

Cover Sheet: Request 14591

DEN5405C Preclinical Operative Dentistry I_Biomaterials

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 10:10:17 AM |
| Updated | 9/9/2020 3:58:08 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 |
| DEN5405C- Preclinical Operative Dentistry I Biomaterials 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 14591

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Request: DEN5405C Preclinical Operative Dentistry I_Biomaterials

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: 9/9/2020 4:18:27 PM

Form version: 2

Responses

Current Prefix DEN

Course Level 5

Number 405

Lab Code C

Course Title Preclinical Operative Dentistry I/Biomaterials

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 introduces fundamental concepts related to operative dentistry. Emphasis is also placed on biomaterial science and clinical application of composite resin

restorative materials. Minimally invasive dentistry will be stressed, and principles of ergonomics and infection control as it relates to clinical dentistry will be introduced. The course is based on lectures and laboratory exercises in order to support the development of motor skills, self-evaluation and clinical judgment using a rational scientific basis.

Proposed Course Description (50 words max) This is the first 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.

DEN5405C: Preclinical Operative Dentistry I/Biomaterials

↑ Spring 2020

↑ Course Description:

This is the first 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: Ana Paula Dias Ribeiro
Office: D9-16B
Email: aribeiro@dental.ufl.edu
Phone: (352) 294-8285
Course Credits: 4
Semester: Spring
Office Hours: Mondays 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 |
| Dayane Oliveira | (352) 273-6909 | doliveira@dental.ufl.edu |
| Susan Nimmo | (352) 273-5850 | SNIMMO@dental.ufl.edu |
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| 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

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| Michelle Burton | (352) 273-6904 | MHOPKINS@dental.ufl.edu | TA / Grade Administrator |
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| 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: DEN5404C: Dental Anatomy and Stomatognathics

II. Course Goals

This course is the first 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 I and Class II carious lesions will be particularly emphasized using concepts of minimally invasive dentistry.

↑ This course also includes an introduction in dental biomaterials, which is designed to teach basic principles, material properties, direct and indirect pulp capping procedures, and the use of amalgam to restore single and multi-surface carious lesions. 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 learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry. These skills include positioning of the operator, assistant, and patient, as well as lighting techniques, in order to maximize visibility and access to all

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areas of the oral cavity and to minimize operator fatigue.

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 Operative Dentistry;
- 2- Class I: Preparing and Restoring
- 3- Class II: Preparing and Restoring
- 4- Clinical case scenario- integrating the knowledge.

Successful completion of this course is required to progress to DEN6407C: Preclinical Operative II. It is a required pre-requisite.

IV. Course Outline

1. Introduction to Operative Dentistry
2. Dental Instruments and Nomenclature
3. Fundamentals of Tooth Preparation
4. Isolation of the Operating Field
5. Pulp Biology and Protection
6. Class I and Class II didactic preparations and restorations with amalgam
7. Dental Biomaterials
 - a. Introduction to dental biomaterials
 - b. Amalgam
 - c. Materials for pulp protection and protective restorations
8. Restoration failures/Physical properties
9. Ergonomics: Patient, Operator and Assistant Positioning

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 Instruments

- Describe the indications and reasons for using both rotary and hand instruments in cavity preparations.
- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Describe 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.

2. Isolation of the Operating Field

- Describe 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.

3. Prevention, Diagnosis and Treatment of Class I and II carious lesions

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

4. Dental Biomaterials

- Describe the structure of materials and explain how inter atomic bonds influence physical/mechanical properties of dental materials.
- Discuss the importance of the evolution of dental amalgams and contrast the different compositions.
- Identify the setting reactions among different types of dental amalgam and explain how these differences relate to clinical performance.
- Explain how differences in amalgam alloy particle shape affect some differences in mechanical properties as well as in handling characteristics.
- Describe how corrosion rather than creep causes marginal failures of different amalgam types.
- Discuss concerns about the use of dental amalgams, and explain why amalgams as restorative materials have been banned in some countries.
- Demonstrate the conversation that you would have with a patient that is concerned about amalgam safety.
- Analyze critically the clinical situations which amalgam will be indicated and how the preparation should be designed for that specific situation.

5. Ergonomics

- Describe the correct operator, patient and chairside assistant positioning for accomplishing clinical procedures in any given segment of the oral cavity.
- Describe and demonstrate lighting techniques that allow for optimum visibility in either the maxillary or mandibular arches.
- Demonstrate the management of the air/water syringe to achieve clear access and visibility during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Demonstrate the positioning of the high velocity suction tip during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Perform an operative procedure efficiently using the principles outlined in a preclinical simulation.

VII. Evaluation

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

↑

↑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.

