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

COURSE CODE:	RESD 2313
COURSE TITLE:	REMOVABLE PARTIAL DENTURES II

RESD 2313 Instructional Team

Instructor:	Anthony Sena	Esther Cuya	Paul Federico
Office:	P 409	P409	P409
Phone:	(718) 260-5137	(718) 260-5137	(718) 260-5137
Office hours:	M W 1:00 – 2:00 p.m. or by appointment	MW 5:00 – 5:30 p.m. .	M W 5:00 – 5:30 p.m.
e-mail:	asena@citytech.cuny.edu	ecuya@citytech.cuny.edu	pfederico@citytech.cuny.edu

COURSE DESCRIPTION:	The theory and practice of fabricating non-precious removable partial dentures. Finishing and polishing of metal frameworks. Constructing occlusal rims, arranging teeth, wax-ups, flasking packing acrylic, processing, and finishing and polishing of acrylic attachments. Various repair procedures will also be covered.
CLASS HOURS	6 Laboratory Hours; 1 Lecture Hour
CREDITS:	Per Week; 3 credits
NUMBER OF WEEKS:	15 Weeks
CURRICULUM LEVEL:	Third semester
PREREQUISITES:	RESD-1216
TEXTBOOKS:	Dental Laboratory Technology – Basic Sciences, Removable Prosthodontics, and Orthodontics; Air Force Pamphlet 47-103 Vol. I
REFERENCES:	Removable Prosthodontics Techniques Dental Laboratory Technology Manual, John B. Sowter, D.D.S., University of North Carolina Dental Laboratory Procedures -Removable Partial Dentures, Rudd, Morrow, Rhoads, Vol. III, C.V. Mosby Co.

Revised: 8/2017

McCracken's Removable Partial Prosthodontics. 11th ed.

Elsevier Mosby, 2005.

Dental Laboratory Technology, Nicholas Martinelli, 3rd Edition, C.V. Mosby

Ney Surveyor Manual, Ney Co., Bloomfield, CT

Stewart's Clinical Removable Partial Prosthodontics. 3rd ed. Quintessence, 2003.

Understanding Partial Denture Design. Oxford University Press, 2007.

VIDEOS:

Partial Dentures. University of Iowa College of Dentistry, n.d. 2 videocassettes. (VIDEOCASSETTE 467)

The semi-adjustable articulator in dentistry. Whip Mix Corporation, 1987. (27 minutes)

The Face-Bow Transfer and Mounting of Casts. Whip Mix Corpo 1987. (26 minutes)

Laser in dentistry. Quintessence, 2006.

What's & why's from A-Z for partial fabrication. DLANY, n.d.

COURSE REQUIREMENTS:

Standard College and Department Attendance and Grade Regulations. Proper Uniform and Conformity to Safety Regulations.

ACADEMIC INTEGRITY:

New York City College of Technology Policy on 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. Accordingly, academic dishonesty is prohibited in The City University of New York and at New York City College of Technology and is punishable by penalties, including failing grades, suspension, and expulsion. The complete text of the

College policy on Academic Integrity may be found in the catalog.

Cheating is the unauthorized use or attempted use of material, information, notes, study aids, devices or communication during an academic exercise. Copying from another student during an examination or allowing another to copy your work.

Cheating will not be tolerated during quizzes or exams, communication with anyone other than the instructor will be considered cheating. If you have a question during an examination quietly raise your hand and the instructor will come to your desk. There may be more than one version of an examination; the questions of the examinations will be the same but in different order.

Students are responsible for completing their own laboratory projects, allowing others to complete your laboratory project is not permitted. Each student should clearly identify all work.

QUIZZES AND EXAMINATIONS:

Students are responsible for knowing all material covered in reading assignments, handouts, lecture and laboratory. Students are responsible for knowing information from reading assignments regardless of whether it has been covered during class sessions or not. There will be two examinations that will account for the majority of the lecture score (midterm and final). There will be one major quiz that will be scheduled for one lecture session. In addition to the major quiz, there will be daily quizzes that will be conducted during the first <u>five</u> minutes of each lecture session, beginning the second lecture class. Daily quizzes will be based on prior lecture sessions and reading assignments that should be completed prior to lecture. Students should be on time and in place prepared to take the daily quiz. Students who are not on time to class will not be permitted to take the daily quiz. There will be no make-ups for daily quizzes. The two lowest scores on the daily quizzes will be dropped.

