NEW YORK CITY COLLEGE OF TECHNOLOGY **DEPARTMENT OF**
THE CITY UNIVERSITY OF NEW YORK **RESTORATIVE DENTISTRY**

COURSE CODE & TITLE: RESD 2416 – DENTAL IMPLANT PROSTHETICS HX 80

TERM: SPRING 2025

COURSE COORDINATOR
LECTURE & LAB INSTRUCTOR:

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Tuesdays online 9:00 to 11:00 AM zoom: Meeting ID: 863 8277 1423
Passcode:12345
https://us02web.zoom.us/j/86382771423?pwd=SniN9hhHLDd53yhXkmO8BGbsr8DhXl.1

LABORATORY INSTRUCTOR:

JULES BALLA – Lecturer
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* RESD 2416 Syllabus Revised Jan. 2025 by: Prof. L. Andreescu, Prof. Jules Balla

Office Hours. Students are encouraged to come by or log in, either individually or in groups, to discuss assignments, clarify class topics or problems, share ideas and concerns, review tests, or address any other matters that might be helpful. Office hours held by faculty are specifically offered for student use and are an important part of student's education.

COLLEGE CATALOG DESCRIPTION:

An introduction to the theory and practice of fabricating dental implant prosthetics. The course explores both fixed and removable implant systems that are currently available, as well as fabrication, osseointegration, material selection and final dental prosthesis.

COURSE DESCRIPTION:

This course in an introduction to the theory and practice of dental implants, including clinical aspects of dental implants, fabricating soft-tissue casts, designing the custom abutments using CAD/CAM systems and the different types of final restorations for dental implants, such as: single crowns, bridges, full mouth fixed restorations and removable full mouth restorations. In addition, this course will describe the fabrication of provisional restorations for dental implants and the fabrication of dental implant stent for guided surgery. The course will explore the diverse implant systems that are currently available as it pertains to fabrication, implant system considerations, osseointegration, material selection and final dental prosthesis. The student will gain an understanding behind the selection between screw-retained vs. custom implant abutments and implant bars vs. attachments.

COURSE CREDITS: 3 credits
CLASS HOURS: 1-hour /week lecture online synchronous with examinations in-person & 6-hours in class laboratory per week
NUMBER OF WEEKS: 15 Weeks
CURRICULUM LEVEL: Fourth Semester
PREREQUISITES: RESD 2307, RESD 2310, RESD 2314

COURSE REQUIREMENTS:

Standard department and college regulation. Proper uniform and conformity to safety regulation, as described in City Tech Academic Catalog: http://www.citytech.cuny.edu/academics/academic-catalog.aspx Students who participate in this class, for the online sessions of the course, using their camera on or use a profile image are agreeing to have their video or image recorded solely for the purpose of creating a record for students enrolled in the class to refer to, including those enrolled students who are unable to attend live. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live.

QUIZZES AND EXAMINATIONS:

1. Students are responsible for knowing all information covered in reading assignments, handouts, lectures, and laboratory.
2. Students are responsible for knowing information from reading assignments regardless of whether it was covered during class sessions or not. In addition to the major exams, there will be quizzes/assessments/projects that will be conducted during each session. They will be based on prior sessions and reading assignments.
3. There will be no make-up for missed course work.

ONLINE AND HYBRID COURSES:

1. Information related to City Tech hybrid education, and student workshops can be found directly on Brightspace and will be explained by lecture instructor during the first lecture. The lecture sessions will be conducted in-person for examinations and virtually, synchronous in Brightspace for lecture and laboratory sessions will be conducted in-person. Questions should be directed to the instructor teaching the section or the course coordinator.
2. **In-person sections** –class meetings are in person in college classroom
3. **Hybrid sections** - some meetings are in person, some online
4. **Online meetings** can be synchronous (regularly scheduled meeting times) or asynchronous (students engage in class at their convenience, no scheduled start and end time)
5. **Synchronous fully online courses/sessions** –students engage in class online on scheduled days and times
6. **Asynchronous fully online courses/sessions** –students engage in class online, at their convenience, but assignments are still due by specific dates

HYBRID PARTICIPATION:

The laboratory sessions will meet in-person in scheduled classroom on assigned date and at the scheduled time.

The lecture sessions will be conducted as online synchronous classes in Brightspace, and the course examinations will take place in-person (room will be announced). The dates for online meetings are posted in course syllabus.

Students are expected to contribute regularly (at least once a week) and complete all assigned work before or on the due date.

ASSIGNMENT/ASSESSMENTS/POSTS SUBMITTED PAST DUE DATES WILL RECEIVE 0 GRADE AND WILL COUNT AS AN ABSENCE FROM CLASS.

TEXTBOOK(S):

1. Dental Laboratory Technology: Basic Sciences, Removable Prosthodontics, and Orthodontics. (2005). Air Force Pamphlet 47-103, Vol. 1.
2. Dental Laboratory Technology: Fixed and Special Prosthodontics. (2005). Air Force Pamphlet 47-103, Vol. 2.

3. Dental Implant Prosthetics: 2nd edition. Carl E Misch. 2014 Elsevier Publishing. (THIS BOOK IS AVAILABLE IN HARD COPY IN THE LIBRARY)

**References are available for each presentation posted on the Brightspace.

ADDITIONAL READING MATERIALS:

Philips Science of Dental Materials, (2012), 12th edition, Anusavice, K., Shen, C., Rawls, H., Phillip's. Elsevier Publishing, St Louis, Mo.

WEB REFERENCES:

http://www.ada.org/index.asp
http://www.dentaladvisor.com/
http://www.lmtcommunications.com/
http://www.dentalaegis.com/idt/
http://www.nadl.org/jdtunbound/archives.htm

Electronic Journals in NYCCT Library. http://library.citytech.cuny.edu/

VIDEOS: Instructional videos or video links posted on Brightspace

POLICIES

ACADEMIC INTEGRITY **I. CUNY Policy on Academic Integrity**

Academic dishonesty is prohibited at The City University of New York. Penalties for academic dishonesty include academic sanctions, such as failing or otherwise reduced grades, and/or disciplinary sanctions, including suspension, or expulsion.

Source: NYCCT College Catalog: http://www.citytech.cuny.edu/academics/academic-catalog.aspx **II. NYCCT Academic Integrity**

Students and all others who work with information, ideas, texts, images, music, inventions, and other intellectual property owe their audience and sources accuracy and honesty in using, crediting, and citing sources. As a community of intellectual and professional workers, the College recognizes its responsibility for providing instruction in information literacy and academic integrity, offering models of good practice, and responding vigilantly and appropriately to infractions of academic integrity.