There is a total of five 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 I amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II amalgam preparation - 13.75%

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

↑ Exam #3: Psychomotor IV - Class II complex preparation and restoration – 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. DEN5405C Grade Scale

¶

Sample of Rubrics (Criteria for Psychomotor skills assessment)

Assessment of Didactic Class II Amalgam Preparation # _____ RD + / -

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| | Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|--------------------------------|-------|---|-----------------------------------|---|---------|--|---------|--|
| | | Student | Faculty | Student | Faculty | Student | Faculty | |
| OUTLINE FORM AND ACCESS | | | | | | | | |
| e | | I | I | | | M | M | U |
| | | Metal matrix band passes without resistance | | | | >.5 - <.75mm Blue tip passes | | No clearance black tip passes > |
| | | I | I | A | A | | | U |
| | | 0.5 to <.75 mm Blue tip passes | | < .5 - > .75 mm Black tip passes/blue tip doesn't pass | | | | No clearance or > |
| | | I | I | | | M | M | U |
| | | 1.5 - <1.8 mm | | | | 1.0 - <1.5 mm | | >1.8 or <1.0 n |
| | | I | I | A | A | M | M | U |
| | | No damage | | Minor scratches B L M D G | | Multiple scratches B L M D G | | Damage or nic B L M D |
| | | I | I | A | A | M | M | U |
| | | Smooth, no irregularities | | 1 area of irregularity B L M D G | | 2 - 3 areas of irregularities, jagged, sharp B L M D G | | More than 3 areas of i or 1 grossly irreg |
| INTERNAL FORM | | | | | | | | |
| | | I | I | | | | | U |
| | | 1.0 - 1.5 mm | | | | | | < 1.0 mm or >1. |
| | | I | I | | | M | M | U |
| | | 1.5 - 2 mm | | | | 1 - < 1.5 mm | | <1.0 or >2.0 n |
| | | I | I | A | A | M | M | U |
| | | B L | Converge to occlusal | 1 wall parallel | | 2 walls parallel | | Diverge to occlus: |
| | | M D | Diverge to occlusal if present | 1 area of irregularity B L M D A | | Excessive convergence | | Converge to occlus |
| | | Axial | Converge to occlusal | | | 2-3 areas of irregularities B L M D A | | Significantly over diver) |

| | | | | |
|----|--|--|---|---|
| | I I Smooth | A A 1 area of irregularity A P G B L M D | M M 2-3 areas of irregularities, jagged, sharp A P G B L M D | U More than 3 areas of irregularity or 1 grossly irregularity, rounded undercuts, sharp A P G B L M D |
| | I I At 90° | | M M One wall not at 90° MB ML DB DL | U Two walls not at 90° unsupported ends B L |
| | I I Smooth transition | A A 1 area of irregularity | M M 2-3 areas of irregularities, jagged, sharp | U Sharp transition or not |
| -- | I I Clean/ Correct work position | | M M Debris/ Incorrect work position | |

Division of Operative Dentistry
University of Florida

UFID# _____

Assessment of Didactic Class II Amalgam Restoration # _____

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| | Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|-------------------------------|-------|-----------------------------|--|---|--|-------------------|---------|------------------|
| | | Student | Faculty | Student | Faculty | Student | Faculty | Student |
| CONDENSING AND CARVING | | | | | | | | |
| Surface | | I I Smooth | A A 1 area of detectable excess or submargination B L M D O | M M 2-3 areas of excess or submargination <1.0 mm B L M D O | U More than 3 areas of submargination > 1.0 mm B L M D | | | |
| Finish | | I I Smooth | A A 1 area of irregularity B L M D O | M M 2-3 areas of irregularities B L M D O | | | | |
| FUNCTION | | | | | | | | |
| Fit | | I I Correct function | | M M Floss frays, light or misplaced | U Open or floss does not pass | | | |
| Polish | | I I No damage | | M M Minor scratches must polish | U Damaged must re-contour or re-polish | | | |
| Form | | I I Anatomically correct | A A Slightly over/under contoured M D L B | M M Over/under contoured <1 mm B | U Significant Over / under contour M D L B | | | |
| ANATOMY | | | | | | | | |
| Appearance | | I I Anatomically correct | A A Isolated error Narrow, wide shallow, deep M C D | M M Multiple misplaced or deep Too shallow, too narrow M C D | U Significant error Over-polished Too deep, too narrow M C D | | | |
| Shape | | I I Anatomically correct | A A Isolated error Narrow, wide shallow, deep M C D B L | M M Multiple misplaced or deep Too shallow, too narrow M C D B L | U Significant error Over-polished Too deep, too narrow M C D B | | | |
| Contacts | | I I Anatomically correct | A A Slightly open / closed MB ML DB DL MG DG MO DO | M M Open / closed MB ML DB DL MG DG MO DO | U Significantly open/closed DB DL MG DG MO DO | | | |
| Contours | | I I Anatomically correct | A A Slightly over / under contoured MB DB ML DL D MMR DMR | M M Over / under contoured MB DB ML DL D MMR DMR | U Significantly over / under contoured MB DB ML DL D MMR DMR | | | |

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↑ Spring 2020

↑ Course Description:

This is the first 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.