OUTCOMES ASSESSMENT/ EVALUATION AND GRADING:

Laboratory:	Laboratory Projects	
	Project 1	27%
	Project 2	27%

		Adherence to health, Safety and clean-up procedures	6%
		Total Lab	60%
	Lecture:	Daily Quizzes	4%
		Major Quiz	4%
		Midterm Exam	14%
		Final Exam	14%
		Homework, participation	4%
		Total Lecture	40%

Participation will be based on alertness in class, participation in class discussion, and homework. Final grade will be computed on basis of 60% laboratory grade and 40% of lecture grades. Each individual's performance will be assigned conventional letter grades.

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

Student must achieve a minimum passing exam grade in theory as well as laboratory.

ATTENDANCE POLICY: Attendance is expected for all class sessions both lecture and laboratory. Failure to attend and be on-time for class sessions could result in missing important course information, missing graded activities, and falling behind in projects.

GOALS AND OBJECTIVES FOR RESD 2313 - REMOVABLE PARTIAL DENTURES:

At the conclusion of this course the student should be able to:

1. Finish and polish chrome-cobalt partial denture frameworks
2. Describe the procedure for using high speed lathes for

finishing and polishing a cobalt chromium alloy, types of mandrels, stones, cut off disks, and method for safety precautions

3. List and describe the various retainers, bars, saddles and extension commonly used in partial denture designs and indicate when and where each might be used

4. Articulate, set-up wax, flask, process and finish unilateral and bilateral acrylic attachments

5. Repair extensions and metal frameworks

6. Describe the principle methods of preventing disease transmission as related to partial denture construction.

General Education Student Learning Objectives

1. Gain scientific knowledge of physics concepts, such as theories in electromagnetism, light, laser generation, electrical charge, current, conductivity, resistance, electromagnetic induction, energy and physical applications of these concepts.
2. Use reading skills to understand and interpret technical manuals and articles and to follow written instructions and procedures.
3. Use and develop oral communication skills, building understanding of professional vocabulary, develop listening skills to interpret verbal directions. Practice verbal communication using appropriate professional terminology.

Tentative course outline

Reading selections from: Dental Laboratory Technology, Air Force Pamphlet, 47-103, Vol. I & II
(Readings are from Vol. I unless identified as from Vol. II)

Topic	Reading	Date Tuesday	Date Wednesday
1. Finishing	Vol. I p 361-436, p 441-477, p61-80	Aug. 29	Aug 30
2. Electrolytic polishing	Vol. I p 477-479, Vol. I p89-91 Section 2N	Sept. 5	Sept. 6
3. Metal repair procedures	Vol. I p 479-480, Vol. I p87-88 Section 2K	Sept. 12	Sept. 13
4. Fundamentals of Laser Welding	Vol. I p 502-506 Review laser welding manual	Sept. 26	Sept. 27
5. Review survey and design & casting fabrication		Oct. 3	Oct. 4
6. Quiz		Oct. 10	Oct. 11
7. Fine finishing &Polishing	Vol. I p 481- 484	Oct. 17	Oct. 18
8. Midterm.		Oct. 24	Oct. 25
9. Denture base fabrication Tooth arrangement	Vol. I p 484-487, Vol. I p173-196 Vol. I p 235-288	Oct. 31	Nov. 1
10. Denture base processing and deflasking	Vol. I p487-489, Vol. I p 84-86 Section 2H	Nov. 7	Nov. 8
11. Denture base processing and deflasking, cont.		Nov. 14	Nov. 15
12.Remounting and selective grinding	Vol. I p 489-490	Nov. 28	Nov. 22
13.Recovering the RPD, finishing and polishing	Vol. I p 490-495	Dec. 5	Nov. 29
14.Acrylic repairs	Vol. I p 495-502	Dec. 12	Dec. 6
15. Final		Dec. 19	Dec. 13

.

Revised: August 2017

Laboratory Course Outline
(Tentative Schedule, subject to change)

