superior level
- A 3 indicates that the criteria were met at an acceptable level
- A 2 indicates that modifications are necessary to achieve an acceptable level
- A 1 indicates that the outcome was measured to be at an unacceptable level

†For each criterion an evaluative modifier (+) can be assigned to a 1, 2, or 3 grade to indicate that the student identified an error prior to faculty evaluation. Proper terminology and specific locations of all errors must be noted by the student in writing. General non-specific statements will not justify a (+) modifier.

A "1" or "1+" score on any of the criteria on a psychomotor exam will result in a failing grade. The percentage assigned is 65% or the actual score, whichever is lower, when a score of 1 is given. The percentage assigned is 70% or the actual score, whichever is lower, when a score of 1+ is given.

Points are calculated as follows:

- 4 = 4 points
- 3+ = 3.25 points
- 3 = 3 points
- 2+ = 2.25 points
- 2 = 2 points
- 1+ = 0.25 point
- 1 = 0 points

↑ **Students who fail a psychomotor exam** are required to participate in a reassessment process at the end of the course. The reassessment will not change the previous grade obtained in the psychomotor exam or affect the final course grade. It is essential that the skills taught in this course be demonstrated at an acceptable level before advancing to the next course and into clinical patient care.

Daily Laboratory Formative Feedback. Daily project will be assessed by the student first and then by the faculty. The intent is to teach the student to self-assess his/her work accurately in order to help them identify gaps in skill and/or knowledge and target areas that need improvement.

Assigning Grades. The final course grade will be determined based on the following:

↑ 1. Didactic component - 45% (40% written exams + 5% quizzes)

- Exam 1: Operative & Biomaterials - 20%
- Exam 2: Operative & Biomaterials - 20%
- Quizzes/Assignments: 5%

↑ 2. Psychomotor component - 55% (psychomotor exams)

Exam #1: Psychomotor I - Class II amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II composite restoration - 13.75%

↑ Exam #2: Psychomotor III – Complex composite restoration - 13.75%

↑ Exam #3: Psychomotor IV – Ceramic onlay preparation – 13.75%

↑ Final Grade - 100%

Important: There will be no make-up quizzes. One quiz can be dropped.

Missed written or psychomotor examinations will require a doctor's note, and if excused,

- the written make-up exam will be either an essay or oral examination,
- the psychomotor make-up exam will be a similar to the scheduled examination but may include different teeth and/or surfaces.

The make-up examination must be scheduled within 2 business days of the missed exam or the student's return to school. The highest attainable grade on a missed exam is an 85%.

↑ **To pass this course, the student must have a final grade of 72% or above and must also pass BOTH the didactic and psychomotor components, each with a score of 72% or higher.**

In addition, failure of more than two psychomotor exams will also lead to course failure. Information concerning course failure and course remediation is listed below. Individual examinations are not remediated during the course due to the pace of the course and the demands of other courses.

Attendance, Adherence to the Dress Code and Professional Conduct are Mandatory. The following adjustments will be made to the final course grades:

↑ **Attendance**

- 5% will be deducted from the final grade for each lecture or lab missed without an excused absence.

- 5% will be deducted from the final grade for every three unexcused instances of tardiness.
- 5% will be deducted from the final grade if the daily project sheet is not returned complete by the date established by the course director.

Adherence to the Dress Code. Students must adhere to the dress code as spelled out in the Pre-doctoral Student Handbook and Clinic Procedure Manual while enrolled in any course in the Division of Operative Dentistry. It is applicable at ALL times including, lectures, exams, quizzes, and laboratory sessions. Failure to comply with the dress code will result in a reduction in your final course grade as follows:

- **1st Offense** - Student will be asked to leave the class and warned
- **2nd Offense** - Student will be asked to leave the class and a 5% reduction in your final course percentage will be imposed
- **3rd Offense** - Student will be asked to leave the class and an additional 5% (10% total for dress code) reduction in your final course percentage will be imposed
- **4th Offense** - Student will be asked to leave the class and an additional 5% (15% total for dress code) reduction in your final course percentage will be imposed
- **5th Offense** - Student will be issued an "E" grade in the course

Professional Conduct. The College of Dentistry expects all dental students to be professional in their dealings with patients, colleagues, faculty and staff. Behavior of a dental student reflects on a student's qualification and potential to become a competent dentist. In addition, for each lecture and laboratory session, students are expected to: be prepared, complete the self-assessment forms, follow all guidelines and instructions (which include dress code, use of iPods, headphones, etc.), and put forth an excellent effort (stay the entire session, work diligently during the lab session, etc.). Any student professional misconduct observed during lectures, exams, quizzes, and laboratory sessions will result in a **Professional Variance** (see *Pre-doctoral Student Handbook*), which results in a **5 percentage deduction from the final course grade for each Professional Variance issued.**

The grades for the final written exam, psychomotor exam, and final course grade will not be posted in ECO prior to the end of the semester, until 70% of students have completed the faculty evaluations.

Remediation. Students failing the course will be awarded an "E" grade, referred to the Student Performance Evaluation Committee (SPEC), and be placed on academic probation.

The student must meet with the course director to develop a remediation plan within one week of the notification of the failing final grade. The remediation activities are at the discretion of the course director. Faculty are available to assist students as they prepare for this examination, but the responsibility for learning the material resides with the student. The time, place, content, and passing grade of the remediation program will be individualized for each student and arranged by the course director. The highest grade attainable in a remediated course is a "D". Students failing to satisfactorily complete the remediation program will maintain the "E" grade and be referred to SPEC for consideration for dismissal or retracting. For more information refer to the Administrative Practices Section K: Remediation.

Please note that if the course director determines that the student failed the coursework to such an extent that remedial activities would be inadequate to attain an acceptable level of academic achievement in the course material, the course director can elect not to provide remediation.

IX. DEN6407C Grade Scale

Administrative Practices

For further information on any of the practices listed below, consult the [UFCD Student Handbook](#) and [UF Attendance Policy](#) at catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/.

A. Attendance

Student attendance during school hours (7:25 am - 4:55 pm) is required on all days officially scheduled on the annual calendar. In general, acceptable reasons for absence from or failure to participate in class include illness, serious family emergency, professional requirements (e.g., professional conferences), military obligation, severe weather conditions and religious holidays. Other reasons also may be approved. For any deviation from the *UFCD Student Handbook* must be followed. More information can be found on this website, [UF Attendance Policy](#). Students with an absence must report to the course director within 48 hours of their return to arrange for any necessary make-up. Course directors will not mandate attendance for lectures, attendance is mandatory for all basic science and clinical simulation and extramural rotations, special education events, testing sessions, and lectures/seminars mandated by the course director.

B. Dress Code

The dress code shall apply to all students while in the Health Science Center during usual business hours, from 7:30 am to 5:00 pm, Monday through Friday. The dress code will apply to all usual academic activities, including didactic lectures and exams, preclinical care activities during the four-year curriculum, and includes wearing their UFID badge. For special events and invited speakers, recognized experts, the event organizer may require that students wear business attire.