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

Prerequisite course: DEN5404C: Dental Anatomy and Stomatognathics

II. Course Goals

This course is the first 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 I and Class II carious lesions will be particularly emphasized using concepts of minimally invasive dentistry.

↑ This course also includes an introduction in dental biomaterials, which is designed to teach basic principles, material properties, direct and indirect pulp capping procedures, and the use of amalgam to restore single and multi-surface carious lesions. 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 learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry. These skills include positioning of the operator, assistant, and patient, as well as lighting techniques, in order to maximize visibility and access to all

areas of the oral cavity and to minimize operator fatigue.

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 Operative Dentistry;
- 2- Class I: Preparing and Restoring
- 3- Class II: Preparing and Restoring
- 4- Clinical case scenario- integrating the knowledge.

Successful completion of this course is required to progress to DEN6407C: Preclinical Operative II. It is a required pre-requisite.

IV. Course Outline

1. Introduction to Operative Dentistry
2. Dental Instruments and Nomenclature
3. Fundamentals of Tooth Preparation
4. Isolation of the Operating Field
5. Pulp Biology and Protection
6. Class I and Class II didactic preparations and restorations with amalgam
7. Dental Biomaterials
 - a. Introduction to dental biomaterials
 - b. Amalgam
 - c. Materials for pulp protection and protective restorations
8. Restoration failures/Physical properties
9. Ergonomics: Patient, Operator and Assistant Positioning

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 Instruments

- Describe the indications and reasons for using both rotary and hand instruments in cavity preparations.
- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Describe 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.

2. Isolation of the Operating Field

- Describe 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.

3. Prevention, Diagnosis and Treatment of Class I and II carious lesions

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

4. Dental Biomaterials

- Describe the structure of materials and explain how inter atomic bonds influence physical/mechanical properties of dental materials.
- Discuss the importance of the evolution of dental amalgams and contrast the different compositions.
- Identify the setting reactions among different types of dental amalgam and explain how these differences relate to clinical performance.
- Explain how differences in amalgam alloy particle shape affect some differences in mechanical properties as well as in handling characteristics.
- Describe how corrosion rather than creep causes marginal failures of different amalgam types.
- Discuss concerns about the use of dental amalgams, and explain why amalgams as restorative materials have been banned in some countries.
- Demonstrate the conversation that you would have with a patient that is concerned about amalgam safety.
- Analyze critically the clinical situations which amalgam will be indicated and how the preparation should be designed for that specific situation.

5. Ergonomics

- Describe the correct operator, patient and chairside assistant positioning for accomplishing clinical procedures in any given segment of the oral cavity.
- Describe and demonstrate lighting techniques that allow for optimum visibility in either the maxillary or mandibular arches.
- Demonstrate the management of the air/water syringe to achieve clear access and visibility during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Demonstrate the positioning of the high velocity suction tip during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Perform an operative procedure efficiently using the principles outlined in a preclinical simulation.

VII. Evaluation

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

↑
 ↑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.

There is a total of five 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 I amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II amalgam preparation - 13.75%

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

↑ Exam #3: Psychomotor IV - Class II complex preparation and restoration – 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 course 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. DEN5405C 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/>

| DEN5405C Class Schedule DATE | TIME START | TIME END | ROOM | ACTIVITY |
|------------------------------|------------|----------|--------|-----------------------------|
| 01/06/2020 | 8:30 AM | 9:00 AM | D3-3 | L-1 Introduc Dentistry |
| 01/06/2020 | 9:00 AM | 9:40 AM | D3-3 | L-2 Dental I |
| 01/06/2020 | 9:50 AM | 11:30 AM | SimLab | Lab 1- Deni |
| 01/06/2020 | 12:50 PM | 1:40 PM | D3-3 | Course Enr |
| 01/07/2020 | 1:55 PM | 2:45 PM | D3-3 | L-3 Field Is |
| 01/07/2020 | 2:55 PM | 4:55 PM | SimLab | Lab 2 Field |
| 01/08/2020 | 8:30 AM | 9:00 AM | D3-3 | L-4 Principl Preparation |
| 01/08/2020 | 9:00 AM | 9:40 AM | D3-3 | Lab 3 Discr Prep a bloc |
| 01/10/2020 | 12:00 PM | 1:00 PM | D3-3 | L-5 Mechar |