		M, W Section	M, Th Section	T, F Section
1	Identify components of casting, Introduction to high speed lathe. Desprue	Aug. 28	Aug. 28	Aug 25
2	Remove flash, fins, and bubbles Duplication of stone model (despruing of all castings completed)	Aug. 30	Aug. 31	Aug. 29
3	Finish Max and Man major connectors and plating Duplication of stone model cont.	Sep. 6	Sept. 7	Sep. 1
4	Seating framework on stone model (Duplication of Stone models completed)	Sep. 11	Sept. 11	Sep. 5
5	Seating framework on stone model	Sep. 13	Sept. 14	Sep. 8
6	Prepare model for electropolishing	Sep. 18	Sept. 18	Sep. 12
7	Electropolishing Articulation of master models	Sep. 25	Sept. 19	Sep. 15
8	Electropolishing Articulation of master models	Sep. 27	Sept. 25	Sep. 26
9	Finishing of clasps and rests (Electropolishing completed)	Oct. 2	Sept. 28	Oct. 3
10	Rubber wheel and rubber point electrosoldering	Oct. 4	Oct. 2	Oct. 6
11	Rubber wheel and rubber point Electrosoldering, Laser Welding	Oct. 11	Oct. 5	Oct. 10
12	Electrosoldering, Laser Welding	Oct. 16	Oct. 12	Oct. 13
13	Low and high shine (Soldering procedures completed)	Oct. 18	Oct. 16	Oct. 17
14	Low and High shine.	Oct. 23	Oct. 19	Oct. 20
15	Metal frameworks Due for grading.	Oct. 25	Oct. 23	Oct. 24
16	Wax rims prepared for try-in	Oct. 30	Oct. 26	Oct. 27
17	Arrangement of artificial teeth	Nov. 1	Oct. 30	Oct. 31
18	Arrangement of artificial teeth	Nov. 6	Nov. 2	Nov. 3
19	festooning	Nov. 8	Nov. 6	Nov. 7
20	Flasking	Nov. 13	Nov. 9	Nov. 10
21	Flasking	Nov. 15	Nov. 13	Nov. 14

22	Processing denture bases	Nov. 20	Nov. 15	Nov. 17
23	Processing denture bases	Nov. 22	Nov. 20	Nov. 21
24	Deflasking	Nov. 27	Nov. 27	Nov. 28
25	Remounting models on articulator	Nov. 29	Nov. 30	Dec. 1
26	Milling Occlusion	Dec. 4	Dec. 4	Dec. 5
27	Finish acrylic	Dec. 6	Dec. 7	Dec. 8
28	Polish acrylic	Dec. 11	Dec. 11	Dec. 12
29	Completed Partial Dentures Due	Dec. 13	Dec. 14	Dec. 15
30	Clean-up	Dec. 18 or Departmental uniform Laboratory clean-up day	Dec. 18 or Departmental uniform Laboratory clean-up day	Dec. 19 or Departmental uniform Laboratory clean-up day

Revised August, 2017

OUTCOMES ASSESSMENT
RESD 2313 REMOVABLE PARTIAL DENTURES II
PRACTICAL LABORATORY PROJECTS

REMOVABLE PARTIAL DENTURES
PROJECT NUMBER ONE (PRACTICAL LABORATORY)

I. Procedures:
   A. Divest and sandblast maxillary and mandibular partial denture castings
   B. Identify framework components
   C. Desprue maxillary and mandibular frameworks

D. Sprue stump removed
E. Contour framework
F. Seat maxillary and mandibular framework on duplicate master model
G. Prepare framework for electro-polishing
H. Electro-polish maxillary and mandibular frameworks
I. Clasps contoured and metal framework rubbered
J. Articulate maxillary and mandibular casts
K. Seat maxillary and mandibular framework on master model and check occlusion
L. Perform metal repairs
M. Polish metal frameworks
N. Framework handed in on master model for final evaluation

II. Performance objectives

A. Divest castings
   1. Investment properly removed
   2. Frameworks not altered
   3. Frameworks sandblasted
B. Identify framework components
C. Frameworks desprued
   1. Sprue removed
   2. Beadline and other components not altered
D. Sprue stumped removed
   1. Maxillary sprue stump contoured to shape of major connector
   2. Stippling not altered
   3. Mandibular sprue stump contoured to shape of major connector
   4. Mandibular major connector not altered
E. Frameworks contoured
   1. Bead line areas contoured and rounded without altering bead lines (Max only)
   2. Flash removed
   3. Bubbles fins and sharp points removed
   4. Mandibular major connector smoothed
      a. entire outer surface smoothed
      b. halfway up on tissue side
   5. Lingual plating smoothed
   6. Entire outer surface smoothed
   7. Halfway up on tissue side
   8. Bubbles removed with ½ round bur at junction of rest and minor connector
   9. Rests dished out not less than 1mm thick
   10. Finish lines sharp
   11. Acrylic retention areas smoothed and made usable
F. Maxillary and mandibular framework seated on duplicate master model
   1. Areas of interference identified
   2. Areas on frameworks that prevent seating relieved
G. Preparation for electro-polishing
   1. Frameworks thoroughly sandblasted and all oxides removed

2. Castings rinsed
3. Castings thoroughly dried
4. Not contaminated with oil from hands

H. Frameworks electro-polished
1. Solution at proper temperature range
2. Polishing unit properly set up
3. Correct amperage and time for polishing framework