Source: NYCCT College Catalog: http://www.citytech.cuny.edu/academics/academic-catalog.aspx

III. RESTORATIVE DENTISTRY: All Restorative Dentistry students must submit completed assignments or projects (in lab or theory) by the assigned due date as stated in the course outline. Plagiarism in lectures or laboratory assignments, exams or projects will not be accepted. Students will not receive a grade if papers or assignments were done by someone else. The department will adhere to and follow the Academic Integrity Policy and Procedures as per NYCCT & CUNY Policies. Students are responsible for knowing all material covered in reading assignments and handouts for both lecture and laboratory. Students are responsible for knowing information from reading assignments regardless of whether it has been covered during class sessions or not. RESD students are responsible for being in class on time and for participation in laboratory demonstrations. Failure to observe laboratory demonstrations may affect student's performance and contribute to the failure of the course.

REASONABLE ACCOMMODATIONS:

Qualified students with disabilities, under applicable federal, state and city laws, seeking reasonable accommodations or academic adjustments must contact the Center for Student Accessibility for information on City Tech's policies and procedures to obtain such services. Students with questions on eligibility or need for temporary disability services should also contact the Center at: The Center

for Student Accessibility, 300 Jay Street room L-237, 718 260-5143,
http://www.citytech.cuny.edu/accessibility

NYCCT ATTENDANCE & LATENESS:

Attendance and class participation are essential and excessive absences may affect the final grade. Courses with laboratory, clinical or field work may have specific attendance policies.

Source: NYCCT College Catalog: http://www.citytech.cuny.edu/academics/academic-catalog.aspx

RESTORATIVE DENTISTRY PROFESSIONALISM & PARTICIPATION:

The Department of Restorative Dentistry follows NYCCT, CUNY and Dental Laboratory Technology industry standards in order to educate, develop, advance and guide future dental technology professionals, preparing graduates for workplace readiness. In order to successfully complete Restorative Dentistry courses, students must consistently participate in classes and meet deadlines as stated in course syllabus. To successfully complete Restorative Dentistry curriculum the students are required to observe course instructor's demonstrations and complete all fabrication tasks under course instructor's supervision. Classes will begin promptly at the scheduled time. Laboratory demonstrations are usually conducted at the beginning of the session and cannot be redone for the convenience of a student who arrives late or is absent. When a student is given instructor's permission to leave the class, the student will return to class in a reasonable time. Students enrolled in RESD course must meet all course requirements as stated in course syllabus in order to pass it. RESD students must complete required assignments, tasks, projects and exams by specified due dates. Failure to submit or complete the assignment, tasks, projects or exam by specified due dates will result in a zero (0) grade and possible failure of the course. It is strongly advised that students are present for all classes during the semester including 30 laboratories and 15 lectures.

GRADING

Restorative Dentistry courses include didactic or didactic and laboratory sections which are graded accordingly. In didactic and laboratory sessions, the final grades will be computed based on grading included in course syllabus. Most courses are graded based on 60% of the laboratory and 40% of the lecture grades. Student must achieve a passing grade of at least 70% in the laboratory and at least 70% in the lecture sections of the course in order to receive the minimum passing grade of "C" for the entire course. Failure to meet the minimum of 70% average in either component of the course confirms that the student has not met the minimum requirements for successful completion of the course and a grade of "D" or "F" will be given based on student's performance in the failing section of the course. RESD student is required to repeat any RESD course for which he/she receives a grade below minimum of "C". For courses with laboratory and lecture components, the student needs to repeat both the lecture and the laboratory sections, even though the score in one of the sections may have been greater than 70%. RESD students will participate in the end of semester clean-up of the Restorative Dentistry dental laboratories. The date of final cleanup will be announced in advance. For students who are absent during final clean up, 5% of final grade will be deducted.

COLLEGE GRADING SCALE

A = 93- 100%
A- = 90-92.9%
B+ = 87-89.9%
B = 83-86.9%
B- = 80-82.9%
C+ = 77-79.9%
C = 70-76.9%
D = 60-69.9%
F = 59.9% and below

SATISFACTORY PROGRESS

Students are expected to maintain 2.0 G.P.A. or higher in all classes. Students who's cumulative G.P.A. falls below the minimum 2.0 G.P.A. will be placed on academic alert or academic probation by the College. Students on academic probation may be subject to attempted credit restrictions which can affect progress in taking all courses needed for a semester. Failure to raise cumulative G.P.A. to the appropriate level could result in dismissal from the College. Any students receiving a grade of "D" or "F" in a RESD course will be required to repeat that course. RESD course may only be repeated once. Failure to satisfactorily complete a repeated RESD course will be considered a failure to maintain satisfactory progress in the major and will result in dismissal from the major.

PROFESSIONALISM & ETHICS

1. Since practice of dentistry carries with it a high degree of responsibility, a mature, professional, and ethical conduct is expected of all students at all times (lecture & laboratory sessions, hybrid & online sessions, externship sites, professional events/seminars, etc.).
2. Unprofessional behavior that shows inattentiveness and disrespect for others will be taken into consideration during the grading process.
3. Points may be deducted at the discretion of any faculty member regardless of what course is in session. This includes incidents in the hallways, by lockers, or anywhere on NYCCT campus. Students will conduct themselves in a professional manner. No horseplay, offensive language, shouting or any other misconduct will be allowed.

NETIQUETTE: ONLINE ETIQUETTE

1. Students will conduct their online posts and replies with respect for others, which include courtesy, dignity, and appropriate language at all times. Inappropriate behavior of any kind in online settings will not be tolerated and will negatively affect students' grades.
2. All faculty members will be addressed by their proper title.
3. Students are required to use proper dental terminology when discussing dental prosthesis.
4. Students are to have all the required instruments and supplies when attending laboratory sessions.
5. Students are not permitted to do other students' work although assistance and teamwork are strongly encouraged.
6. All electronic devices must be turned off during all RESD classes unless otherwise specified by the instructor.
7. Each RESD student will be assigned a locker at the beginning of each semester and will vacate the locker by the last day of the semester. If the locker is not returned back in clean condition by the end of the semester, the locker will be broken by CLT. The student will not receive another locker the next semester.
8. Students should make arrangements to attend all department events and professional development seminars to which an invitation is extended. Students are strongly encouraged to attend events, professional development seminars and meetings sponsored by the department to elevate their knowledge, skills and understanding of the field of study.
9. 9.Department offices and stockrooms contain sensitive and personal information, classroom materials, supplies and equipment, and should be used for official use only. Students and unofficial personnel should not be allowed in the department offices unless to fulfill official business.

DRESS, SUPPLIES & TEXTBOOKS

1. Laboratory smocks (lab coats) with Restorative Dentistry Department emblems must be worn at all times in the laboratory. Emblems are to be attached to the left breast pocket. Smocks must be clean and kept completely buttoned or tied when worn. Failure to wear smocks will necessitate students being barred from laboratory and marked absent.