| 01/10/2020 | 12:00 PM | 1:00 PM | D3-3 | L-5 Medical Dental Mate |
|-------------------|-----------------|-----------------|----------------|---|
| 01/13/2020 | 8:30 AM | 9:20 AM | D3-3 | L6- Class I lecture |
| 01/13/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 4 Class Ergonomic |
| 01/15/2020 | 8:00 AM | 8:40 AM | D3-3 | L-7 Pulp Pr |
| 01/15/2020 | 8:40 AM | 9:20 AM | D3-3 | L-8 Liners & Glass Ionor |
| 01/15/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 5 Pulp sandwich te |
| 01/16/2020 | 10:40 AM | 11:30 AM | C1-9 | L-9 Amalga Dental Mate |
| 01/22/2020 | 8:30 AM | 9:20 AM | D3-3 | L-10 Amalg Technique |
| 01/22/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 6 Amal amalgam re |
| 01/22/2020 | 3:00 PM | 4:55 PM | Sim Lab | Lab 7 Class restoration |
| 01/23/2020 | 4:05 PM | 4:55 PM | C1-9 | L11- Review rubrics/ righ |
| 01/27/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 8 Class restoration |
| 01/29/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 9 MOC |
| 01/30/2020 | 1:55 PM | 3:50 PM | D3-3 | L12- Critica |
| 02/03/2020 | 8:30 AM | 11:30 AM | Sim Lab | L13- From (|
| 02/03/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 10- Cla preparation |
| 02/05/2020 | 8:30 AM | 11:30 AM | Sim Lab | Psychomot |
| 02/06/2020 | 4:05 PM | 4:55 PM | C1-9 | L14- Class (From class |
| 02/10/2020 | 8:30 AM | 9:20 AM | D3-3 | L-15 Amalg Technique 1 |
| 02/10/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 11- Cla restoration |
| 02/11/2020 | 8:30 AM | 10:00 AM | Cg-28 | EXAM 1 |
| 02/12/2020 | 8:00 AM | 9:00 AM | D3-3 | L-16 - sand |
| 02/12/2020 | 9:00 AM | 11:30 AM | Sim Lab | Lab 12- ope technique |
| 02/17/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 13- Cla restoration |
| 02/24/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 14- Cla restoration |
| 02/26/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 15- MC |
| 03/09/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 16- Cri exercise for |
| 03/11/2020 | 8:30 AM | 11:30 AM | Sim Lab | Psychomot |
| 03/16/2020 | 8:30 AM | 9:20 AM | Sim Lab | L-17 Finishi Amalgam R |
| 03/16/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 17 Fini: Amalgam R |
| 03/18/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 18- Cai |
| 03/23/2020 | 8:30 AM | 9:20 AM | D3-3 | L-18 Compl Preparation |
| 03/23/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 19 Con Preparation |
| 03/25/2020 | 8:30 AM | 9:20 AM | D3-3 | L-19 Compl Restoration |
| 03/25/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 20 Con Restoration |
| 03/30/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 21- Cri modifier |
| 04/01/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 22- Cri real tooth |
| 04/06/2020 | 8:30 AM | 9:20 AM | D3-3 | L20- Review (rubric revie |
| 04/06/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 23- Cri fracture cus |
| 04/08/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 24- Mo |
| 04/13/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 25- Pre restoration |
| 04/14/2020 | 2:00 PM | 3:30 PM | Cg-28 | EXAM 2 |
| 04/15/2020 | 8:30 AM | 12:00 PM | Sim Lab | Psychomot |
| 04/20/2020 | 8:30 AM | 11:30 AM | Sim Lab | Remediatio |

Sample of Rubrics (Criteria for Psychomotor skills assessment)