C. Email Policy

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Within the College of Dentistry, email is the primary mode of communication between faculty, administration, staff, and students. Students should check their email daily, on all scheduled school days. A Gatorlink account is required as each student's primary email.

D. Professional Behavior

The College of Dentistry expects all dental students to be professionals in their dealings with patients, colleagues, and the public. Professionalism encompasses altruism, accountability, compassion, duty, excellence, and respect. Behaviors inconsistent with compassionate care, refusal by or inability of the student to participate constructively in class, or inappropriate behavior directed at patient groups, peers, faculty or staff, or other unprofessional conduct are unacceptable.

E. Student Responsibilities in the Classroom

It is both the responsibility of the students and faculty to ensure that decorum in the classroom is maintained. Students who do not conduct themselves appropriately should be asked, by the teacher, to leave the room.

Out of courtesy to student peers and faculty, disruption in the classroom, i.e. talking, reading of newspaper or magazine, or use of mobile devices, is prohibited. All audible communication devices, i.e. cell phones, should be turned off before entering the classroom.

Students are responsible for attending lectures on time and for their entirety; ensuring that conflicts in class, such as patient scheduling, seminars or courses should be discussed before start of class.

Students are expected to complete all assigned readings before class and be prepared to answer questions. Learning is an active behavior. Accordingly, students are expected to participate in classroom discussion.

Laptop computers may be used for note-taking or accessing course-related materials during lectures and seminars. However, use of laptops for other purposes, such as sending or reading emails or text messages, accessing websites unrelated to the course, or other than for the class in progress will result in loss of the privilege to bring a laptop computer to class.

Students must request permission of each faculty member prior to tape recording a class session.

F. Academic Honesty and the Student Honor Code

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized assistance." The Student Honor Code (sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of the Honor Code. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have concerns, please consult with the instructor or TAs in this class.

G. Tutoring

A tutoring program is available to any student who fails an examination or whose performance ranks in the bottom 10% of the class in multiple courses. Students are advised of this tutoring program during orientation and then occasionally re-advise them of the program and can make a referral. Student performance is monitored by the Assistant Dean for Student and Multicultural Affairs in conjunction with the Associate Dean for Education and course directors following each block examination. The Assistant Dean for Student and Multicultural Affairs will contact the student, provide counseling and advisement, and offer tutoring. Upon a request for tutoring, the Assistant Dean for Student and Multicultural Affairs will contact the tutor (an upper class student who excelled in the course and seems like the best fit for the struggling student). The student then contacts the tutor and together they develop a plan that is reported to and approved by the Office of Student and Multicultural Affairs. The tutor is compensated for their time. Each semester, several students take advantage of this program and student performance has been shown to improve. Students referred for tutoring are asked to sign a tutoring agreement form so they are clearly aware of their responsibilities.

H. Americans with Disabilities Act (ADA) - Student Accommodations

Students with disabilities requesting accommodations should first register with the [Disability Resource Center](#) (3711) providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the Assistant Dean for Student and Multicultural Affairs when requesting accommodations. Students with disabilities should follow this procedure and not the ADA procedure. Students requiring special testing accommodations will be handled through the Assistant Dean of Student and Multicultural Affairs. The following procedure will be followed:

Students requesting testing accommodation must be tested by the Disability Resources Program at Peal Hall. Students requesting accommodations will receive an Accommodation Memo from that office which must be presented to the Assistant Dean for Student and Multicultural Affairs.

The Assistant Dean will identify the student and the specific accommodation need(s) in the course roster. The student's name and accommodation need(s) will only be viewed by the course director and test administrators. The student will also be identified in the Grade Book by grade coordinators and course directors. Access to this information will permit test administrators to secure the accommodation. This process replaces the former procedure of students personally informing each course director of their accommodation and securing their signature.

Students receiving special testing accommodations will be handled in manner that protects their privacy and confidentiality. Testing conditions will mimic those provided in the Testing Center using similar equipment. Scheduling of accommodated students will be during regularly scheduled block examinations in a location outside of the Testing Center. When scheduling conflict occurs, the special testing examination will be scheduled prior to the regular examination time. The College of Dentistry provides special testing accommodations for students providing documentation. Common test accommodations include providing a scribe, a reader, extended time, quiet testing environment, and assistive technology. Disability Resources is located within the Dean of Students Office.

I. Post-Examination Review

To facilitate and reinforce effective learning, dental students are encouraged to review any omission in knowledge or skills following the exam (unless the Course Director indicates otherwise). Following thorough analysis of the test items and identifying any aberrant items, the individual examination scores are posted in the grade book feature of ECO.

J. Grading System

Student performance in academic coursework and clinical requirements is evaluated by letter grades (A to E). The courses so designated by the College and for all elective courses. Grade point averages will be derived from the number of credit hours earned. For example, a grade of A for a three-hour course yields 12 grade points.

Passing Grades - Grade points:

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Letter Grade	Grade Point
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
D	1.00
S	None

A grade of S is equal to a C or better grade, but is not calculated in the grade point system.

Failing Grades:

E	Failure	A failing grade awarded in any course will remain on the permanent record if the student is not successful in the course and is equivalent to 0.0 grade points. Any grade achieved after re-enrollment in the course will be based on the new grade.
U	Unsatisfactory	A failing grade assigned only when an entire course is graded S/U. No grade points are awarded.

Non-Punitive Grades (no grade point value):

¶W:Withdraw: Assigned for any course dropped when the student was in good academic standing. This grade requires students withdrawing enrollment due to personal and/or medical problems resulting in an excused extended leave (not exceeding 12 months).

¶WF:Withdraw Failing: Assigned to any course dropped when the student was not in good academic standing.

¶I:Incomplete: Assigned to a student who is capable of achieving a passing grade in the course but who could not complete the course because of extenuating circumstances. Arrangements must be made with the course director to complete the work by the end of the next semester. This grade must be rectified by the end of the next semester. An I grade may be assigned at the discretion of the course director for a course in which the student has (1) completed a major portion of the course with a passing grade, (2) met all requirements prior to the end of the term because of extenuating circumstances, and (3) obtained written agreements and arrangements for resolution of the incomplete grade. Instructors are not required to assign I grades.

More information on UF Grading policies can be found at [Grades and Grading Policies](#).

K. Remediation

Students failing any course will be awarded an "E" grade, referred to as Student Performance Evaluation Committee (SPEC) academic probation. The student must meet with the course director to develop a remediation plan within one week of the final exam. The remediation activities are at the discretion of the course director and may consist of a comprehensive examination, a remedial activity, or a combination of these. The remediation activities must be completed by the student, which the student failed to achieve a grade of "C" or better. Faculty are available to assist students preparing for this examination. The remedial activity will include no formal instruction. The time and location of the remedial activity will be arranged individually. Please note that if the course director determines that the student failed the coursework, the remedial activities would be inadequate to attain an acceptable level of academic achievement in the course material, the course director may require the student to repeat the course as the remedial activity.