2. Closed-toe shoes are required while working in the laboratory.
3. No hats/caps of any type are to be worn in the laboratories. *(Except for religious reasons)*
4. Students must purchase and have in their possession the required tools, supplies, PPE, and textbooks by the 2nd week of scheduled classes. A list of all course materials will be available in the department's main office or in CLT's office. All personal tools should be clearly labeled with the student's name.
5. Students should acquire required textbooks for each course and are expected to read assigned pages and review procedures *prior* to attending lecture and laboratory classes. The list of required textbooks will be listed in all course syllabi.
6. RESD students are responsible for their belongings at all times. The Restorative Dentistry Department does not take responsibility for leftover items.

HEALTH & SAFETY

1. No eating, drinking, or smoking is permitted in laboratories or classrooms.
2. No electronic devices (i.e. phones, headphones, computers or tablets) will be permitted in the laboratories or classrooms unless requested for classroom use by the instructor.
3. No outerwear, shopping bags, attaché cases, luggage etc., are permitted in laboratories.
4. Bunsen burners when lit are a potential danger. Bunsen burners must be turned off when you leave your bench. Long hair and hair spray are flammable items. Pay particular attention to any Bunsen burner flame. Do not lean over the open flame.
5. Chucks must be securely placed onto bench engine shaft to avoid chuck flying off when engine is turned on.
6. Boiling water can result in serious burns. Extra caution should be taken when boiling out or using boiling water.
7. Burnout furnaces and porcelain furnaces are potentially dangerous. Tongs should be used when picking up hot casting rings or ceramic work.
8. Students with long hair must wear a hairnet or tie back their long hair to prevent accidental burning from Bunsen burners or other serious accidents. Hair can easily get caught in hand piece or lathe.
9. Safety eyeglasses must be worn by all occupants of the laboratory while any procedures are being conducted that produce dust or airborne particles. Safety eyeglasses with side shields may be obtained from a hardware store. They are essential to the students' safety.
10. Eye protection measures should be taken when working with curing lights, lasers, and heating or melting metal.
11. Proper mask (N95) should be worn when grinding metals, ceramics, and acrylics or when using materials creating dust.
12. Students not enrolled in a RESD course, from this and other departments, will not be permitted to visit during laboratory sessions.
13. 13.Students will not use any equipment until demonstrated by the instructor.

HELPFUL INFORMATION ON HOW TO ACCESS AND NAVIGATE BRIGHTSPACE:

- Visit the Student Welcome Center in the Library Building on the first floor to seek assistance with Brightspace setup, password, and access issues.
- Visit the student computer lab in the General Building, sixth floor, room G600 and v-217. The phone number for the lab is (718) 254-8565.
- Refer to "Student Brightspace" on the NYCCT website.
  To enter this site:
- Access link: Student Brightspace - Academic Technologies and Online Learning (AtoL)
- Brightspace tutorial - Brightspace: Student Tutorial

- Click on "Quick Links"
- Go to "Helpful Links" and click on " Academic Technologies and online Click on "Instructional Technology Tutorials and Handouts"
- Scroll down and click "Brightspace basics for students."
- College provides numerous student Brightspace training sessions throughout the semester.
- Use the description of the navigation of the Brightspace site

CLEANLINESS

1. Students must have a plastic place mat to protect bench top during laboratory sessions.
2. Students are required to clean up working areas and equipment at the conclusion of any procedure. Timely clean-up is important to prepare the area for the next student and ensure equipment remains in working order. Especially important is that stone or investment is not allowed to harden in the sinks, in the mixing bowls or in contact with the equipment.
3. Each student is required to leave the workstation spotless by removing all debris, papers, wax, plaster, etc. from drawers, workstation tops and floors in the immediate vicinity of the seat before leaving.
4. Each student is assigned responsibility for maintaining the cleanliness of an area used in common by all members of the class.
5. Equipment such as duplicating flasks, articulators or any other equipment that belongs to the department and is used by the student during the laboratory session or during the entire semester must be returned clean and in good working condition otherwise the student is financially responsible for repaying broken or missing equipment, and hold may be placed throughout CUNY system for registration to any courses until the payment is made.

EXAMINATIONS:

1. Students are responsible for knowing all material covered in reading assignments, handouts, lecture, and laboratory.
2. Students are responsible for knowing information from reading assignments regardless of whether it has been covered during class sessions or not.
3. The exams and quizzes will account for 40% of the final grade of RESD 2416. Students must obtain at least 70% to pass the lecture section.
4. Students are responsible for completing all the laboratory's weekly assignments to earn 60% portion of the overall grade. Students must obtain at least 70% to pass the laboratory section.

ELECTRONIC DEVICES: Cell phones, pagers, iPods, and all other electronic devices must be turned off during all DLT classes.

ONLINE CLASS TECHNOLOGY PREREQUISITES: Below are the suggested minimum prerequisites for taking part in an online course:

1. You should have access to and be able to use the internet browser
2. You will need an email account and should be comfortable using it. The college provides an email account to all students.
3. You need access to a computer with Internet connection; computers with internet access are available in numerous locations throughout the college (i.e. Library, Computer Lab G600, etc.)

Use the description of the navigation of the RESD course located on the Brightspace site:

*ANNOUNCEMENTS - Entry point. Announcements will allow communication between instructor and student. The student should have clear instruction posted here about each lecture or lab, project, exam,

emergency, etc. Students need to check announcements regularly. In asynchronous classes (one that is not offered in real time) students need to check announcements regularly and complete assignments in a timely manner to comply with set deadlines.

*FACULTY CONTACT INFO AND OFFICE HOURS - information about course coordinator, lecture instructors and lab instructors for all sections of the course (i.e. phone, email, office location and so on). Online classrooms are open 24 hours a day, 7 days a week. So, if a student wants to ask the coordinator/instructor a question, he/she can email or post it in discussion board it at any time. To discuss matters with the entire class, the student should post the question in designated Forum in Lecture/Lab Discussion section.

*COURSE DOCUMENTS - includes syllabus, calendars with deadlines to complete the projects in lab or lecture portion of the course.

*WEEKLY LEARNING MODULES: includes lecture materials for each one of 15 lectures, i.e., power point presentations, articles, handouts, and videos related to specific to each lecture topics, recorded lecture materials, assessments, and exams, etc.

*LABORATORY MATERIALS– includes laboratory documentation to be fulfilled in each of 15 lab sessions i.e., instructions related to laboratory procedures and equipment, videos, lab notes, handouts, grading sheets, recorded laboratory materials, assessments, and exams, etc.

*JOIN CUNY ZOOM: platform on Brightspace to meet for live sessions

*DISCUSSIONS– location of questions/comments, replies to questions /comments, assignments, essays, etc.

*BOOKS – location of electronic books and handouts available for students use i.e., AFP

*TOOLS - tools for updating personal information, checking your grades, and exchanging word processing files with classmates and instructor via the Digital Drop Box

*HELP - tips about how to work online in Brightspace environment and beyond.