I. Clasps contoured and frameworks rubbered
1. Clasps properly contoured
2. All areas previously rough finished rubbered
3. Tissue surface of clasps not altered or rubbered
4. All scratches from rough finishing removed

J. Master cast articulating and seating
1. Master cast keyed for articulation
2. Master cast properly mounted on articulator in MI

K. Seat maxillary and mandibular framework on master model
1. Framework seated on master model
2. Occlusion checked and corrections made

L. Metal repair performed
1. Electrosoldering
2. Laser welding

M. Frameworks polished
1. Low shine accomplished on all areas
2. Frameworks cleaned
3. High shine accomplished on all areas
4. Framework cleaned
5. Framework disinfected IAW manufacturers' instructions
6. Completed work clearly identified on master model and turned in for grading

N. Project completed by due date (10% deduction for late work)

III. Evaluation and grading of finished and polished partial dentures:

A. Major Connectors (16pts)
1. Maxillary (6pts)
a. Sprue stump removed
b. No porosity
c. No distortions
d. Stippled
e. Rigid
f. Borders properly trimmed
2. Mandibular (6pts)
a. Sprue stump removed
b. No porosity
c. No distortions
d. Smooth
e. Rigid

f. Borders properly trimmed

3. Plating (4pts)
    a. Smooth
    b. Follow tooth contour
    c. Proper height
    d. Correct thickness
    e. Blended into teeth

B. Clasping (24pts)
1. Proper cross sectional shape
2. Proper taper
3. Retention
4. Reciprocation
5. Bracing
6. Encirclement
7. Support
8. Passivity
9. Smoothness
10. Polish

C. Followed design (23pts)
1. Major connectors
    a. No separating disc cuts from despruing
    b. No overextensions beyond design
    c. No areas short of design
2. Minor connectors
3. Plating
4. Clasps
    a. Proper placement
    b. Proper curvature
5. Rests
    a. Dished out
    b. Not short
    c. Not overextended
    d. Proper thickness, no less than 1mm

D. Finish lines (12 pts)
1. Maxillary/Mandibular external (3pts/3pts)
    a. Clearly defined
    b. Free of bubbles and distortions
2. Maxillary/Mandibular internal (3pts/3pts)
    a. Clearly defined
    b. Free of bubbles and distortions

E. Acrylic retention areas (5pts)
1. Space under adequate for acrylic
2. Retention holes open and adequately trimmed
3. Minimize interferences for tooth placement
4. Tissue stop functional

F. Deplating (4pts)
    1. Proper preparation for electropolishing
    2. Proper set up of electropolishing system
    3. Electropolishing procedures accomplished
    4. Safety procedures followed
G. Metal Repair Procedures (4 pts)
H. Polish and Fit (12 pts)
    1. Rests, claps, plating, mandibular major connector rubbered smooth
    2. All surfaces low shined (excluding acrylic retention areas)
    3. All surfaces high shined to high luster including tissue side (excluding acrylic retention areas)
    4. No rocking of framework on master model
    5. Maxillary and mandibular framework adapted closely to master model

Project 1 Total: 100 points

REMOVABLE PARTIAL DENTURES
PROJECT NUMBER TWO (PRACTICAL LABORATORY)

I. Procedures:
- A. Articulate casts on semi-adjustable articulator
- B. Prepare models and castings for tooth placement
- C. Arrange denture teeth
- D. Wax and festoon denture base
- E. Flasking procedures
- F. Acrylic processing
- G. Deflasking
- H. Remounting on articulator
- I. Correct occlusion
- J. Finish and polish
- K. Acrylic repairs

II. Performance objectives
- A. Articulate casts on semi-adjustable articulator
    1. Key models
    2. Use face bow transfer and bite registration
    3. Ensure maximum intercuspation of mounting
    4. Platser smooth and neat
- B. Prepare models and castings for tooth placement
    1. Check castings for occlusal interferences
    2. Eliminate any interferences (occlusal or acrylic retention area)
    3. Burnish tin foil over edentulous ridge for try-in technique
- C. Arrange denture teeth
    1. Check matrix, adjust if metal interferes
    2. Position teeth using matrix

3. Adjust teeth or metal if necessary
4. Wax teeth in position
5. Double check: occlusal position, curve of Spee, curve of Wilson, 1st buccal alignment, 2nd buccal alignment, inter-occlusal contact

D. Wax and festoon denture base
1. Apply denture base wax
2. Festoon creating root eminence contours
3. Gingival trim exposing tooth crown and match height of adjacent tooth's gingival

E. Flasking procedures
1. Remove models from articulator save mounting index
2. Apply separator to model
3. Lower half flask, no undercuts
4. Apply separator
5. Upper half flask