The passing grade in the remediation program is a "C"; however, the highest grade attainable in a remediated course is a "C". Students who satisfactorily complete the remediation program will maintain the "E" grade and be referred to SPEC for consideration of re-enrollment. Re-enrollment will be as soon as deemed feasible by the course director in concert with the Associate Dean for Educational Programs. The highest grade attainable when repeating a course in its entirety is an "A." Students failing to satisfactorily complete a course will be referred to SPEC for further evaluation and possible action. A failing grade awarded in any course will remain on the permanent record. Re-enrollment will be listed separately.

L. Student Evaluation of Instruction

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing a [GatorEvals](#) survey. Guidance on how to give feedback in a professional and respectful manner is available at [gatorevals.ufl.edu](#). You will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at [gatorevals.ufl.edu](#).

M. Complaint Process

External complaint process:

The University of Florida's DMD program is accredited by the Commission on Dental Accreditation (CODA). If a student has any complaints or concerns about the college's accredited educational programs, those issues and concerns can be brought to CODA. CODA will review complaints that relate to the program's compliance with the accreditation standards. The Commission on Dental Accreditation promotes and continues the improvement of dental and dental-related education programs but does not intervene on behalf of individuals in matters of admission, appointment, promotion or dismissal of faculty, staff or students.

A copy of the appropriate accreditation standards and/or the Commission's policy and procedure for submission of complaints can be found at www.coda.edu. Contacting the Commission at 211 East Chicago Avenue, Chicago IL 60611 or by calling 1-800-621-8099 ext. 1000.

Internal complaint process:

1. Informal: UFCD recognizes that health care professionals should learn to address disagreements and conflicts in a professional and respectful manner. The following steps should be followed to resolve a conflict:

1. Informal: UFCD recognizes that health care professionals should learn to address disagreements and conflicts in a professional manner. Often relational problems may be resolved best informally between the parties involved. Students who wish to make a complaint to the College of Dentistry should first contact their class president, vice president, or Student Affairs committee representative. The student on how to best seek resolution. Oftentimes, the class officer has heard the same complaint from other class members and is advocating for their class as a whole rather than for one individual. Class officers may seek the help of the Assistant Dean for Student and Multicultural Affairs, or Associate Dean for Education. Students who do not feel comfortable discussing their concern with their class officers should contact the Assistant Dean for Student and Multicultural Affairs, or Associate Dean for Education.

2. Formal: If the informal procedure has been followed and a student still feels the issue is unresolved the student may request a formal grievance process may be accessed at: dental.ufl.edu .

The form asks for a description of the complaint including the circumstances regarding the complaint, previous efforts to resolve the grievance is forwarded to the appropriate person or committee who has been designated to handle a certain type of complaint. The Physical Plant Manager would receive all complaints involving the physical plant/infrastructure of the College. A timely acknowledgment of the complaint via email.

N. Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact <https://umatter.ufl.edu> , 352-392-1575 to report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shc.ufl.edu/

University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the University of Florida Health Shands Emergency Room, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.

O. Electronic Course Material and Social Media

Recordings are for educational use only and are to be considered confidential. No recorded lecture material, unless otherwise stated, may be shared (e.g., copied, displayed, broadcast or published) with any individual or organization within or outside the UF system without the permission of the lecturer and without giving proper attribution. UFCD will take reasonable measures to prevent the inappropriate use of recordings with access to the web site on which the recorded lectures are posted, but cannot guarantee against possible misuse of recordings on any web page or the Internet for use by, or access to, any person, including the student. In addition to the use of recordings will be considered as unprofessional behavior and appropriate disciplinary action will be taken according to the Student Conduct & Honor Code. Content contained within lectures may be subject to copyright protection. Please review [Copyright Information](#) for more information on unauthorized recordings. A student shall not without express authorization from the faculty member and, if required, pay for or receive any recording, including but not limited to audio and video recordings, of any class, co-curricular meeting or activity with a faculty member. Refer to [Student Conduct & Honor Code](#) for more information.

Social Media

Social networks provide fun and exciting ways to connect with others who share common interests. Use of social media should comply with state and federal law concerning intellectual property, restricted records, and patient information. Text, photos, or videos posted on social media pages, including personal ones, should be in keeping with generally accepted professional standards in your field(s) of work and/or study. For example, patient information, even if it has been "de-identified" may not be posted on social media. UF has explicit student guidelines regarding social media, while prohibiting conduct through social media that is illegal or against University of Florida policy or professional standards. Visit [Social Media Use, Guidelines and Policy Implications](#) for more information.

Schedule for DEN6407C- Summer 2020

Sample of Rubrics (Criteria for Psychomotor skills assessment)

DEN6407C: Preclinical Operative Dentistry II

↑ Summer 2020

↑ Course Description:

This is the second course in a series of three courses that introduces fundamental concepts of operative dentistry emphasizing biomaterials science and its clinical application. Minimally invasive dentistry principles, direct and indirect restorative materials/ technique and ergonomics will be introduced focusing on development of psychomotor skills, self-assessment, and clinical judgment.

I. General Information

Course Director: Dayane Carvalho Ramos Salles de Oliveira
Office: D9-21B
Email: doliveira@dental.ufl.edu
Phone: (352) 273-6909
Course Credits: 3
Semester: Summer
Office Hours: Tuesdays from 1pm to 3 pm

↑ Contributing Faculty

Maria Caraballo	(352) 273-6939	MDelgadoCaraballo@dental.ufl.edu
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Upoma Guha	(352) 273- 5843	UGuha@dental.ufl.edu
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Jean-Francois Roulet	(352) 273-5850	JRoulet@dental.ufl.edu
Mateus Rocha	(352) 392-0508	mrocha@dental.ufl.edu
Rebecca Sikand	(352) 273-7917	RSikand@dental.ufl.edu
Maria Silva	(352) 294-8610	MSilva2@dental.ufl.edu

Andre Reis

(352) 273-6704 Areis@dental.ufl.edu

↑ Support Staff

Michelle Burton	(352) 273-6904	MHOPKINS@dental.ufl.edu	TA / Grade Administrator
Margeaux C Johnson	(352) 273-5948	MJohnson@dental.ufl.edu	TA / Grade Administrator
Anthony M Licari	(352) 273-5231	ALicari@dental.ufl.edu	TA / Grade Administrator
Valerie A Plunkett	(352) 273-5950	VPlunkett@dental.ufl.edu	TA / Grade Administrator
Michelle R Watson	(352) 273-5830	MWATSON@dental.ufl.edu	TA / Grade Administrator
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Kleada Novak	(352) 392-5500	kleadanovak@ufl.edu	TA
Marilyn Vaughn	(352) 294-5499	MVaughn@dental.ufl.edu	TA

Prerequisite course: DEN5405C: Preclinical Operative Dentistry I/Biomaterials

II. Course Goals

This course is the second in a series of three graded courses, which are designed to provide the student with fundamental basic knowledge in Operative Dentistry focusing on the etiology, prevention, diagnosis and treatment of dental caries and its sequelae. Hand skills development in the preparation and restoration of class II carious lesions, complex class II lesions due to fractured cusps or large carious lesions and onlays. Restoration will focus on direct (resin-based composite and amalgam) and indirect (gold and ceramic) materials with a critical thinking component of decision-making process.