COURSE LEARNING OBJECTIVE

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

1. Infection control protocols in handling and processing implant cases
2. Clinical and ethical considerations for potential dental implant restorations patients
3. Fabricate the implant soft tissue model and mount the case using semi-adjustable articulator
4. Learn difference between ARCON and NON-ARCON articulators and their use
5. Identify different types of implant systems, based on the implant positioning into the bone
6. Wax and process provisional anterior multi-unit restoration
7. Fabricating surgical stent using preliminary model (wax anterior missing teeth and single posterior missing teeth)
8. Duplicate complete denture, using duplicating jig and fabricate radiographic stent used in preliminary work to determine the quality of bone during the CAT scan
9. Wax, sprue and press ceramics for single screw-retained restorations
10. Design and establish parallelism and path of insertion for individual custom abutments, which will be used to fabricate multiple unit provisional anterior restoration using a surveyor
11. Identify and purpose of verification jig for fixed restorations
12. Identify the physical properties of dental implants and dental implants prostheses
13. Learn difference between fixed and removable restorations and how the dental implants are used in both cases
14. Identify different types of dental implant components, such as: (1) for fixed restorations impression copings, guide pins, UCLA abutments, prefabricated and custom abutments; Titanium-bases (engaging,

non-engaging, multi-unit, angulated, angulated screw channel; (2) for removable: impression copings, position locators, different types of abutments, such as: ball, multi-unit, angulated, etc., retention O-rings and their use

15. Learn the function and design of bar substructure for retention element for complete dentures, including verification jigs and soldering the bar substructure
16. Identify the CAD/CAM components in fabricating the dental implant restorations, such as: hardware, software, licensing, different applications, establish the correct order, scanning, designing, and manufacturing using milling and 3D printing
17. Identify digital implant components, such as: scan bodies/position locators for each implant systems and their sizes and applications
18. Identify the dental materials and their properties used to fabricate dental implant restorations using the analog and digital methods
19. Learn the social and environmental responsibility in using dental implants fabrication and applications

COURSE GENERAL EDUCATION STUDENT LEARNING OUTCOMES:

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

1. Knowledge: develop dental technology comprehension by accumulating knowledge from all disciplinary perspectives and continue learning.

2. Skills: develop tools needed for communication, inquiry, analysis, and productive work.

3. Integration: work productively within restorative dentistry and across disciplines like computer literacy.

4. Values, Ethics and Relationships: Moral and ethical responsibilities, social and environmental responsibilities

5. Personal development: to demonstrate intellectual honesty and integrity in relation to fellow students, faculty, and staff of the department and collegewide.

6. Professional development: to apply the industry codes of ethics as per American Dental Association and other medical/dental state and federal agencies.

ASSESSMENT OF GENERAL EDUCATION STUDENT LEARNING OUTCOMES:

The instructor will evaluate the students' achievement of the learning outcome by:

1. Review – students' abilities to follow instructions for completing all laboratory projects by regularly evaluating various stages of their projects

2.Written examinations and **assessments,** such as: <u>for Lecture</u> there are multiple-choice quizzes, midterm, and final examinations and <u>for laboratory</u> there are 5 online Brightspace Laboratory quizzes leading to the completion of the RESD 2416 online Brightspace Laboratory Report (essay).

<u>COURSE EXAMINATIONS and ASSESSMENTS</u>

<u>STUDENTS EVALUATIONS</u> include:

1. Evaluating students' ability to communicate at professional level using dental technology vocabulary and terminology.
2. Evaluating students' class participation and extra credit assignments (if available).
3. Each student's performance will be assigned a conventional letter grade, as follows:

College grading:
A = 93- 100%
A- = 90-92.9%
B+ = 87-89.9%
B = 83-86.9%
B- = 80-82.9%
C+ = 77-79.9%
C = 70-76.9%
D = 60-69.9%
F = 59.9% and below

LABORATORY PORTION_____60%
LECTURE PORTION_____ 40%
TOTAL FINAL GRADE FOR RESD 2416_____ 100%

*** Final grade will be computed based on 60% of laboratory grade, 40% of lecture examination grades. The student must pass all 2 parts of the course in order to complete the course. Students must achieve at least 70% to pass for lecture section and similarly for the laboratory section.**

A. LECTURE SECTION: 40% of the total grade for this course

1. There are multiple-choice quizzes, midterm, and final examinations
2. The exams and quizzes will account for 40% of the final grade of RESD 2416.
3. Students are responsible for knowing all material covered in reading assignments, handouts, lecture, and laboratory.
4. Students are responsible for knowing information from reading assignments regardless of whether it has been covered during class sessions or not.
5. Students must obtain at least 70% to pass the lecture section.

LECTURE EXAMINATIONS CRITERIA: Lecture 40% of total course grade

1. Quiz # 1 _____ 20 pts
2. Midterm Examination_____30 pts
3. Quiz # 2 _____ 20 pts
4. Final Examination_____30 pts

TOTAL LECTURE _____100 pts

TOPICS FOR LECTURE EXAMS

QUIZ #1 – 20 points

1. Dental Implants definitions, key terms
2. History of Dental Implants
3. Clinical Aspects and Dental Implants Classifications
4. Dental Clinical Implant Components and Restorative Implant Components
5. Diagnostic models, surgical guides, and radiographic templates

MIDTERM – 30 points

1. Provisional Restorations
2. Master cast types and fabrication
3. Case articulation, including the face bow

QUIZ # 2 – 20 points

1. Fixed Prostheses - Cement-retained prosthesis
2. Fixed Prostheses - Screw-retained prostheses
3. Removable prostheses - Bar and clip overdenture

FINAL: 30 points

1. Removable prostheses – attachments supported overdenture
2. Biomechanics of dental implants and prostheses
3. Biomaterials for dental implants and protheses

Students must achieve a passing grade of at least 70% in the Lecture section to pass the class. *

Instructors strongly encourages the students to ask or email questions and make comments, as well as discuss their own ideas.

