

## برنامج الدرجة الجامعية المتوسطة

|                     |                 |                  |
|---------------------|-----------------|------------------|
| Dental Laboratories | مختبرات الأسنان | التخصص           |
| Oral Anatomy        | تشرح الأسنان    | اسم المادة       |
| 020813111           |                 | رقم المادة       |
| 3                   |                 | الساعات المعتمدة |
| 3                   |                 | ساعة نظري        |
| 0                   |                 | ساعة عملي        |

### الوصف المختصر للمادة:

This course integrates gross anatomy and regional; hence, its purpose is to Provide the student with the gross anatomical structures of the human oral cavity in an effort to provide the him with ideas of anatomical relations essential for functional application. The construction of the course is built in away to be thought though lectures, laboratory dissections, clinical correlations, radiographic anatomy, computerized tutorials and movies, as well as anatomical models.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know the anatomy of the oral cavity mucosa, muscles, bone and teeth.
2. To know how to differentiate between permanent and deciduous teeth.
3. Study occlusion.
4. Analyses mandibular movements

محتويات المساق:

| Unit Number | Unit Name                        | Unit Content   | Time Needed |
|-------------|----------------------------------|--|-------------|
| 1.          | Oral cavity & masticatory system | <ul style="list-style-type: none"> <li>▪ Introduction to Oral cavity.</li> <li>▪ Permanent &amp; deciduous dentition (teeth) description of:                             <ul style="list-style-type: none"> <li>○ Incisors.</li> <li>○ Canine (Cusped)</li> <li>○ Premolars</li> <li>○ Molars in shape, size, colure, crowns &amp; roots.</li> </ul> </li> <li>▪ Dental Formula.</li> </ul>  |             |
| 2.          | Permanent teeth                  | <ul style="list-style-type: none"> <li>▪ Permeant teeth description.</li> <li>▪ Upper &amp; lower incisors.                             <ul style="list-style-type: none"> <li>○ Description of all surfaces.</li> <li>○ Incisal edge, labial, palatal, lingual, Mesial, distal &amp; contact.</li> <li>○ Contact of anterior teeth (contact surfaces).</li> <li>○ Length &amp; measurement for each tooth.</li> <li>○ Time of eruption &amp; calcification.</li> <li>○ Shape of roots.</li> </ul> </li> <li>▪ Upper &amp; Lower Canines (Cuspid)                             <ul style="list-style-type: none"> <li>○ Description for all surfaces &amp; the incisal cusp.</li> <li>○ Length &amp; measurement for upper &amp; lower canine.</li> </ul> </li> </ul> |             |

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|    |                                  | <ul style="list-style-type: none"> <li>○ Time of eruption &amp; calcification.</li> <li>○ Shapes of the root. <ul style="list-style-type: none"> <li>▪ Upper &amp; lower Premolars.</li> </ul> </li> <li>○ Descript for all surf &amp; occlusal surf.</li> <li>○ Length &amp; measure for up &amp; low premol.</li> <li>○ Time of empire &amp; calcify.</li> <li>○ Shape of roots. <ul style="list-style-type: none"> <li>▪ Supper &amp; Lower Molars</li> </ul> </li> <li>○ Descript of all surf occlusal, Buccal, lingual, mesiad &amp; dist.</li> <li>○ Length &amp; measure of each tooth.</li> <li>○ Time of erupt &amp; calcify.</li> </ul>  |  |
| 3. | <b>Primary teeth (deciduous)</b> | <ul style="list-style-type: none"> <li>▪ Up &amp;. Low incisors. <ul style="list-style-type: none"> <li>○ Description for all surfaces, incisal adage, lingual surf, labial surf Mesial surf., Dist. surf, palatal surf.</li> <li>○ Length &amp; measurement for each tooth.</li> <li>○ Time of eruption &amp; exfoliation (Shed. lg).</li> <li>○ Shape of roots &amp; length.</li> </ul> </li> <li>▪ Up &amp; lower molars <ul style="list-style-type: none"> <li>○ Descript for all surface.</li> <li>○ Length &amp; measure.</li> <li>○ Time of empts &amp; exhort.</li> </ul> </li> <li>▪ Occlusion of decide teeth from. <ul style="list-style-type: none"> <li>○ Contact area &amp; occlusion.</li> <li>○ Shape of up &amp; low arch.</li> </ul> </li> </ul> |  |

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|    |  | <ul style="list-style-type: none"> <li>○ Teeth &amp; growth relationship.</li> <li>▪ Special characteristic features &amp; permed teeth.</li> </ul>  |  |
| 4. | <b>Occlusion &amp; arrangement</b>     | <ul style="list-style-type: none"> <li>▪ Relation of up &amp; lower teeth from.</li> <li>○ Contact points cusps &amp; occlusion.</li> <li>○ Teeth surfaces, importance of their surfaces shape &amp; effect on function</li> <li>▪ Occlusion &amp; arrangement of teeth.</li> <li>○ Position of mouth corner.</li> <li>○ Position of anterior up &amp; low central incisors.</li> <li>○ Position of Lateral incisors, canines, premolars molars.</li> <li>○ Long axis of the teeth, curve of speed</li> <li>○ Cusps &amp; fissure occlusion.</li> <li>▪ Spaces between teeth &amp; constrain the uncial edges definition &amp; description of the dental arch</li> <li>▪ Contact points.</li> <li>○ Functional importance.</li> <li>○ Maintenance of contact points with age.</li> </ul> |  |
| 5. | <b>Analysis of mandibular movement</b> | <ul style="list-style-type: none"> <li>▪ Classification of manual movement.</li> <li>○ Bilateral centric occlusion.</li> <li>○ Open &amp; close of mandible.</li> <li>○ Intrusion &amp; retrosion</li> </ul>   |  |