↑ This course also includes a continuation in dental biomaterials, focusing on the concepts of adhesive dentistry that includes principles of bonding, resin-based composite materials and light curing. Since Operative Dentistry and Biomaterials contribute to a major portion of the general practice of dentistry, it is important to concentrate early in the curriculum in developing excellent clinical skills and efficiency to provide optimal patient care. Such skill and efficiency are essential components for a successful dental practice.

↑ Finally, students will continue to learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry.

III. Course Overview

Direct instruction (lectures) and simulation labs are used in this course to introduce fundamental concepts related to Operative Dentistry. The course will be divided into four modules:

- 1- Introduction to Adhesive Dentistry;
- 2- Class II: Preparing and Restoring
- 3- Complex Class II: Preparing and Restoring
- 4- Onlay (extended damage)- Preparing and restoring.

Successful completion of this course is required to progress to DEN6408C: Preclinical Operative III. It is a required pre-requisite.

IV. Course Outline

1. Principles of Adhesion to Enamel and Dentin
2. Resin Based Composite: Composition and Handling
3. Resin Based Composite: Finishing and Polishing Techniques
4. Light curing
5. Principles of tooth preparation for resin-based composite and dental amalgam
6. Complex class II tooth preparation and restorative techniques for amalgam or resin-based composite dental materials
7. Fracture Mechanics and Survival of Resin Based Composite
8. Bulk-fill resin-based composites
9. Gold and Ceramic Onlays
10. Refurbish, repair or replacement of restorations

V. Course Material

Required textbooks: Textbooks can be ordered online or rented/purchased in the Health Science Center bookstore on the ground floor next to the Post Office. Students also have access to e-versions through the Dental Lib Guide link.

Dental Lib Guide: <http://guides.uflib.ufl.edu/dental>

1. "Summitt's Fundamentals of Operative Dentistry - A Contemporary Approach" by Hilton TJ et al, 4th ed., 2013. ISBN-13: 978-0867155280
2. "Phillips' Science of Dental Materials" by Kenneth J. Anusavice; H. Ralph Rawls; Chiayi Shen.;12th ed., Elsevier, 2012. ISBN-13: 978-1437724189
3. "Pulp-Dentin Biology in Restorative Dentistry" by Ivar A. Mjor, Quintessence books, 2002. ISBN-13: 978-0867154122

Other Resources:

Operative dentistry and dental biomaterials presentations, reading assignments and handouts will be posted on Canvas. <http://lss.at.ufl.edu>

VI. Course Objectives

The material in this course will be presented in lecture, online, laboratory, and self-study formats. Students will demonstrate application of this knowledge to the practice of dentistry:

1. Dental Caries

- Discuss the philosophy of the Department of Restorative Dental Sciences in prevention, diagnosis, and management of the caries process as well as its sequelae to the dental hard tissues.
- Describe the clinical aspects and classification of caries lesions for resin-based composite/ amalgam tooth preparations and restorations.
- Explain dental pulp physiology in the presence of active and chronic carious lesions.

2. Dental Instruments

- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Perform the sharpening and care of hand instruments.
- Describe rotary cutting instruments in reference to the following: design features and construction, shapes, sizes, numbering, functional characteristics, care and maintenance.
- Select the correct rotary and cutting instruments to obtain the ideal preparation according to the course rubrics.

3. Isolation of the Operating Field

- Discuss the rationale for using the rubber dam and other isolation techniques.

- Demonstrate the proper placement and use of the rubber dam, clamps, gingival retractor and frame to achieve field isolation.
- Analyse the quality of a field isolation.
- Describe the best isolation method according to different clinical cases.

4. Prevention, Diagnosis and Treatment of Class II carious lesions

- Demonstrate ability to execute conservative and non-conservative tooth preparations and placement, adaptation or carving of resin-based composite and dental amalgam restorations.
- Describe the pulp-dentin reactions to dental caries and to cavity preparations.

5. Diagnosis and Treatment of Fractured Tooth or Large Caries Lesions (Complex and onlays)

- Demonstrate the ability to access and remove demineralized enamel and infected carious dentin prior to placement of protective as well as restorative materials
- Demonstrate the ability to execute complex tooth preparations, design retentive features, and placement/carving of dental amalgam restorations
- Demonstrate the ability to execute gold and ceramic onlay tooth preparations, design and retentive features.
- Demonstrate the ability to execute complex tooth preparation aiming the placement of resin-based composite materials.
- Demonstrate the ability of diagnosing clinical cases indicated for indirect inlay/onlay restorations.

6. Evidence-based Dental Practice/Critical Thinking

- Discuss the current clinical evidence for longevity amalgam restorations and resin-based composite materials
- Build-up the foundation for the use of low-shrinkage or bulk-fill resin-based composite materials
- Apply the acquired knowledge using case-based scenarios.

7. Dental Biomaterials

- Discuss bonding mechanism in terms of joining two chemically different materials, such as resin to enamel and resin to dentin
- Familiarize with polymers used in dentistry, identify different polymerization mechanisms and discuss their characteristic behaviors
- Explain how the molecular structure of polymers affects their properties such as glass transition temperature and hydrophobicity
- Define composites, identify components of dental composites and explain how each component affects the properties of a dental composite
- Explain how light-curing procedures affect the quality of the final composite and how errors introduced during this process can affect the clinical outcome
- Discuss the mechanism behind enamel and dentin etching and how deviations from the optimal technique affect enamel and dentin bonding
- Discuss the environment of oral cavity and its influence in the longevity of a resin-based composite restoration
 - Discuss mechanisms of failure and fracture of dental composite restoration
 - Review concepts for amalgam restorations
- Explain the indications and contraindications of gold and ceramic onlays
- Explain the advantages and disadvantages of gold and the different ceramic systems for onlays.
- Explain the principles of cavity preparation design for gold and for ceramic onlays.

8. Critical Thinking

- Discuss clinical cases and make decisions on which material would be indicated for each case;
- Discuss clinical cases and decide for the best type of preparation for each case.

VII. Evaluation

This course teaches to the following competencies in the ["Competencies for the New Dental Graduate"](#).

↑

↑Domain I: Critical Thinking

↑1: Critical Thinking: Use critical thinking and problem

Domain VI: Patient Care - A. Assessment, Diagnosis, and Treatment

↑12: Patient Assessment, Diagnosis, Treatment Planning and Informed Consent: Provide oral health care within the scope of general dentistry to include patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent.