Division of Operative Dentistry
University of Florida

UFID# _____

Assessment of Didactic Class II Amalgam Preparation # _____

RD + / -

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|--------------------------------|---|---------|--|---------|--|--|------------------------|
| | Student | Faculty | Student | Faculty | Student | Faculty | Student |
| OUTLINE FORM AND ACCESS | | | | | | | |
| e | I I Metal matrix band passes without resistance | | | | M M >.5 - <.75mm Blue tip passes | U No clearance black tip passes > | |
| | I I 0.5 to <.75 mm Blue tip passes | | A A <.5 - >.75 mm Black tip passes/blue tip doesn't pass | | | | U No clearance or > |
| | I I 1.5 - <1.8 mm | | | | M M 1.0 - <1.5 mm | U >1.8 or <1.0 n | |
| | I I No damage | | A A Minor scratches B L M D G | | M M Multiple scratches B L M D G | U Damage or nic B L M D | |
| | I I Smooth, no irregularities | | A A 1 area of irregularity B L M D G | | M M 2 - 3 areas of irregularities, jagged, sharp B L M D G | U More than 3 areas of i or 1 grossly irreg | |
| | INTERNAL FORM | | | | | | |
| i | I I 1.0 - 1.5 mm | | | | | | U < 1.0 mm or >1. |
| | I I 1.5 - 2 mm | | | | M M 1 - < 1.5 mm | U <1.0 or >2.0 n | |
| | I I B L Converge to occlusal M D Diverge to occlusal if present Axial Converge to occlusal | | A A 1 wall parallel 1 area of irregularity B L M D A | | M M 2 walls parallel Excessive convergence 2-3 areas of irregularities B L M D A | U Diverge to occlus: Converge to occlus: Significantly over diver) | |
| | I I Smooth | | A A 1 area of irregularity A P G B L M D | | M M 2-3 areas of irregularities, jagged, sharp A P G B L M D | U More than 3 areas of i or 1 grossly irregularity, rc undercuts, sh A P G B L I | |
| | I I At 90 ° | | | | M M One wall not at 90 ° MB ML DB DL | U Two walls not a o unsupported en B L | |
| | I I Smooth transition | | A A 1 area of irregularity | | M M 2-3 areas of irregularities, jagged, sharp | U Sharp transition or nc | |
| -- | I I Clean/ Correct work position | | | | M M Debris/ Incorrect work position | | |

Division of Operative Dentistry
University of Florida

UFID# _____

Assessment of Didactic Class II Amalgam Restoration # _____

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|-------------------------------|-----------|---------|----------------|---------|-------------------|---------|------------------|
| | Student | Faculty | Student | Faculty | Student | Faculty | Student |
| CONDENSING AND CARVING | | | | | | | |

| | | | | | |
|-----------------|--------------------------------|--|--|---|---|
| ice | I Smooth I | A 1 area of detectable excess or submargination B L M D O | A 2-3 areas of excess or submargination <1.0 mm B L M D O | M 2-3 areas of excess or submargination <1.0 mm B L M D O | U More than 3 areas of submargination > B L M D |
| ish | I Smooth I | A 1 area of irregularity B L M D O | A 2-3 areas of irregularities B L M D O | M 2-3 areas of irregularities B L M D O | |
| FUNCTION | | | | | |
| it | I Correct function I | | | M Floss frays, light or misplaced M | U Open or floss does |
| ooth | I No damage I | | | M Minor scratches must polish M | U Damaged must re-contour o |
| our | I Anatomically correct I | A Slightly over/under contoured M D L B | A Slightly over/under contoured M D L B | M Over/under contoured <1 mm M D L B | U Significant Over / under con M D L B |
| ANATOMY | | | | | |
| ssae | I Anatomically correct I | A Isolated error Narrow, wide shallow, deep M C D | A Isolated error Narrow, wide shallow, deep M C D | M Multiple misplaced or deep Too shallow, too narrow M C D | U Significant eri Over-polish Too deep, too n M C D |
| s | I Anatomically correct I | A Isolated error Narrow, wide shallow, deep M C D B L | A Isolated error Narrow, wide shallow, deep M C D B L | M Multiple misplaced or deep Too shallow, too narrow M C D B L | U Significant eri Over-polish Too deep, too n M C D B |
| es | I Anatomically correct I | A Slightly open / closed MB ML DB DL MG DG MO DO | A Slightly open / closed MB ML DB DL MG DG MO DO | M Open / closed MB ML DB DL MG DG MO DO | U Significantly open/clos DB DL MC DG MO D |
| | I Anatomically correct I | A Slightly over / under contoured MB DB ML DL D MMR DMR | A Slightly over / under contoured MB DB ML DL D MMR DMR | M Over / under contoured MB DB ML DL D MMR DMR | U Significantly over, contoured MB DB ML D MMR DM |

DEN5405C: Preclinical Operative Dentistry I/Biomaterials

↑ Spring 2020

↑ Course Description:

This is the first 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: Ana Paula Dias Ribeiro
Office: D9-16B
Email: aribeiro@dental.ufl.edu
Phone: (352) 294-8285
Course Credits: 4
Semester: Spring
Office Hours: Mondays 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 |
| Dayane Oliveira | (352) 273-6909 | doliveira@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: DEN5404C: Dental Anatomy and Stomatognathics

II. Course Goals

This course is the first 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 I and Class II carious lesions will be particularly emphasized using concepts of minimally invasive dentistry.