LECTURE OUTLINE
40% of the final grade of this course

LECTURE 1 –Introduction to Dental Implant Prosthetics and History of Dental Implants - 1 lecture hour

Reading Assignments: Air Force Pamphlet, Vol 2, pg. 196; Dental Implant Prosthesis-Carl E. Misch, Chapter 1, Phillips Science of Dental Materials – Chapter 20; AFP 47-103 Vol I, Sections: 1B, 1C, 1D

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments, on the definition of dental implants, key terms, and history; Health and Safety & Infection Control

B. Performance: Students should be able to describe:

1. Dental Implants definitions, key terms
2. History of Dental Implants
3. Health and Safety & Infection Control

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 2 – Clinical Aspects and Dental Implants Classifications - 1 lecture hour

Reading Assignments: Air Force Pamphlet, Vol 2, pg. 196; Dental Implant Prosthesis-Carl E. Misch, Chapter 11, 16; Phillips Science of Dental Materials – Chapter 20

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments, on the clinical aspect of dental implants, the treatment plans and dental implant classification B. Performance: Students should be able to describe:

1. Preimplant clinical considerations
2. Types of implant surgeries
3. Classification and Treatment Plans for Partially and Completely Edentulous Arches
4. Dental implant classification

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 3 –Dental Clinical Implant Components and Restorative Implant Components -1 lecture hour

Reading Assignments: Air Force Pamphlet, Vol 2, pg. 196; Dental Implant Prosthesis-Carl E. Misch, Chapter 3, 11; Phillips Science of Dental Materials – Chapter 20

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on the dental clinical implant components and restorative implant components B. Performance: Students should be able to describe:

1. Define the different components and types of the implants: fixture (body), platform, abutments

2. Explain the different types of abutments and the abutments' parts
3. Define the different types of dental implant prostheses
4. Define the restorative implant components, such as: impression copings, analogs, screws, guide pins, etc. C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 4 –Fabrication of Diagnostic casts, Radiographic Templates and Surgical Guides-1 lecture hour

Reading Assignments: Air Force Pamphlet, Vol 2, pg. 196, 199; Air Force Pamphlet, Vol 1, Chapter 5, Chapter 7, Section 7AK; Dental Implant Prosthesis-Carl E. Misch, Chapter 3, 5, 11

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on fabricating diagnostic casts radiographic templates and surgical guides B. Performance: Students should be able to describe:

1. Describe the purpose and the process of fabricating diagnostic casts
2. Describe the purpose and the process of fabricating radiographic templates
3. Describe the purpose and the process of fabricating surgical guides

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 5 - Quiz #1 – 20 points - 1 lecture hour room A 608

LECTURE 6 - Types and Fabrication of Provisional Restorations **-** 1 lecture hour

Reading Assignments: Air Force Pamphlet Vol.2 Chapter 1 Section 1E, and pg. 206 -208; Dental Implant Prosthetics, Carl E. Misch Chapter 26

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on different types and fabrication of provisional restorations B. Performance: Students should be able to describe:

1. Describe the process of fabricating provisional restoration for a single-tooth, cement retained implant
2. Explain the direct and indirect methods of fabricating provisional restorations
3. Describe the process of fabricating provisional restoration for screw-retained implant
4. Describe the Vacuum-Forming Methods
5. Describe the Alginate Impression Template Method
6. Describe the Silicone Template Method
7. Explain the different types of provisional restorations for fixed and removable prosthesis

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour **LECTURE 7 -** Fabricating the Master Cast and Articulating the case - 1 lecture hour

Reading Assignments: Air Force Pamphlet Vol.1 Section 6A; Air Force Pamphlet Vol.2 Section 1G, and pg. 206; Dental Implant Prosthetics, Carl E. Misch – Chapter 24, and pg. 463-466

A. Condition: Given a lecture and discussion using slides, visual aids, and reading assignments on different types of master casts for dental implant cases, fabrication and articulating the case, using face bow and bite registration

B. Performance: Students should be able to describe:

1. Describe different types of master casts based on the fixed or removable type of prostheses
2. Describe the fabrication of soft-tissue master cast, including closed and open tray impressions and the role of impression copings and analogs
3. Describe different types of articulators and how they work, including arcon and non-arcon
4. Describe the articulation process

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 8: Midterm Examination – 30 points 1 lecture hour room A 608

LECTURE 9: Fixed Prostheses - Cement-retained restorations – 1 lecture hour

Reading Assignments: Air Force Pamphlet Vol.2, pg. 208-210; Dental Implant Prosthetics, Carl E. Misch, Chapter 16, 18, 23

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on different types of fixed prosthesis for cement-retained restorations, purpose, indications, advantages, and disadvantages

B. Performance: Students should understand and be able to:

1. Describe three methods to fabricate a cement-retained, single-tooth implant: (1) a ceramic cap restoration, (2) a gold cylinder restoration, and (3) a burnout cap restoration
2. Explain the purpose of one-piece and two-piece abutment for cement-retained restorations
3. Describe the factors affecting the abutments' retention
4. Describe the process of abutment preparation
5. Describe the fixed prosthesis design
6. Explain the options for partially edentulous anterior maxilla
7. Explain the options for partially edentulous mandibula

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 10: Fixed Prostheses - Screw-retained restorations– 1 lecture hour

Reading Assignments: Air Force Pamphlet Vol.2, pg. 209 – 213; Dental Implant Prosthetics, Carl E. Misch Chapter 24

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on different types of fixed prosthesis for screw-retained restorations, purpose, indications, advantages, and disadvantages

B. Performance: Students should understand and be able to describe:

1. Explain the procedures for screw-retained restoration fabrication methods, such as: Screw-Retained - Cast-To Substructure, and Screw-Retained - Castable Substructure
2. Describe the indications, advantages, and disadvantages of screw-retained restorations
3. Describe the factors that influences screw loosening

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 11- Removable Prostheses - Bar and clip overdenture -1 lecture hour

Reading Assignments: Air Force Pamphlet Vol.1, Section 7 E, 7 H, 7 I; Air Force Pamphlet Vol.2, pg. 214 – 217; Dental Implant Prosthetics Carl E. Misch Chapter 14, 15, 17, 18

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on the Removable Prostheses using Bar and Clip retention for Overdentures B. Performance: Students should understand and be able to:

1. Describe the need for the bar substructure and its elements
2. Explain different cases, based on implant location and number when this procedure is used
3. Describe the bar fabrication
4. Describe the different types of clips, their elements, and their retention
5. Explain the measurement requirement for fabricating bar with clip overdentures
6. Describe the different treatment options

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 12: Quiz # 2 -20 points- 1 lecture hour room A 608

LECTURE 13 –Removable Prostheses Using Attachments for Supported Overdenture – 1 lecture hour
Reading Assignment: Dental Implant Prosthesis-Carl E. Misch, Chapters 3, 14, 15

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on the Removable Prostheses using Attachments ("O" ring) retention for Overdentures

B. Performance: Students should understand and be able to:

1. Describe the need for the locator attachments and its elements for overdenture retention
2. Explain different types of design, based on implant location and number when this procedure is used
3. Describe the advantages and disadvantages of the "O" ring system
4. Describe the different materials used for "O" rings
5. Explain the measurement requirement for using the overdenture attachments for retention
6. Describe the different treatment options and the procedural overview

C. Extent & Criteria: With at least 70% accuracy at the end of one lecture hour

LECTURE 14 –Clinical and Restorative Biomechanics in Implant Dentistry and Biomaterials Used in Implant Dentistry - 1 lecture hour
Reading Assignment: Dental Implant Prosthetics Carl E. Misch Chapter 19; Philips' Science of Dental Materials, Chapter 20 pg. 510-515, 515-517