↑

↑Domain VI: Patient Care - B. Establishment and Maintenance of Oral Health

†17: Provide oral health care within the scope of general dentistry to include restoration of teeth.

†**Evaluation of student performance will consist of:**

†

†1) Didactic testing in the form of written quizzes and exams, and

†2) Psychomotor exams

Written Quizzes

Quizzes related to the Operative Dentistry portion of this course will be unannounced and will cover the assigned reading for the day and any material related to the topic at hand which was previously covered in lecture or laboratory. There will be a minimum of five and a maximum of eight quizzes scheduled during the lecture/sim lab sessions of this course. The quiz with the lowest score will be dropped from each student's accumulated quiz total when determining course final grades. If a student misses a class for any reason, that quiz will be the one dropped.

Quiz questions will include multiple choice, T/F, matching, or short/long answer items.

Written Examinations

There is a total of two written examinations, a midterm and a final exam.

- The first written exam will cover all course material given up to the respective exam date.
- The second written exam will be cumulative including all course material given up to the date of the second exam.

Written examinations questions will include multiple choice, patient-box, T/F with a 4 answer item, matching, or short answer items.

Psychomotor Examinations. Four psychomotor exams are scheduled in this course (see course schedule). These practical exams will require tooth preparations and/or restorations using amalgam. The scores of these exams will be included in determining the final course grade.

The grade for each psychomotor exam will be determined by the average of points received, which will be converted into percentages as determined by the **Operative Division**.

Psychomotor Grade Scale . Student performance is evaluated by an orderly decision-making process. Procedural items are scored 4, 3, 2, or 1 against defined criteria.

- A 4 indicates that the criteria were met at a superior level
- A 3 indicates that the criteria were met at an acceptable level
- A 2 indicates that modifications are necessary to achieve an acceptable level
- A 1 indicates that the outcome was measured to be at an unacceptable level

†For each criterion an evaluative modifier (+) can be assigned to a 1, 2, or 3 grade to indicate that the student identified an error prior to faculty evaluation. Proper terminology and specific locations of all errors must be noted by the student in writing. General non-specific statements will not justify a (+) modifier.

A "1" or "1+" score on any of the criteria on a psychomotor exam will result in a failing grade. The percentage assigned is 65% or the actual score, whichever is lower, when a score of 1 is given. The percentage assigned is 70% or the actual score, whichever is lower, when a score of 1+ is given.

Points are calculated as follows:

- 4 = 4 points
- 3+ = 3.25 points
- 3 = 3 points
- 2+ = 2.25 points
- 2 = 2 points
- 1+ = 0.25 point
- 1 = 0 points

↑ **Students who fail a psychomotor exam** are required to participate in a reassessment process at the end of the course. The reassessment will not change the previous grade obtained in the psychomotor exam or affect the final course grade. It is essential that the skills taught in this course be demonstrated at an acceptable level before advancing to the next course and into clinical patient care.

Daily Laboratory Formative Feedback. Daily project will be assessed by the student first and then by the faculty. The intent is to teach the student to self-assess his/her work accurately in order to help them identify gaps in skill and/or knowledge and target areas that need improvement.

Assigning Grades. The final course grade will be determined based on the following:

↑ 1. Didactic component - 45% (40% written exams + 5% quizzes)

- Exam 1: Operative & Biomaterials - 20%
- Exam 2: Operative & Biomaterials - 20%
- Quizzes/Assignments: 5%

↑ 2. Psychomotor component - 55% (psychomotor exams)

Exam #1: Psychomotor I - Class II amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II composite restoration - 13.75%

↑ Exam #2: Psychomotor III – Complex composite restoration - 13.75%

↑ Exam #3: Psychomotor IV – Ceramic onlay preparation – 13.75%

↑ Final Grade - 100%

Important: There will be no make-up quizzes. One quiz can be dropped.

Missed written or psychomotor examinations will require a doctor's note, and if excused,

- the written make-up exam will be a written essay examination,
- the psychomotor make-up exam will be a similar to the scheduled examination but may include different teeth and/or surfaces.

The make-up examination must be scheduled within 2 business days of the missed exam or the student's return to school. The highest attainable grade on a missed exam is an 85%.

↑ ***This is a graded courses and to pass this course, the student must have a final grade of 72% or above and must also pass BOTH the didactic and psychomotor components, each with a score of 72% or higher.**

In addition, failure of more than two psychomotor exams will also lead to course failure. Information concerning course failure and course remediation is listed below. Individual examinations are not remediated during the course due to the pace of the course and the demands of other courses.

Attendance, Adherence to the Dress Code and Professional Conduct are Mandatory. The following adjustments will be made to the final course grades:

↑ **Attendance**

- 5% will be deducted from the final grade for each lecture or lab missed without an excused absence.

- 5% will be deducted from the final grade for every three unexcused instances of tardiness.
- 5% will be deducted from the final grade if the daily project sheet is not returned complete by the date established by the course director.

¶ **Adherence to the Dress Code.** Students must adhere to the dress code as spelled out in the Pre-doctoral Student Handbook and Clinic Procedure Manual while enrolled in any course in the Division of Operative Dentistry. It is applicable at ALL times including, lectures, exams, quizzes, and laboratory sessions. Failure to comply with the dress code will result in a reduction in your final course grade as follows:

- **1st Offense** - Student will be asked to leave the class and warned
- **2nd Offense** - Student will be asked to leave the class and a 5% reduction in your final course percentage will be imposed
- **3rd Offense** - Student will be asked to leave the class and an additional 5% (10% total for dress code) reduction in your final course percentage will be imposed
- **4th Offense** - Student will be asked to leave the class and an additional 5% (15% total for dress code) reduction in your final course percentage will be imposed
- **5th Offense** - Student will be issued an "E" grade in the course

¶ **Professional Conduct.** The College of Dentistry expects all dental students to be professional in their dealings with patients, colleagues, faculty and staff. Behavior of a dental student reflects on a student's qualification and potential to become a competent dentist. In addition, for each lecture and laboratory session, students are expected to: be prepared, complete the self-assessment forms, follow all guidelines and instructions (which include dress code, use of iPods, headphones, etc.), and put forth an excellent effort (stay the entire session, work diligently during the lab session, etc.). Any student professional misconduct observed during lectures, exams, quizzes, and laboratory sessions will result in a **Professional Variance** (see *Pre-doctoral Student Handbook*), which results in a **5 percentage deduction from the final course grade for each Professional Variance issued.**

The grades for the final written exam, psychomotor exam, and final course grade will not be posted in Canvas prior to the end of the semester, until 70% of students have completed the faculty evaluations.

¶ **Remediation.** Students failing the course will be awarded an "E" grade, referred to the Student Performance Evaluation Committee (SPEC), and be placed on academic probation.