F. Acrylic processing
1. Boil out flask
2. Apply separator
3. Measure monomer and polymer
4. Mix acrylic
5. Trial pack using plastic sheets
6. Final pack (3000 lbs)
7. Heat cure, long cure method

G. Deflasking
1. Utilize flask ejector
2. Recover model carefully to prevent breaking stone teeth
3. Do not remove partial denture from model

H. Remounting on articulator
1. Ensure accurate remounting
2. Secure models firmly on mountings to prevent movement

I. Correct occlusion
1. Reestablish centric occlusion
2. Remove eccentric interferences

J. Finish and polish
1. Rough finish with acrylic trimming burs and stones
2. Pumice, avoid over pumicing removing contours
3. Polish with Tripoli and acrylic high shine compound

K. Acrylic repairs
1. Using self curing acrylic repair any processing or finishing errors
2. Build facing with light cured acrylic resin, contour, texturize, and polish

III. Evaluation and grading of finished and polished partial dentures:

A. Arrangement of Denture teeth (10pts)
1. Maxillary (5pts)
a. Maintain compensating curve
b. Buccal alignment

    c. Centered over crest of mandibular ridge
  2. Mandibular (5pts)
    a. Maintain compensating curve
    b. Buccal alignment
    c. Centered over crest of mandibular ridge

B. Wax-up of denture base (10 pts)
  1. Festooning root eminences
  2. Gingival trimming

C. Flasking maxillary and mandibular (8 pts)
  1. Keying casts
  2. Application of separator
  3. Upper and lower half flasking

D. Processing Acrylic (8 pts)
  1. Boil-out
  2. Application of tin foil substitute
  3. Packing acrylic

E. Deflasking (8 pts)
  1. Proper use of flask ejector
  2. Recover model without breaking stone teeth

F. Re-articulating (8 pts)

G. Correct occlusion (19 pts)
  1. Centric occlusion
  2. Eccentric movements
  3. Cementing tube tooth
  4. Correct occlusion on tube tooth

H. Facing (5 pts)
  1. Incisal height and shape
  2. Mesial and distal line angles
  3. Gingival length, embrasures
  4. Surface texture

I. Finish and polish (24 pts)
  1. Reproduction of wax-up countours
  2. Use of polishing material
  3. Cleaning of final restoration

Project 2 Total: 100 points

NEW YORK CITY COLLEGE OF TECHNOLOGY
THE CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF
RESTORATIVE DENTISTRY

RESD 2313 - REMOVABLE PARTIAL DENTURES II
COURSE OUTLINE

* CONSULT REFERENCE BOOKS FOR ADDITIONAL INFORMATION

I. SANDBLASTING OF MAXILLARY AND MANDIBULAR PARTIAL DENTURE CASTINGS. ONE LABORATORY SESSION: ONE LECTURE HOUR
Sowter, Chapter 11, pgs. 327-344, Air Force Pamphlet, pgs. 228-231.

A. Sandblasting
B. Safety precautions
C. Finishing and polishing procedures

II. FINISHING AND POLISHING THE MAXILLARY AND MANDIBULAR CASTINGS - FIVE LABORATORY SESSIONS - TWO LECTURE HOURS
Sowter, Chapter 11, Air Force Pamphlet pgs. 229-233.

A. Use of proper stones, discs and stone truer
B. Proper contour of clasps
C. Rubber wheeling
D. Smooth finish
E. Electro polishing (deplating)
F. Highly polished inner portion of clasps
G. Cleaning

* FINISHED CASTINGS DUE FOR EVALUATION

III. CONSTRUCTION OF OCCLUSAL RIMS FOR PARTIAL DENTURES - TWO LABORATORY SESSIONS, ONE LECTURE HOUR, Sowter, Chapter 4,

A. Adaptation of tinfoil
B. Adaptation of occlusal wax rims
C. Contouring of occlusal rims

* QUIZ - ONE LECTURE HOUR

* NINTH LABORATORY SESSION OCCLUSAL RIMS DUE FOR EVALUATION

IV. ARTICULATION AND ARRANGING ARTIFICIAL TEETH, GRINDING TEETH INTO OCCLUSION, WAXING FOR TRY-IN - SIX LABORATORY SESSIONS - TWO

LECTURE HOURS.