↑ This course also includes an introduction in dental biomaterials, which is designed to teach basic principles, material properties, direct and indirect pulp capping procedures, and the use of amalgam to restore single and multi-surface carious lesions. 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 learn and practice essential ergonomics for the dental practitioner designed to prevent the occurrence of musculoskeletal injury during the practice of dentistry. These skills include positioning of the operator, assistant, and patient, as well as lighting techniques, in order to maximize visibility and access to all

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areas of the oral cavity and to minimize operator fatigue.

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 Operative Dentistry;
- 2- Class I: Preparing and Restoring
- 3- Class II: Preparing and Restoring
- 4- Clinical case scenario- integrating the knowledge.

Successful completion of this course is required to progress to DEN6407C: Preclinical Operative II. It is a required pre-requisite.

IV. Course Outline

1. Introduction to Operative Dentistry
2. Dental Instruments and Nomenclature
3. Fundamentals of Tooth Preparation
4. Isolation of the Operating Field
5. Pulp Biology and Protection
6. Class I and Class II didactic preparations and restorations with amalgam
7. Dental Biomaterials
 - a. Introduction to dental biomaterials
 - b. Amalgam
 - c. Materials for pulp protection and protective restorations
8. Restoration failures/Physical properties
9. Ergonomics: Patient, Operator and Assistant Positioning

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 Instruments

- Describe the indications and reasons for using both rotary and hand instruments in cavity preparations.
- Explain the instrument classifications and instrument use, instrument grasps and Black's formula.
- Describe 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.

2. Isolation of the Operating Field

- Describe 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.

3. Prevention, Diagnosis and Treatment of Class I and II carious lesions

Original file: DEN5405C- Preclinical Operative Dentistry I Biomaterials syllabus 09092020.docx

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

4. Dental Biomaterials

- Describe the structure of materials and explain how inter atomic bonds influence physical/mechanical properties of dental materials.
- Discuss the importance of the evolution of dental amalgams and contrast the different compositions.
- Identify the setting reactions among different types of dental amalgam and explain how these differences relate to clinical performance.
- Explain how differences in amalgam alloy particle shape affect some differences in mechanical properties as well as in handling characteristics.
- Describe how corrosion rather than creep causes marginal failures of different amalgam types.
- Discuss concerns about the use of dental amalgams, and explain why amalgams as restorative materials have been banned in some countries.
- Demonstrate the conversation that you would have with a patient that is concerned about amalgam safety.
- Analyze critically the clinical situations which amalgam will be indicated and how the preparation should be designed for that specific situation.

5. Ergonomics

- Describe the correct operator, patient and chairside assistant positioning for accomplishing clinical procedures in any given segment of the oral cavity.
- Describe and demonstrate lighting techniques that allow for optimum visibility in either the maxillary or mandibular arches.
- Demonstrate the management of the air/water syringe to achieve clear access and visibility during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Demonstrate the positioning of the high velocity suction tip during an operative procedure on a mannequin or patient with or without a chairside auxiliary.
- Perform an operative procedure efficiently using the principles outlined in a preclinical simulation.

VII. Evaluation

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

↑
 ↑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.

There is a total of five 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 I amalgam tooth preparation- 13.75%

↑ Exam #2: Psychomotor II - Class II amalgam preparation - 13.75%

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

↑ Exam #3: Psychomotor IV - Class II complex preparation and restoration – 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 course 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. DEN5405C 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-polices/>

| DEN5405C Class Schedule DATE | TIME START | TIME END | ROOM | ACTIVITY |
|---------------------------------|------------|----------|--------|-----------------------------|
| 01/06/2020 | 8:30 AM | 9:00 AM | D3-3 | L-1 Introduc Dentistry |
| 01/06/2020 | 9:00 AM | 9:40 AM | D3-3 | L-2 Dental I |
| 01/06/2020 | 9:50 AM | 11:30 AM | SimLab | Lab 1- Deni |
| 01/06/2020 | 12:50 PM | 1:40 PM | D3-3 | Course Enr |
| 01/07/2020 | 1:55 PM | 2:45 PM | D3-3 | L-3 Field Is |
| 01/07/2020 | 2:55 PM | 4:55 PM | SimLab | Lab 2 Field |
| 01/08/2020 | 8:30 AM | 9:00 AM | D3-3 | L-4 Principl Preparation |
| 01/08/2020 | 9:00 AM | 9:40 AM | D3-3 | Lab 3 Discr Prep a bloc |
| 01/10/2020 | 12:00 PM | 1:00 PM | D3-3 | L-5 Mechar Dental Matr |