The student must meet with the course director to develop a remediation plan within one week of the notification of the failing final grade. The remediation activities are at the discretion of the course director. Faculty are available to assist students as they prepare for this examination, but the responsibility for learning the material resides with the student. The time, place, content, and passing grade of the remediation program will be individualized for each student and arranged by the course director. The highest grade attainable in a remediated course is a "D". Students failing to satisfactorily complete the remediation program will maintain the "E" grade and be referred to SPEC for consideration for dismissal or retracting. For more information refer to the Administrative Practices Section K: Remediation.

Please note that if the course director determines that the student failed the coursework to such an extent that remedial activities would be inadequate to attain an acceptable level of academic achievement in the course material, the course director can elect not to provide remediation.

IX. DEN6407C Grade Scale

X. Administrative practices

For further information on any of the administrative practices, consult the webpage
<https://dental.ufl.edu/education/dmd-program/course-policies/>

Schedule for DEN6407C- Summer 2020

Sample of Rubrics (Criteria for Psychomotor skills assessment)

DEN6407C: Preclinical Operative Dentistry II

↑ Summer 2020

↑ Course Description:

This is the second course in a series of three courses that introduces fundamental concepts of operative dentistry emphasizing biomaterials science and its clinical application. Minimally invasive dentistry principles, direct and indirect restorative materials/ technique and ergonomics will be introduced focusing on development of psychomotor skills, self-assessment, and clinical judgment.

I. General Information

Course Director: Dayane Carvalho Ramos Salles de Oliveira
Office: D9-21B
Email: doliveira@dental.ufl.edu
Phone: (352) 273-6909
Course Credits: 3
Semester: Summer
Office Hours: Tuesdays from 1pm to 3 pm

↑ Contributing Faculty

Maria Caraballo	(352) 273-6939	MDelgadoCaraballo@dental.ufl.edu
Luisa Cassiano	(352) 273-7618	LCassiano@dental.ufl.edu
Alejandro Delgado	(352) 273-5849	ADelgado@dental.ufl.edu
Deborah Dilbone	(352) 273-5839	DDILBONE@dental.ufl.edu
Upoma Guha	(352) 273- 5843	UGuha@dental.ufl.edu
Ana Dias Ribeiro	(352) 294-8285	aribeiro@dental.ufl.edu
Susan Nimmo	(352) 273-5850	SNIMMO@dental.ufl.edu
Jean-Francois Roulet	(352) 273-5850	JRoulet@dental.ufl.edu
Mateus Rocha	(352) 392-0508	mrocha@dental.ufl.edu
Rebecca Sikand	(352) 273-7917	RSikand@dental.ufl.edu
Maria Silva	(352) 294-8610	MSilva2@dental.ufl.edu

Andre Reis

(352) 273-6704 Areis@dental.ufl.edu

↑ Support Staff

Michelle Burton	(352) 273-6904	MHOPKINS@dental.ufl.edu	TA / Grade Administrator
Margeaux C Johnson	(352) 273-5948	MJohnson@dental.ufl.edu	TA / Grade Administrator
Anthony M Licari	(352) 273-5231	ALicari@dental.ufl.edu	TA / Grade Administrator
Valerie A Plunkett	(352) 273-5950	VPlunkett@dental.ufl.edu	TA / Grade Administrator
Michelle R Watson	(352) 273-5830	MWATSON@dental.ufl.edu	TA / Grade Administrator
Michele L Cooley	(352) 273-5711	MCooley@dental.ufl.edu	TA
Benjamin J Mertz	(352) 273-6589	BMertz@dental.ufl.edu	TA
Kleada Novak	(352) 392-5500	kleadanovak@ufl.edu	TA
Marilyn Vaughn	(352) 294-5499	MVaughn@dental.ufl.edu	TA

Prerequisite course: DEN5405C: Preclinical Operative Dentistry I/Biomaterials

II. Course Goals

This course is the second in a series of three graded courses, which are designed to provide the student with fundamental basic knowledge in Operative Dentistry focusing on the etiology, prevention, diagnosis and treatment of dental caries and its sequelae. Hand skills development in the preparation and restoration of class II carious lesions, complex class II lesions due to fractured cusps or large carious lesions and onlays. Restoration will focus on direct (resin-based composite and amalgam) and indirect (gold and ceramic) materials with a critical thinking component of decision-making process.

↑ This course also includes a continuation in dental biomaterials, focusing on the concepts of adhesive dentistry that includes principles of bonding, resin-based composite materials and light curing. Since Operative Dentistry and Biomaterials contribute to a major portion of the general practice of dentistry, it is important to concentrate early in the curriculum in developing excellent clinical skills and efficiency to provide optimal patient care. Such skill and efficiency are essential components for a successful dental practice.

↑ Finally, students will continue to learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry.

III. Course Overview

Direct instruction (lectures) and simulation labs are used in this course to introduce fundamental concepts related to Operative Dentistry. The course will be divided into four modules:

- 1- Introduction to Adhesive Dentistry;
- 2- Class II: Preparing and Restoring
- 3- Complex Class II: Preparing and Restoring
- 4- Onlay (extended damage)- Preparing and restoring.

Successful completion of this course is required to progress to DEN6408C: Preclinical Operative III. It is a required pre-requisite.

IV. Course Outline

1. Principles of Adhesion to Enamel and Dentin
2. Resin Based Composite: Composition and Handling
3. Resin Based Composite: Finishing and Polishing Techniques
4. Light curing
5. Principles of tooth preparation for resin-based composite and dental amalgam
6. Complex class II tooth preparation and restorative techniques for amalgam or resin-based composite dental materials
7. Fracture Mechanics and Survival of Resin Based Composite
8. Bulk-fill resin-based composites
9. Gold and Ceramic Onlays
10. Refurbish, repair or replacement of restorations

V. Course Material

Required textbooks: Textbooks can be ordered online or rented/purchased in the Health Science Center bookstore on the ground floor next to the Post Office. Students also have access to e-versions through the Dental Lib Guide link.

Dental Lib Guide: <http://guides.uflib.ufl.edu/dental>

1. "Summitt's Fundamentals of Operative Dentistry - A Contemporary Approach" by Hilton TJ et al, 4th ed., 2013. ISBN-13: 978-0867155280
2. "Phillips' Science of Dental Materials" by Kenneth J. Anusavice; H. Ralph Rawls; Chiayi Shen.;12th ed., Elsevier, 2012. ISBN-13: 978-1437724189
3. "Pulp-Dentin Biology in Restorative Dentistry" by Ivar A. Mjor, Quintessence books, 2002. ISBN-13: 978-0867154122

Other Resources:

Operative dentistry and dental biomaterials presentations, reading assignments and handouts will be posted on Canvas. <http://lss.at.ufl.edu>

VI. Course Objectives

The material in this course will be presented in lecture, online, laboratory, and self-study formats. Students will demonstrate application of this knowledge to the practice of dentistry:

1. Dental Caries

- Discuss the philosophy of the Department of Restorative Dental Sciences in prevention, diagnosis, and management of the caries process as well as its sequelae to the dental hard tissues.
- Describe the clinical aspects and classification of caries lesions for resin-based composite/ amalgam tooth preparations and restorations.
- Explain dental pulp physiology in the presence of active and chronic carious lesions.