A. Selection of teeth, set-up
B. Grinding teeth to correct occlusion and balance
C. Waxing for try-in

* FIFTHTEENTH LABORATORY SESSION - SET-UP AND WAX-UP DUE FOR EVALUATION

V. FLASKING AND PROCESSING ACRYLIC ATTACHMENTS - SIX LABORATORY SESSIONS - TWO LECTURE HOURS.

A. Carry-all technique
B. Split and bank method
C. Wax removal
D. Use of detergents
E. Tin foil substitutes
F. Packing of acrylic
G. Processing and curing

- MIDTERM EXAMINATION - ONE LECTURE HOUR

VI. DEFLASKING, SELECTIVE GRINDING, FINISHING AND POLISHING FIVE LABORATORY SESSIONS - ONE LECTURE HOUR.

A. Deflasking procedure
B. Selective grinding technique
C. Finishing and polishing procedure and materials.

VII. REPAIRS OF PARTIAL DENTURES - FIVE LABORATORY SESSIONS - TWO LECTURE HOURS.

A. Technique for use of electric soldering machine
B. Technique for use of gas oxygen torch
C. Repairs for additional teeth and replacement clasps and arms
D. Autopolymerizing resins for acrylic saddles

III. FINAL EXAMINATION (ONE LECTURE HOUR)

NEW YORK CITY COLLEGE OF TECHNOLOGY
THE CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF
RESTORATIVE DENTISTRY

INSTRUCTIONAL OBJECTIVES
REMOVABLE PARTIAL DENTURES II - RESD 2313 - LECTURE

I. REVIEW OF SURVEY, DESIGN AND CASTING FABRICATION- TWO LECTURE HOURS

A. CONDITIONS: Given a lecture and discussion using slides visual aids and reading assignments on survey, design and casting fabrication procedures

B. PERFORMANCE: The student

SANDBLASTING AND SPRUE REMOVAL - ONE LECTURE HOUR

A. CONDITIONS: Given a lecture and discussion using slides, visual aids and reading assignments on sand-blasting and sprue removal

B. PERFORMANCE: The student should be able to:

1. Describe the method of sprue removal
2. Describe the sandblasting process
3. Cite the safety precautions to follow for using the high speed motor

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

II. FINISHING AND POLISHING THE CASTINGS - TWO LECTURE HOURS

A. CONDITIONS: Given a lecture and discussion using slides, visual aids and reading assignments on finishing and polishing non-precious metal frameworks

B. PERFORMANCE: The student should be able to:

1. Describe the procedure for finishing and polishing the maxillary and mandibular partial denture castings

2. List the finishing and polishing equipment in order of use

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of two lecture hours.

III. CONSTRUCTION OF OCCLUSAL RIMS FOR PARTIAL DENTURES - ONE LECTURE HOUR

A. CONDITIONS: Given a lecture and discussion with slides and reading assignments on wax occlusal rims and contouring to specific measurements

B. PERFORMANCE: The student should be able to:

1. Describe the procedure for constructing a wax occlusal rim to the correct contour and measurements

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of one lecture.

* QUIZ - ONE LECTURE HOUR

IV. ARTICULATION AND ARRANGEMENT OF TEETH, GRINDING AND SET-UP AND WAXING FOR TRY-IN AND/OR FINISH - TWO LECTURE HOURS

A. CONDITIONS: Given lectures and discussions using slides, visual aids and reading assignments on the procedures for construction of partial denture occlusal rims, articulation, selecting, grinding in and setting up artificial teeth for partial dentures and waxing procedures for try-in and/or finish

B. PERFORMANCE: The student should be able to:

1. Describe how to construct maxillary and mandibular occlusal rims for partial dentures
2. Describe the procedure for selecting and grinding artificial teeth
3. Describe the procedure for setting teeth in centric occlusion
4. Outline and describe the periphery and muscle areas
5. Describe the waxing procedures for try-in and finish

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of two lecture hours.

V. FLASKING, BOIL OUT AND PACKING - TWO LECTURE HOURS

A. CONDITIONS: Given lectures and discussions using slides, visual aids and reading assignments on the various methods of flasking a partial denture and the procedures for boil out, packing and curing

B. PERFORMANCE: The student should be able to:

1. Name and describe two methods for investing a partial denture and cite the advantages and disadvantages of each method.
2. Describe the procedure for boil out, packing and processing the acrylic attachments

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of two lecture hours.

* MIDTERM EXAMINATION - ONE LECTURE HOUR

VI. DEFLASKING REMOUNT SELECTIVE GRINDING OF TEETH AND FINISHING AND POLISHING PROCEDURES - TWO LECTURE HOURS

A. CONDITIONS: Given a lecture and discussion using slides, visual aids and reading assignments on recovery procedures, remounting the processed partials on the original articulator, selective grinding of teeth to bite registration and finishing, polishing and cleaning of the dentures.