A. Conditions: Given a lecture and discussion using slides, visual aids, and reading assignments on Clinical and Restorative Biomechanics in Implant Dentistry and Biomaterials Used in Implant Dentistry

B. Performance: Students should understand and be able to describe:

1. Describe the oral forces and how they are influencing the implant osteointegration process (clinical)
2. Describe the oral forces and how they are influencing the design and function of the prosthesis (restorative)

LECTURE 15: Final examination 30 points 1 lecture hour room A 608

LECURE SCHEDULE

(Tentative schedule – subject to changes)

*Please log in to your Brightspace regularly and check for announcements and assignments
**Students are responsible to log in on time for all assessment and examinations.
***Students must complete their written examinations and online assignments on time and follow the RESD 2416 - dental implants course calendar to receive full credit. furthermore, the students should follow the required readings mentioned schedule calendar, as follows:

DATES	TOPICS	READING MATERIALS
SESSION 1 01/28/2025	Introduction to Dental Implants & History Health Safety & Infection Control **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 1, lectures A, B** Air Force Pamphlet, Vol 2, pg. 196 – 198 Dental Implant Prosthesis-Carl E. Misch, Chapter 1 Phillips Science of Dental Materials – Chapter 20 pg. 499-501 AFP 47-103 Vol I, Sections: 1B, 1C, 1D

SESSION 2 02/04/2025	Diagnostic models, surgical guides, and radiographic template **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 2, lecture A** Air Force Pamphlet, Vol 2, pg. 197-199 Phillips Science of Dental Materials – Chapter 20, pg. 501-505 Dental Implant Prosthesis-Carl E. Misch, Chapter 3, 5, 11
SESSION 3 02/11/2025	Dental Clinical Implant Components and Restorative Implant Components **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 3, lecture A** Air Force Pamphlet, Vol 2, pg. 196 Dental Implant Prosthesis-Carl E. Misch, Chapter 3, 11 Phillips Science of Dental Materials – Chapter 20, pg. 505-507
SESSION 4 02/25/2025	Classification and clinical aspects of dental implants **Review for Quiz # 1** **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 4, lecture A** Air Force Pamphlet, Vol 2, pg. 196, 199 Air Force Pamphlet, Vol 1, Chapter 5, Chapter 7, Section 7AK. Dental Implant Prosthesis-Carl E. Misch, Chapter 11, 16
SESSION 5 03/04/2025	**QUIZ # 1 – 20 points**	Scheduled during regular lecture hour in-person room A 608
SESSION 6 03/11/2025	Provisional Restorations **Quiz # 1 results** **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 6, lecture A** Air Force Pamphlet Vol.2 Chapter 1 Section 1E, and pg. 206 -208 Dental Implant Prosthetics, Carl E. Misch Chapter 26
SESSION 7 03/18/2025	Fabricating the Master Cast and Articulating the case **Review for Midterm** **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 7, lecture A** Air Force Pamphlet Vol.1 Section 6A Air Force Pamphlet Vol.2 Section 1G, and pg. 206 Dental Implant Prosthetics, Carl E. Misch – Chapter 24, and pg. 463-466
SESSION 8 03/25/2025	**MIDTERM EXAM – 30 points**	Scheduled during regular lecture hour in -person room A 608
SESSION 9 04/01/2025	Fixed Prostheses - Screw-retained prostheses **Midterm results** **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 9, lecture A** Air Force Pamphlet Vol.2, pg. 209 – 213 Dental Implant Prosthetics, Carl E. Misch, Chapter 24
SESSION 10 04/08/2025	Fixed Prostheses – Cement-retained prosthesis **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 10, lecture A** Air Force Pamphlet Vol.2, pg. 208-210 Dental Implant Prosthetics, Carl E. Misch Chapter 16, 18, 23
SESSION 11 04/22/2025	Removable prostheses - Bar and clip overdenture **Review for Quiz # 2** **Verify your knowledge nongraded assessment**	***Power Point Presentations: Week 11, lecture A** Air Force Pamphlet Vol.1, Section 7 E, 7 H, 7 I Air Force Pamphlet Vol.2, pg. 214 – 217 Dental Implant Prosthetics Carl E. Misch Chapter 14, 15, 17, 18
SESSION 12 04/29/2025	**QUIZ # 2 – 20 points**	Scheduled during regular lecture hour in-person room A 608

SESSION 13 05/06/2025	Removable prostheses – attachments supported overdenture **Quiz # 2 results** **Verify your knowledge non-graded assessment**	***Power Point Presentations: Week 13, lecture A** Dental Implant Prosthesis-Carl E. Misch, Chapters 3, 14, 15
SESSION 14 05/13/2025	Clinical and Restorative Biomechanics in Implant Dentistry Biomaterials Used in Implant Dentistry **Review for Final** **Verify your knowledge nongraded assessment**	***Power Point Presentations: Week 14, lecture A** Dental Implant Prosthetics Carl E. Misch Chapter 19 Philips' Science of Dental Materials – Chapter 20 pg. 510-515, 515-517
SESSION 15 05/20/2025	**FINAL EXAMINATION – 30 points**	Scheduled during regular lecture hour in-person room A 608

B. <u>LABORATORY SECTION:</u> 60% of the total grade for this course

1. Students are responsible for completing all the laboratory's projects, the Laboratory Assessments and Report to earn the 60% portion of the overall grade. Students must obtain at least 70% to pass the laboratory section.
2. There are 5 Laboratory Quizzes (one page/assignment) that will be carried out in-person and they are counting for 25 points of the final lab grade. The purpose of these informal assignments is to prepare students for developing and completing the Written Laboratory Report (at least 3 pages), which is due at the end of the semester, and it counts for 10 points of the final lab grade
3. The purpose of the Laboratory Report (essay) is to teach students the different types of dental restorations using dental implants, including: the design and methods of fabrication, including indications and contra-indications, and to prepare students for the Recognized Graduate Examination, which is the first step in obtaining their certification as Certified Dental Technician, organized and administered by the National Board of Certification for Dental Laboratory Technology.

<u>LABORATORY PROJECTS CRITERIA: Total 65 points</u>

*****ALL LAB PROJECTS WILL BE DONE IN PERSON**

1. Design and fabrication of surgical template _____5 pts
2. Fabrication of soft tissue maxillary cast_____ 5pts
3. Articulating the case _____5 pts
4. Fabrication of screw retained # 14 _____15 pts
5. Design and fabrication of custom abutments # 9 & # 11_____ 15 pts
5. Design and fabrication of provisional bridge for #9, 10, 11_____15 pts
6. Neat & Clean _____5 pts.