2. Dental Instruments

- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Perform the sharpening and care of hand instruments.
- Describe rotary cutting instruments in reference to the following: design features and construction, shapes, sizes, numbering, functional characteristics, care and maintenance.
- Select the correct rotary and cutting instruments to obtain the ideal preparation according to the course rubrics.

3. Isolation of the Operating Field

- Discuss the rationale for using the rubber dam and other isolation techniques.

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- Demonstrate the proper placement and use of the rubber dam, clamps, gingival retractor and frame to achieve field isolation.
- Analyse the quality of a field isolation.
- Describe the best isolation method according to different clinical cases.

4. Prevention, Diagnosis and Treatment of Class II carious lesions

- Demonstrate ability to execute conservative and non-conservative tooth preparations and placement, adaptation or carving of resin-based composite and dental amalgam restorations.
- Describe the pulp-dentin reactions to dental caries and to cavity preparations.

5. Diagnosis and Treatment of Fractured Tooth or Large Caries Lesions (Complex and onlays)

- Demonstrate the ability to access and remove demineralized enamel and infected carious dentin prior to placement of protective as well as restorative materials
- Demonstrate the ability to execute complex tooth preparations, design retentive features, and placement/carving of dental amalgam restorations
- Demonstrate the ability to execute gold and ceramic onlay tooth preparations, design and retentive features.
- Demonstrate the ability to execute complex tooth preparation aiming the placement of resin-based composite materials.
- Demonstrate the ability of diagnosing clinical cases indicated for indirect inlay/onlay restorations.

6. Evidence-based Dental Practice/Critical Thinking

- Discuss the current clinical evidence for longevity amalgam restorations and resin-based composite materials
- Build-up the foundation for the use of low-shrinkage or bulk-fill resin-based composite materials
- Apply the acquired knowledge using case-based scenarios.

7. Dental Biomaterials

- Discuss bonding mechanism in terms of joining two chemically different materials, such as resin to enamel and resin to dentin
- Familiarize with polymers used in dentistry, identify different polymerization mechanisms and discuss their characteristic behaviors
- Explain how the molecular structure of polymers affects their properties such as glass transition temperature and hydrophobicity
- Define composites, identify components of dental composites and explain how each component affects the properties of a dental composite
- Explain how light-curing procedures affect the quality of the final composite and how errors introduced during this process can affect the clinical outcome
- Discuss the mechanism behind enamel and dentin etching and how deviations from the optimal technique affect enamel and dentin bonding
- Discuss the environment of oral cavity and its influence in the longevity of a resin-based composite restoration
 - Discuss mechanisms of failure and fracture of dental composite restoration
 - Review concepts for amalgam restorations
- Explain the indications and contraindications of gold and ceramic onlays
- Explain the advantages and disadvantages of gold and the different ceramic systems for onlays.
- Explain the principles of cavity preparation design for gold and for ceramic onlays.

8. Critical Thinking

- Discuss clinical cases and make decisions on which material would be indicated for each case;
- Discuss clinical cases and decide for the best type of preparation for each case.

VII. Evaluation

This course teaches to the following competencies in the ["Competencies for the New Dental Graduate"](#).

↑

↑Domain I: Critical Thinking

↑1: Critical Thinking: Use critical thinking and problem

Domain VI: Patient Care - A. Assessment, Diagnosis, and Treatment

↑12: Patient Assessment, Diagnosis, Treatment Planning and Informed Consent: Provide oral health care within the scope of general dentistry to include patient assessment, diagnosis, comprehensive treatment planning, prognosis, and informed consent.

↑

↑Domain VI: Patient Care - B. Establishment and Maintenance of Oral Health

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†17: Provide oral health care within the scope of general dentistry to include restoration of teeth.

†**Evaluation of student performance will consist of:**

†

†1) Didactic testing in the form of written quizzes and exams, and

†2) Psychomotor exams

Written Quizzes

Quizzes related to the Operative Dentistry portion of this course will be unannounced and will cover the assigned reading for the day and any material related to the topic at hand which was previously covered in lecture or laboratory. There will be a minimum of five and a maximum of eight quizzes scheduled during the lecture/sim lab sessions of this course. The quiz with the lowest score will be dropped from each student's accumulated quiz total when determining course final grades. If a student misses a class for any reason, that quiz will be the one dropped.

Quiz questions will include multiple choice, T/F, matching, or short/long answer items.

Written Examinations

There is a total of two written examinations, a midterm and a final exam.

- The first written exam will cover all course material given up to the respective exam date.
- The second written exam will be cumulative including all course material given up to the date of the second exam.

Written examinations questions will include multiple choice, patient-box, T/F with a 4 answer item, matching, or short answer items.

Psychomotor Examinations. Four psychomotor exams are scheduled in this course (see course schedule). These practical exams will require tooth preparations and/or restorations using amalgam. The scores of these exams will be included in determining the final course grade.

The grade for each psychomotor exam will be determined by the average of points received, which will be converted into percentages as determined by the **Operative Division**.

Psychomotor Grade Scale . Student performance is evaluated by an orderly decision-making process. Procedural items are scored 4, 3, 2, or 1 against defined criteria.

- A 4 indicates that the criteria were met at a superior level
- A 3 indicates that the criteria were met at an acceptable level
- A 2 indicates that modifications are necessary to achieve an acceptable level
- A 1 indicates that the outcome was measured to be at an unacceptable level

†For each criterion an evaluative modifier (+) can be assigned to a 1, 2, or 3 grade to indicate that the student identified an error prior to faculty evaluation. Proper terminology and specific locations of all errors must be noted by the student in writing. General non-specific statements will not justify a (+) modifier.

A "1" or "1+" score on any of the criteria on a psychomotor exam will result in a failing grade. The percentage assigned is 65% or the actual score, whichever is lower, when a score of 1 is given. The percentage assigned is 70% or the actual score, whichever is lower, when a score of 1+ is given.

Points are calculated as follows:

- 4 = 4 points
- 3+ = 3.25 points
- 3 = 3 points
- 2+ = 2.25 points
- 2 = 2 points
- 1+ = 0.25 point
- 1 = 0 points

↑ **Students who fail a psychomotor exam** are required to participate in a reassessment process at the end of the course. The reassessment will not change the previous grade obtained in the psychomotor exam or affect the final course grade. It is essential that the skills taught in this course be demonstrated at an acceptable level before advancing to the next course and into clinical patient care.

Daily Laboratory Formative Feedback. Daily project will be assessed by the student first and then by the faculty. The intent is to teach the student to self-assess his/her work accurately in order to help them identify gaps in skill and/or knowledge and target areas that need improvement.