B. PERFORMANCE: The student should be able to:

1. Describe the procedure for recovering the partial from the flask without damage
2. Describe the technique for remount on the original articulator
3. Describe the procedure to follow for selective grinding the teeth
4. Describe the precautions to take in removing the processed partial from model for finishing
5. List in sequence the steps to be followed for finishing and polishing the partial dentures
6. List and describe the type of materials used to finish and polish the acrylic attachments
7. Describe the methods for cleaning the finished partial dentures

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of two lecture hour.

VII. REPAIRING OF PARTIAL DENTURES - TWO LECTURE HOURS

A. CONDITIONS: Given lectures and discussions using slides, visual aids and

reading assignments on repairing, chrome cobalt partial dentures

B. PERFORMANCE: The student should be able to:

1. Describe the use of the electric soldering machine
2. Describe methods of replacing missing teeth

C. EXTENT & CRITERIA: With at least 70% accuracy at the end of two lecture hours.

VIII. * FINAL EXAMINATION - ONE LECTURE HOUR

NEW YORK CITY COLLEGE OF TECHNOLOGY
THE CITY UNIVERSITY OF NEW YORK

DEPARTMENT OF
RESTORATIVE DENTISTRY

REMOVABLE PARTIAL DENTURES II - RESD 2313 - LABORATORY

I. SANDBLASTING - ONE LABORATORY SESSION

A. CONDITIONS: Given a demonstration and reading assignment on sandblasting, sprue removal and using the following equipment and supplies:

EQUIPMENT & SUPPLIES:
1. Cast partials, maxillary and mandibular
2. Sandblaster
3. Rubber protective glove
4. Wash-out brush

PERFORMANCE: The student should be able to sandblast the partial dentures, free from investment and oxides

EXTENT &CRITERIA: The following points will be evaluated in sandblasting the castings and removal of sprues:

1. Proper sandblasting
2. The maxillary and mandibular partial dentures frameworks are clean and free from oxides

With at least 70% accuracy at the end of one session.

II. FINISHING AND POLISHING THE MAXILLARY AND MANDIBULAR CAST PARTIAL DENTURES - FIVE LABORATORY SESSIONS

A. CONDITIONS: Given demonstrations and reading assignments on finishing and polishing the cast partial dentures and using the following equipment and supplies:

EQUIPMENT & SUPPLIES:

1. cast partials
2. high speed lathe
3. mandrels
4. cut of wheels
5. assorted grinding wheels
6. rubber wheels
7. stone truer
8. safety glasses and dust mask
9. felt wheels and cones
10. brushes: soft bristle, #B20 or #B12
11. polishing and high shine materials
12. ultra-sonic cleaner
13. wash-out brush

B. PERFORMANCE: The student should be able to finish and polish the cast partial dentures

C. EXTENT & CRITERIA: The following points will be evaluated in finishing and polishing the cast partials:

1. proper sprue removal
2. bulk trimming and preservation of bead line
3. proper contour, shape and size of major connectors
4. proper shape, size, taper, position, and fit of approach arm and clasps
5. followed design of major connectors, minor connectors, plating, and rests
6. acrylic finish lines properly positioned and defined
7. acrylic retention adequately prepared for packing and retention of acrylic
8. proper electro-polishing procedures followed
9. restorations highly polished and possess a lustrous finish
10. finished partials fit on master model

With at least 70% accuracy at the end of fourteen sessions.

III. CONSTRUCTION OF OCCLUSAL RIMS FOR PARTIAL DENTURES - ONE LABORATORY SESSIONS

A. CONDITIONS: Given demonstrations and reading assignments on the adaptation of baseplates and occlusal rims for partials and using the following equipment and supplies:

EQUIPMENT & SUPPLIES:

1. metal frames, maxillary and mandibular
2. master models, maxillary and mandibular
3. soft pencil
4. separating media
5. tinfoil #0.001
6. sticky wax
7. base plate wax
8. #7 and #31 spatula
9. murphy knife

B. PERFORMANCE: The student should be able to construct the maxillary and mandibular occlusal rims

C. EXTENT & CRITERIA: The following points will be evaluated on the occlusal rims:

1. The occlusal rims should be trimmed to height and width of the abutment teeth.
2. The occlusal rims should be smooth and neat in appearance
3. The occlusal rims should be constructed without damage to the master cast

With at least 70% accuracy at the end of one laboratory sessions.

* MASTER CASTS AND METAL FRAMEWORK WITH OCCLUSAL RIMS DUE FOR EVALUATION

IV. ARTICULATION AND ARRANGING OF TEETH, GRINDING TEETH INTO OCCLUSION, WAXING FOR TRY-IN/PROCESSING - THREE LABORATORY SESSIONS.