<u>LABORATORY QUIZZES CRITERIA: Total 35 points</u>

*****ALL LAB QUIZZES WILL BE CONDUCTED ONLINE IN BRIGHTSPACE**

1. Lab quiz # 1 – fabrication of soft tissue cast _____ 5 pts
2. Lab quiz # 2 – articulating the case using semi-adjustable articulator_____ 5 pts
3. Lab quiz # 3 – design and fabrication of screw retained restoration _____5 pts
4. Lab quiz # 4 – design and fabrication of cement retained restoration _____ 5 pts
5. Lab quiz # 5 – design and fabrication of provisional restorations for

Fixed prostheses_____5 pts

6. Lab Report (essay) Brightspace – differences between cement and screw-retained restorations for Fixed prostheses_____10 pts

TOTAL LABORATORY _____100 pts

Students must achieve a passing grade of at least 70% in the Laboratory section to pass the class.

LABORATORY OUTLINE – 60 % of the final grade of this course

LABORATORY SESSIONS 1, 2 3 4: Fabrication of Surgical Guide for dental implants for # 9 & # 11 - 4 laboratory classes (in-person)

A. Conditions: Given a demonstration and reading assignments on the fabrication of surgical guide for anterior # 9 and # 11, using the following equipment and supplies:

1. provided maxillary mold for pouring up the cast for provisional restoration and surgical guide
2. lab putty
3. clear acrylic
4. pressure pot
5. handpiece
6. cutting discs, grinding carbide burs, silicone polishing burs
7. polishing station, pumice, and polishing paste
8. 3 Shape

Lab quiz # 1- Fabricating the soft tissue cast, Brightspace.

B. Performance: Students should be able to fabricate surgical guide for anterior teeth # 9 and # 11 with at least 70% accuracy at the end of four classes

LABORATORY SESSIONS 5 & 6: Fabrication of soft tissue casts- 2 laboratory classes (in-person)

A. Conditions: Given a demonstration and reading assignments on the fabrication of the soft tissue maxillary cast and mandibular cast; provided maxillary impression with transfer copings and analogs

1. provided printed models for CAD/CAM custom abutments & provisional
2. soft tissue material
3. die stone

B. Performance: Students should be able fabricate the soft tissue maxillary cast and mandibular cast, with at least 70% accuracy at the end of two classes

LABORATORY SESSIONS 7 & 8: Articulating the case – 2 laboratory classes (in-person)

A. Conditions: Given a demonstration and reading assignments on the mounting the case on semi-adjustable articulator, using the following equipment and supplies:

1. plaster stone for mounting
2. vacuum mixer
3. debubblizer
4. vibrator
5. provided semi-adjustable articulator
6. provided 3 D soft-tissue maxillary cast and mandibular cast

B. Performance: Students should be able to mount the case using a semi-adjustable articulator, both stone and printed models, with at least 70% accuracy at the end of two classes

LABORATORY 9, 10, 11, 12, 13, 14: Fabricating screw retained restoration for tooth # 14 - 6 laboratory classes (in-person)

A. Conditions: Given a demonstration and reading assignments on the fabrication of waxing, spruing, investing pressing, recovery, finish, stain & glaze the screw-retained restoration for # 14 using the following equipment and supplies:

1. provided Titanium bases, abutment screws and guide pins
2. sculpturing wax
3. no flame electric waxer
4. sprues
5. investment and investing rings
6. vacuum mixing unit
7. vacuum pressure unit
8. burnout oven
9. pressing oven
10. pressed ceramics (emax) ingots
11. sandblaster unit
12. acid cleaning of investment from pressable restorations
13. ultrasonic unit
14. hand piece and stone burs to finish the abutments after casting
15. stains and glaze for Emax
16. porcelain oven

B. Performance: Students should be able to fabricate the screw-retained restoration for tooth # 14, with at least 70% accuracy at the end of six classes

LABORATORY SESSIONS 15, 16, 17, 18: Setting up the order, scan and articulate the case in 3 Shape, 4 laboratory classes, in-person

A. Conditions: Given a demonstration and reading assignments on Computer Assisted Design using 3 Shape program, using the following equipment and materials:

1. provided mounted 3 D printed and mounted casts with scan body
2. 3 Shape program Dental Implant Studio
3. 3 Shape scanner

B. Performance: Students should be able to set-up the order, scan and articulate the case in 3 Shape, with at least 70% accuracy at the end of four classes

LABORATORY SESSIONS 19, 20, 21, 22, 23, 24: Design/fabrication custom abutments for # 9 & 1, 6 laboratory classes, in-person

A. Conditions: Given a demonstration and reading assignments on the design/fabrication CAD/CAM of custom abutments for teeth # 9 & # 1, using the following equipment and materials:

1. provided mounted 3 D printed and mounted casts with scan body
2. 3 Shape program Dental Implant Studio
3. Other CAD/CAM software and lab equipment necessary for production (including milling and 3D printing)

B. Performance: Students should be able to design and manufacture custom abutments for teeth #9 & 11 in 3 Shape, and using other available software and equipment, with at least 70% accuracy at the end of four classes.

LABORATORY SESSIONS 25, 26, 27, 28, 29: Fabrication of the provisional bridge # 9 to # 11 using tooth shaded acrylic – five laboratory classes (in-person)

A. Conditions: Given a demonstration and reading assignments on laboratory procedures to fabricate provisional fixed bridge restoration for dental implants, using the following equipment and supplies:

1. sculpturing wax
2. no flame electric waxer
3. lab putty
4. tooth shaded acrylic
5. pressure pot
6. pumice
7. polishing paste
8. polishing unit
9. steamer
10. stain and glaze
11. light curing unit

B. Performance: Students should be able to fabricate provisional bridge for # 9, 10, 11, with at least 70% accuracy at the end of five sessions

LABORATORY SESSION 30 – Grading the Laboratory Report (essay), Returning Equipment and Clean Up

LABORATORY SESSION SCHEDULE:

(Tentative Schedule, subject to change)

LAB SESSIONS	LABORATORY PROJECTS AND TOPICS	Reading Assignments
SESSIONS 1,2,3,4 (4 classes) **Dateline: 4th class**	Design and fabrication of surgical template Grading the surgical template in-person	1. Lab presentation: Surgical template 2.Air Force Pamphlet, Vol 2, pg. 196, 199 3. Air Force Pamphlet, Vol 1, Chapter 5, Chapter 7, Section 7AK. 4. Dental Implant Prosthesis-Carl E. Misch, Chapter 3, 5, 11
SESSIONS 5 & 6 (2 classes) **Dateline: 6th class**	Fabrication of soft tissue maxillary cast **Lab quiz # 1- Fabricating the soft tissue cast, in Brightspace** Grading the soft tissue maxillary cast in-person	1.Lab presentation: Restorative Dental Implant Components 2.Lab presentation: Soft tissue & Articulation 3.Air Force Pamphlet Vol.1 Section 6A 4.Air Force Pamphlet Vol.2 Section 1G, and pg. 206 5. Dental Implant Prosthetics, Carl E. Misch – Chapter 24, and pg. 463-466