Assigning Grades. The final course grade will be determined based on the following:

↑ 1. Didactic component - 45% (40% written exams + 5% quizzes)

- Exam 1: Operative & Biomaterials - 20%
- Exam 2: Operative & Biomaterials - 20%
- Quizzes/Assignments: 5%

↑ 2. Psychomotor component - 55% (psychomotor exams)

Exam #1: Psychomotor I - Class II amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II composite restoration - 13.75%

↑ Exam #2: Psychomotor III – Complex composite restoration - 13.75%

↑ Exam #3: Psychomotor IV – Ceramic onlay preparation – 13.75%

↑ Final Grade - 100%

Important: There will be no make-up quizzes. One quiz can be dropped.

Missed written or psychomotor examinations will require a doctor's note, and if excused,

- the written make-up exam will be a written essay examination,
- the psychomotor make-up exam will be a similar to the scheduled examination but may include different teeth and/or surfaces.

The make-up examination must be scheduled within 2 business days of the missed exam or the student's return to school. The highest attainable grade on a missed exam is an 85%.

↑ ***This is a graded courses and to pass this course, the student must have a final grade of 72% or above and must also pass BOTH the didactic and psychomotor components, each with a score of 72% or higher.**

In addition, failure of more than two psychomotor exams will also lead to course failure. Information concerning course failure and course remediation is listed below. Individual examinations are not remediated during the course due to the pace of the course and the demands of other courses.

Attendance, Adherence to the Dress Code and Professional Conduct are Mandatory. The following adjustments will be made to the final course grades:

↑ **Attendance**

- 5% will be deducted from the final grade for each lecture or lab missed without an excused absence.

- 5% will be deducted from the final grade for every three unexcused instances of tardiness.
- 5% will be deducted from the final grade if the daily project sheet is not returned complete by the date established by the course director.

¶ **Adherence to the Dress Code.** Students must adhere to the dress code as spelled out in the Pre-doctoral Student Handbook and Clinic Procedure Manual while enrolled in any course in the Division of Operative Dentistry. It is applicable at ALL times including, lectures, exams, quizzes, and laboratory sessions. Failure to comply with the dress code will result in a reduction in your final course grade as follows:

- **1st Offense** - Student will be asked to leave the class and warned
- **2nd Offense** - Student will be asked to leave the class and a 5% reduction in your final course percentage will be imposed
- **3rd Offense** - Student will be asked to leave the class and an additional 5% (10% total for dress code) reduction in your final course percentage will be imposed
- **4th Offense** - Student will be asked to leave the class and an additional 5% (15% total for dress code) reduction in your final course percentage will be imposed
- **5th Offense** - Student will be issued an "E" grade in the course

¶ **Professional Conduct.** The College of Dentistry expects all dental students to be professional in their dealings with patients, colleagues, faculty and staff. Behavior of a dental student reflects on a student's qualification and potential to become a competent dentist. In addition, for each lecture and laboratory session, students are expected to: be prepared, complete the self-assessment forms, follow all guidelines and instructions (which include dress code, use of iPods, headphones, etc.), and put forth an excellent effort (stay the entire session, work diligently during the lab session, etc.). Any student professional misconduct observed during lectures, exams, quizzes, and laboratory sessions will result in a **Professional Variance** (see *Pre-doctoral Student Handbook*), which results in a **5 percentage deduction from the final course grade for each Professional Variance issued.**

The grades for the final written exam, psychomotor exam, and final course grade will not be posted in Canvas prior to the end of the semester, until 70% of students have completed the faculty evaluations.

¶ **Remediation.** Students failing the course will be awarded an "E" grade, referred to the Student Performance Evaluation Committee (SPEC), and be placed on academic probation.

The student must meet with the course director to develop a remediation plan within one week of the notification of the failing final grade. The remediation activities are at the discretion of the course director. Faculty are available to assist students as they prepare for this examination, but the responsibility for learning the material resides with the student. The time, place, content, and passing grade of the remediation program will be individualized for each student and arranged by the course director. The highest grade attainable in a remediated course is a "D". Students failing to satisfactorily complete the remediation program will maintain the "E" grade and be referred to SPEC for consideration for dismissal or retracting. For more information refer to the Administrative Practices Section K: Remediation.

Please note that if the course director determines that the student failed the coursework to such an extent that remedial activities would be inadequate to attain an acceptable level of academic achievement in the course material, the course director can elect not to provide remediation.

IX. DEN6407C Grade Scale

X. Administrative practices

For further information on any of the administrative practices, consult the webpage
<https://dental.ufl.edu/education/dmd-program/course-policies/>

Schedule for DEN6407C- Summer 2020

Sample of Rubrics (Criteria for Psychomotor skills assessment)

Course|Modify for request 14592

Info

Request: Course description modification for DEN6407C: Preclinical Operative Dentistry II
Description of request: The proposed changes align with the planned new sequence for Operative Dentistry preclinical courses. Our main goals are to increase student critical thinking, provide for more clinical correlations with simulation activities, improve student preparation for clinical patient care and increase student engagement. These changes will result in better integration of operative dentistry instruction with cariology and biomaterials principles besides other clinical courses.
Submitter: Ana Dias Ribeiro ARibeiro@dental.ufl.edu
Created: 1/9/2020 10:14:24 AM
Form version: 1

Responses

Current Prefix DEN

Course Level 6

Number 407

Lab Code C

Course Title Preclinical Operative Dentistry II

Effective Term Earliest Available

Effective Year 2021

Requested Action Other (selecting this option opens additional form fields below)

Change Course Prefix? No

Change Course Level? No

Change Course Number? No

Change Lab Code? No

Change Course Title? No

Change Transcript Title? No

Change Credit Hours? No

Change Variable Credit? No

Change S/U Only? No

Change Contact Type? No

Change Rotating Topic Designation? No

Change Repeatable Credit? No

Maximum Repeatable Credits 

Change Course Description? 

Current Course Description This course will involve the use of silver amalgam and resin-based composite to treat teeth injured by carious lesions from simple, single surface lesions to multiple

surface lesions. This course also introduces the preparation and restoration of teeth with cast gold inlay/onlays.

Proposed Course Description (50 words max) This is the second course in a series of three courses that introduces fundamental concepts of operative dentistry emphasizing biomaterials science and its clinical application. Minimally invasive dentistry principles, direct and indirect restorative materials/ technique and ergonomics will be introduced focusing on development of psychomotor skills, self-assessment, and clinical judgment.

Change Prerequisites? No

Change Co-requisites? No

Rationale The proposed changes align with the planned new sequence for Operative Dentistry preclinical courses. Our main goals are to increase student critical thinking, provide for more clinical correlations with simulation activities, improve student preparation for clinical patient care and increase student engagement. These changes will result in better integration of operative dentistry instruction with cariology and biomaterials principles besides other clinical courses.