| | | | | |
|------------|----------|----------|---------|---------------------------------------|
| 01/13/2020 | 8:30 AM | 9:20 AM | D3-3 | General max L6- Class I lecture |
| 01/13/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 4 Class Ergonomic |
| 01/15/2020 | 8:00 AM | 8:40 AM | D3-3 | L-7 Pulp Pr |
| 01/15/2020 | 8:40 AM | 9:20 AM | D3-3 | L-8 Liners & Glass Ionor |
| 01/15/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 5 Pulp sandwich te |
| 01/16/2020 | 10:40 AM | 11:30 AM | C1-9 | L-9 Amalga Dental Mate |
| 01/22/2020 | 8:30 AM | 9:20 AM | D3-3 | L-10 Amalg Technique |
| 01/22/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 6 Amal amalgam re |
| 01/22/2020 | 3:00 PM | 4:55 PM | Sim Lab | Lab 7 Class restoration |
| 01/23/2020 | 4:05 PM | 4:55 PM | C1-9 | L11- Review rubrics/ righ |
| 01/27/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 8 Class restoration |
| 01/29/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 9 MOC |
| 01/30/2020 | 1:55 PM | 3:50 PM | D3-3 | L12- Critica |
| 02/03/2020 | 8:30 AM | 11:30 AM | Sim Lab | L13- From (|
| 02/03/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 10- Cla preparation |
| 02/05/2020 | 8:30 AM | 11:30 AM | Sim Lab | Psychomot |
| 02/06/2020 | 4:05 PM | 4:55 PM | C1-9 | L14- Class (From class |
| 02/10/2020 | 8:30 AM | 9:20 AM | D3-3 | L-15 Amalg Technique 1 |
| 02/10/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 11- Cla restoration |
| 02/11/2020 | 8:30 AM | 10:00 AM | Cg-28 | EXAM 1 |
| 02/12/2020 | 8:00 AM | 9:00 AM | D3-3 | L-16 - sand |
| 02/12/2020 | 9:00 AM | 11:30 AM | Sim Lab | Lab 12- ope technique |
| 02/17/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 13- Cla restoration |
| 02/24/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 14- Cla restoration |
| 02/26/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 15- MC |
| 03/09/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 16- Crit exercise for |
| 03/11/2020 | 8:30 AM | 11:30 AM | Sim Lab | Psychomot |
| 03/16/2020 | 8:30 AM | 9:20 AM | Sim Lab | L-17 Finishi Amalgam R |
| 03/16/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 17 Fini: Amalgam R |
| 03/18/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 18- Cal |
| 03/23/2020 | 8:30 AM | 9:20 AM | D3-3 | L-18 Compl Preparation |
| 03/23/2020 | 9:30 AM | 11:30 AM | Sim Lab | Lab 19 Con Preparation |
| 03/25/2020 | 8:30 AM | 9:20 AM | D3-3 | L-19 Compl Restoration |
| 03/25/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 20 Con Restoration |
| 03/30/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 21- Crit modificatio |
| 04/01/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 22- Crit real tooth |
| 04/06/2020 | 8:30 AM | 9:20 AM | D3-3 | L20- Review (rubric revie |
| 04/06/2020 | 9:35 AM | 11:30 AM | Sim Lab | Lab 23- Crit fracture cus |
| 04/08/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 24- Mo |
| 04/13/2020 | 8:30 AM | 11:30 AM | Sim Lab | Lab 25- Pre restoration |
| 04/14/2020 | 2:00 PM | 3:30 PM | Cg-28 | EXAM 2 |
| 04/15/2020 | 8:30 AM | 12:00 PM | Sim Lab | Psychomot |
| 04/20/2020 | 8:30 AM | 11:30 AM | Sim Lab | Remediatio |
| 04/22/2020 | 8:30 AM | 11:30 AM | Sim Lab | Remediatio |