SESSIONS 7 & 8 (2 classes) **Dateline: 8th class**	Articulating the case both the stone and printed models using semi-adjustable articulator **Lab quiz # 2 – articulating the case in Brightspace** **Grading case articulation in-person**	Lab presentation: Soft tissue & Articulation Air Force Pamphlet Vol.1 Section 6A Air Force Pamphlet Vol.2 Section 1G, and pg. 206 Dental Implant Prosthetics, Carl E. Misch – Chapter 24, and pg. 463-466
SESSIONS 9, 10,11,12,13,14 (6 classes) **Dateline: 14th class**	Fabrication of screw-retained restoration for tooth # 14 **Lab quiz # 3 – design and fabrication of screw retained restoration in Brightspace** **Grading screw-retained restoration in-person**	Lab presentation: Fabrication of wax patterns Lab presentation: Sprueing, Investing & Pressing Lab presentation: Recovery, Fitting & Finish Lab presentation: Staining & glazing Lab presentation: Fabrication of fixed prostheses Air Force Pamphlet Vol.2, pg. 209-212, 208-210 Dental Implant Prosthetics, Carl E. Misch, Chapter 16, 18, 23 IPS E.max Press Abutment Solutions, Instructions for use
SESSIONS 15,16,17,18 (4 classes)	Setting up the order, scan and articulate the case in 3 Shape	Video presentation and lab demonstration
SESSIONS 19,20,21,22,23,24 (6 classes) **Dateline: 24th class**	Design/fabrication custom abutments for # 9 & 11 **Lab quiz # 4 – design and fabrication of cement retained restoration in Brightspace** **Grading custom abutments # 9 & 11 in-person**	Lab presentation: Fabrication of cement retained, custom abutments AFPAM47-103V2 Section 6.13 Ivoclar Vivadent IPS E.max Press Abutment solutions, Instructions for Use
SESSIONS 25,26,27,28,29 (5 classes) **Dateline: 24th class**	Fabricate the provisional bridge # 9 to # 11 matching patient's tooth shade **Lab quiz # 5 –fabrication of provisional restorations, in Brightspace** **Grading provisional bridge for teeth # 9,10,11**	Lab presentation: Provisional restorations Air Force Pamphlet Vol.2 Chapter 1 Section 1E, and pg. 206 208 Dental Implant Prosthetics, Carl E. Misch Chapter 26
SESSION 30 (1 class)	Returning equipment, implant parts and clean up	

NEW YORK CITY COLLEGE OF TECHNOLOGY
THE CITY UNIVERSITY OF NEW YORK
DEPARTMENT OF RESTORATIVE DENTISTRY

SPRING 2025
INSTRUCTOR: _____
ROOM: _____

RESD 2416 DENTAL IMPLANT PROSTHETHICS
LABORATORY GRADING SHEET

laboratory assessment	**grading criteria**	**total obtainable points**	**student's grade**
Fabrication of surgical guide for # 9 & # 11	1. acrylic free of bubbles or voids- 2 pts 2. placement of drill holes – 2 pts. 3. polishing - 1 pt.	5 pts.	
Fabrication of soft-tissue maxillary cast	1. accuracy of the soft tissue 2 pts. 2. accuracy of placing the analogs 2 pts. 3. accuracy of the cast (no voids & bubbles) - 1 pts.	5 pts.	
Articulating the case	1. articulator setting (condylar guidance, incisal guide pin, centric relation) - 1 pt. 2. articulator's pin touches the table -1 pt. 3. Curve of Spee alignment - 1 pts. 4. maxillary cast removable - 1 pt. 5. case mounted in the mid-section of articulator - 1 pt.	5 pts.	
Fabrication of # 14 screw retained	1. occlusal contacts – 4 pts. 2. mesial & distal contacts – 4 pts. 2. embrasures - 2 pts. 3. access hole – 2 pts. 4. matching existing teeth shape and shade – 3 pts	15 pts.	
Custom abutments # 9 & 11 (CAD/CAM)	1. correct order set-up – 2pt. 2. quality of scan (max., mand., & mounting) – 2 pt. 3. correct selection of materials – 2 pt. 3. full contour molar design – 3 pts. 4. correct placement of access hole – 1 pt. 5. correct selection of path of insertion - 2 pt. 6. contacts: proximal and occlusal – 2 pt. – 7. embrasures – 1 pt.	15 pts.	
Provisional bridge #9-11	1. contacts: proximal & incisal – 4 pts 2. bridge esthetics (matching natural dentition) – 2 pts. 3. embrasures – 2 pt. 4. accuracy of application of tooth shaded acrylic – 3 pts. 5. finishing & polishing – 2 pts. 6. 6.stain & glaze – 2 pt.	15 pts.	
Neat & Clean		5 pts.	
Lab quiz 1	fabrication of soft tissue cast	5 pts.	
Lab quiz 2	articulating the case using semi-adjustable articulator	5 pts.	

Lab quiz 3	design and fabrication of screw-retained restoration	5 pts.	
Lab quiz 4	design and fabrication of cement retained restoration	5 pts.	
Lab quiz 5	Fabrication of provisional bridge	5 pts.	
Report	differences between cement and screw-retained restorations for Fixed prostheses	10 pts.	
TOTAL		100 pts.	

INSTRUCTIONS FOR WRITING THE LABORATORY REPORT (ESSAY)

10 points of the final grade for lab online in Brightspace:

The essay should be:

1. at least three 2 pages long, written at academic level
2. One-inch margins on sides, top and bottom
3. Use Times or Times New Roman 12 pt. font
4. Double-space the text of the paper
5. Use left-justified text, which will have a ragged right edge
6. Indent the first word of each paragraph 1/2"
7. Indent block quotes 1"
8. Last page should contain the Works Cited lists, use a 1/2" indent for all lines after the first line of each source
9. Check for spelling and grammar

GRADING RUBRIC FOR LABORATORY REPORT

CRITERIA	EXCELLENT 10 -7 pts	SATISFACTORY 6 - 3 pts	UNSATISFACTORY Less than 2 pts
Organization	The report's introduction is inviting, states the main topic, and provides an overview of the report. The information is relevant and detailed. The conclusion is strong.	The report Is well structured, presenting some details regarding the main topic.	There is no structure in the report and is missing important detailed information regarding the main topic.
Content	The report is well-written and presents facts and helpful information. The student exhibits a good understanding of the topic.	The report was concise, and the information presented was related to the topic. The student shows an understanding of the topic.	The report is poorly written and missing important information about the topic. The student shows little understanding of the topic.
Spelling/ Grammar	Excellent written skills, correct spelling, and grammar.	Good written skills, minimal spelling, and grammar errors	Poor writing skills, numerous spelling and grammatical errors
Work cited/ references	Work is correctly cited and formatted in APA style with no formatting, style, or information errors.	Work is correctly cited and formatted in APA style with only one or two minor formatting errors or information.	There is no citation, or it is entirely incorrect.