A. CONDITIONS: Given demonstrations and reading assignments on selecting and arranging of teeth, wax up of partial denture for try-in or finish and using the following equipment and supplies:

EQUIPMENT & SUPPLIES:

1. artificial teeth
4. bunsen burner
3. alcohol torch
5. murphy knife
7. sticky and base plate wax
8. articulating paper
9. dental lathe and chuck
10. mandrels
11. large grinding stone
12. cotton and wax eliminator
13. articulated maxillary and mandibular cast partials
14. #7 and #31 wax spatulas
15. roach carver

B. PERFORMANCE: The student should be able to arrange the artificial teeth and wax-up for try-in or finish

C. EXTENT & CRITERIA: The following points will be evaluated for arranging the teeth to proper occlusion:

1. proper relationship to maxillary counter cast and mandibular ridges
2. wax-up of partial denture to proper contour for try-in or processing

With at least 70% accuracy at the end of five sessions.

V. FLASKING, BOILOUT, PACKING AND CURING THE PARTIAL DENTURE - FIVE LABORATORY SESSIONS

A. CONDITIONS: Given demonstrations and reading assignments on flasking the partial denture using the split or carry-over method, boil-out, packing, curing the denture and using the following equipment and supplies:

B. EQUIPMENT & SUPPLIES:

1. maxillary and mandibular partial dentures
2. denture flask
3. plaster saw
4. dental stone and plaster
5. rubber bowl and spatula
6. Murphy knife
7. petrolatum, stone-stone separator
9. debubblizer
10. washout
11. tin foil substitute
12. acrylic powder and monomer
13. #5 sable brush
14. flask press
15. curing unit
16. plastic sheets
17. compensating press

B. PERFORMANCE: The student should be able to flask, boilout, pack and cure the partial denture

C. EXTENT & CRITERIA: The following points will be evaluated in flasking, boilout, packing and curing the dentures:

1. proper investing in either the split or carry-over methods
2. proper boil out and application of tin foil substitute
3. Mixture of acrylic polymer and monomer
4. consistency of acrylic for packing
5. curing temperature

With at least 70% accuracy at the end of five sessions.

VI. RECOVERY, REMOUNT, SELECTIVE GRINDING FINISHING AND POLISHING - FIVE LABORATORY SESSIONS

A. CONDITIONS: Given demonstrations and reading assignments on recovering the processed acrylic dentures from the flask, remounting on the original articulator, selective grinding of teeth (equilibration) original occlusion, finishing and polishing and using the following equipment and supplies:

EQUIPMENT & SUPPLIES

1. maxillary and mandibular partial dentures
2. plaster saw
3. semi-adjustable articulator
4. flask ejector
5. adhesive cement
6. carbide bur
7. Murphy knife
8. small mounted points
9. dental lathe and chuck
10. articulating paper
11. arbor or bands or carbide burs
12. CC trimmer
13. Flame and pear-shaped finishing burs
14. Abbott brushes #7 and #11
15. buffing wheel, pumice
16. tripoli and high luster polish
17. #B 20 or #B 12 brush
18. ultra-sonic cleaner

19. sterilizing solution

B. PERFORMANCE: The student should be able to recover, remount, selective grind the teeth and polish the cast metal and acrylic partial dentures.

C. EXTENT & CRITERIA: The following points will be evaluated for the recovery, remounting, selective grinding of teeth, finishing and polishing:

1. recovering the denture without warpage or breakage
2. proper remounting on the original articulator
3. selective grinding to proper occlusion
4. proper length of saddles and thickness of periphery
5. proper contour and festooning
6. smoothness and high shine of the finished dentures
7. thorough cleaning of all polishing debris

With at least 70% accuracy at the end of five sessions.

VII. REPAIRING PARTIAL DENTURES - FIVE LABORATORY SESSIONS

A. CONDITIONS: Given demonstrations and discussions on various methods for repairing partial dentures, the use of electric soldering machines, laser welder and using the following equipment and supplies:

EQUIPMENT & SUPPLIES:

1. electric soldering machines
2. laser welder
3. solder and welding wire
4. paste flux
5. mounted points
6. heatless wheels
7. ultrasonic machine
8. polishing materials
9. wire bending pliers

B. PERFORMANCE: The student should be able to prepare and solder a break in a chrome partial and attach tail pieces for tooth additions and repair a hole in a casting.

C. EXTENT & CRITERIA: The following points will be evaluated in repairing cast partial dentures:

1. preparation for repairing a broken partial
2. Preparation for tail pieces
3. a porous free repair in metal and acrylic

With at least 70% accuracy at the end of five sessions.