Division of Operative Dentistry
University of Florida

UFID# _____

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|--------------------------------|--|---------|---|---------|---|---------|--|
| | Student | Faculty | Student | Faculty | Student | Faculty | Student |
| OUTLINE FORM AND ACCESS | | | | | | | |
| e | I | I | | | M | M | U |
| | Metal matrix band passes without resistance | | | | >.5 - <.75mm Blue tip passes | | No clearance black tip passes > |
| | I | I | A | A | | | U |
| | 0.5 to <.75 mm Blue tip passes | | < .5 - > .75 mm Black tip passes/blue tip doesn't pass | | | | No clearance or > |
| | I | I | | | M | M | U |
| | 1.5 - <1.8 mm | | | | 1.0 - <1.5 mm | | >1.8 or <1.0 n |
| | I | I | A | A | M | M | U |
| | No damage | | Minor scratches B L M D G | | Multiple scratches B L M D G | | Damage or nic B L M D |
| | I | I | A | A | M | M | U |
| | Smooth, no irregularities | | 1 area of irregularity B L M D G | | 2 - 3 areas of irregularities, jagged, sharp B L M D G | | More than 3 areas of i or 1 grossly irreg |
| INTERNAL FORM | | | | | | | |
| | I | I | | | | | U |
| | 1.0 - 1.5 mm | | | | | | < 1.0 mm or >1. |
| | I | I | | | M | M | U |
| | 1.5 - 2 mm | | | | 1 - < 1.5 mm | | <1.0 or >2.0 n |
| i | I | I | A | A | M | M | U |
| | B L Converge to occlusal M D Diverge to occlusal if present Axial Converge to occlusal | | 1 wall parallel 1 area of irregularity B L M D A | | 2 walls parallel Excessive convergence 2-3 areas of irregularities B L M D A | | Diverge to occlus Converge to occlus Significantly over dive) |
| | I | I | A | A | M | M | U |
| | Smooth | | 1 area of irregularity A P G B L M D | | 2-3 areas of irregularities, jagged, sharp A P G B L M D | | More than 3 areas of i or 1 grossly irregularity , rc undercuts, sh A P G B L I |
| | I | I | | | M | M | U |
| | At 90 ° | | | | One wall not at 90 ° MB ML DB DL | | Two walls not a o unsupported en B L |
| | I | I | A | A | M | M | U |
| | Smooth transition | | 1 area of irregularity | | 2-3 areas of irregularities, jagged, sharp | | Sharp transition or nc |
| -- | I | I | | | M | M | |
| | Clean/ Correct work position | | | | Debris/ Incorrect work position | | |

Division of Operative Dentistry
University of Florida

UFID# _____

Assessment of Didactic Class II Amalgam Restoration # _____

Please self-evaluate by circling the letter under the student portion. Comments refer to the bottom section.

| Grade | Ideal (4) | | Acceptable (3) | | Modifications (2) | | Unacceptable (1) |
|-------------------------------|-----------|---------|--|---------|---|---------|--|
| | Student | Faculty | Student | Faculty | Student | Faculty | Student |
| CONDENSING AND CARVING | | | | | | | |
| ce | I | I | A | A | M | M | U |
| | Smooth | | 1 area of detectable excess or submargination B L M D O | | 2-3 areas of excess or submargination <1.0 mm B L M D O | | More than 3 areas of submargination > B L M D |
| | I | I | A | A | M | M | |
| | | | | | | | |

| Finish | Smooth | 1 area of irregularity B L M D O | 2-3 areas of irregularities B L M D O | |
|-----------------|-----------------------------|--|---|---|
| FUNCTION | | | | |
| Fit | I I Correct function | | M M Floss frays, light or misplaced | U Open or floss does |
| Moist | I I No damage | | M M Minor scratches must polish | U Damaged must re-contour o |
| Colour | I I Anatomically correct | A A Slightly over/under contoured M D L B | M M Over/under contoured <1 mm M D L B | U Significant Over / under con M D L B |
| ANATOMY | | | | |
| Shape | I I Anatomically correct | A A Isolated error Narrow, wide shallow, deep M C D | M M Multiple misplaced or deep Too shallow, too narrow M C D | U Significant error Over-polish Too deep, too n M C D |
| Size | I I Anatomically correct | A A Isolated error Narrow, wide shallow, deep M C D B L | M M Multiple misplaced or deep Too shallow, too narrow M C D B L | U Significant error Over-polish Too deep, too n M C D B |
| Spaces | I I Anatomically correct | A A Slightly open / closed MB ML DB DL MG DG MO DO | M M Open / closed MB ML DB DL MG DG MO DO | U Significantly open/clos DB DL MG DG MO D |
| | I I Anatomically correct | A A Slightly over / under contoured MB DB ML DL D MMR DMR | M M Over / under contoured MB DB ML DL D MMR DMR | U Significantly over, contoured MB DB ML I MMR DM |

Course|Modify for request 14591

Info

Request: Course description modification for DEN5405C Preclinical Operative Dentistry I/Biomaterials
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 9:59:05 AM

Form version: 1

Responses

Current Prefix DEN

Course Level 5

Number 405

Lab Code C

Course Title Preclinical Operative Dentistry I/Biomaterials

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 introduces fundamental concepts related to operative dentistry. Emphasis is also placed on biomaterial science and clinical application of composite resin

restorative materials. Minimally invasive dentistry will be stressed, and principles of ergonomics and infection control as it relates to clinical dentistry will be introduced. The course is based on lectures and laboratory exercises in order to support the development of motor skills, self-evaluation and clinical judgment using a rational scientific basis.

Proposed Course Description (50 words max) This is the first 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.