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|  |  | <p>movement.</p> <ul style="list-style-type: none"><li>○ bilateral eccentric oculus.</li><li>○ Left &amp; Right lateral relation.<ul style="list-style-type: none"><li>▪ Jaw Relationship</li></ul></li><li>○ Centric relationship.</li><li>○ Centric occlusion.</li><li>○ Incised relation.</li><li>○ Right lateral relation.</li><li>○ Left lateral relation.</li><li>○ Posterior relation.<ul style="list-style-type: none"><li>▪ Functional movement of mandible.</li><li>▪ Anatomy of temper – mandible – Joint.</li></ul></li></ul> |  |
|--|--|---|--|

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**الكتب والمراجع:**

1. ORAL ANATOMY T AND P ORAL ANATOMY HISTOLOGY AND EMBERIOLOGY  
holland and moxham Berkowitz BKB holland GR and moxham
2. ORAL PATHOLOGY FOR THE DENTAL  
HIBSON OAC and phelan JA
3. wheelers dental anatomy and physiology and occlusion  
nelson and ash
4. Anatomy of Orofacial Structures.  
Brand, R.W. & Isselhard, D.E.

## برنامج الدرجة الجامعية المتوسطة

|                                    |                           |                  |
|------------------------------------|---------------------------|------------------|
| Dental Laboratories                | مختبرات الأسنان           | التخصص           |
| Oral Anatomy / practical<br>العملي | تشریح الأسنان /<br>العملي | اسم المادة       |
| 020813112                          |                           | رقم المادة       |
| 2                                  |                           | الساعات المعتمدة |
| 0                                  |                           | ساعة نظري        |
| 6                                  |                           | ساعة عملي        |



### الوصف المختصر للمادة:

This course involves a detailed study of the anatomy of the teeth, individually and collectively. Information about the anatomical and embryonic differences between individual teeth, developmental disturbances involving the teeth, root structure anomalies, the physiology of mandibular movement, and an introduction to occlusion are integral parts of the course.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Gain laboratory exposure to the individual teeth through wax carvings of the entire tooth.
2. Know how to differentiate between primary and permanent teeth.
3. Know how to differentiate between permanent teeth after collecting a group of extracted human teeth.
4. Carve teeth in wax.

محتويات المساق:

| Unit Number | Unit Name  | Unit Content   | Time Needed |
|-------------|--|--|-------------|
| 1.          | <b>description of Permanent &amp; deciduous dentition (teeth) and their position in the arch</b> | <ul style="list-style-type: none"> <li>▪ Description of Permanent &amp; deciduous dentition (teeth) form and their position in the upper and lower arch using plastic models</li> <li>▪ Description of all teeth surfaces on the models</li> <li>▪ Be aware of extracted deciduous dentition (teeth)</li> <li>▪ Be aware of extracted Permanent dentition (teeth)</li> <li>▪ Schematic drawing of all different teeth surfaces on a millimeter graduated paper.</li> </ul> |             |
| 2.          | <b>Carving of teeth on a soap model</b>  | <ul style="list-style-type: none"> <li>▪ Carving of teeth on a soap model to be larger than normal teeth</li> <li>▪ Carving of upper and lower central incisor teeth</li> <li>▪ Carving upper and lower lateral incisor teeth</li> <li>▪ Carving upper and lower premolars</li> <li>▪ Carving upper and lower canines</li> <li>▪ Carving upper and lower 1st molars</li> <li>▪ Carving upper and lower 2nd molars</li> </ul>   |             |

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| <p><b>3.</b></p> | <p><b>Carving of teeth on a red wax</b></p>                                 | <ul style="list-style-type: none"><li>▪ Carving of teeth on a by using red wax to be larger than normal teeth</li><li>▪ Carving of teeth by using pouring wax to be in normal size</li><li>▪ training on pouring wax teeth then making acrylic teeth</li><li>▪ cutting parts from natural teeth and rebuilt by wax and recurving them</li><li>▪ remove some teeth from the model and rebuilt by pouring wax</li></ul> |  |
| <p><b>4.</b></p> | <p><b>Making a longitudinal and cross - sectional sections of teeth</b></p> | <ul style="list-style-type: none"><li>▪ Making a longitudinal mesial and distal sections of some teeth</li><li>▪ Making a longitudinal labial and lingual sections of some teeth</li><li>▪ Making a cross-sectional sections of the crowns</li><li>▪ Making a cross-sectional sections of the root occlusal and apical thirds</li></ul>   |  |

الكتب والمراجع:

1. ORAL ANATOMY T AND P ORAL ANATOMY HISTOLOGY AND EMBERIOLOGY  
holland and moxham Berkowitz BKB holland GR and moxham
2. ORAL PATHOLOGY FOR THE DENTAL  
HIBSON OAC and phelan JA
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4. Anatomy of Orofacial Structures.  
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## برنامج الدرجة الجامعية المتوسطة

|                     |                     |                  |
|---------------------|---------------------|------------------|
| Dental Laboratories | مختبرات الأسنان     | التخصص           |
| Dental Materials    | مواد وأجهزة الأسنان | اسم المادة       |
| 020813113           |                     | رقم المادة       |
| 3                   |                     | الساعات المعتمدة |
| 3                   |                     | ساعة نظري        |
| 0                   |                     | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the student with an applied and manageable knowledge of the fundamentals nature and behavior of dental materials. Moreover, the course includes the composition, properties, application, and manipulation of metal ceramic and polymeric dental materials.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

- 1-Provides fundamental framework for understanding the capabilities and limitations of dental materials.
- 2-Provide background for all treatments that require the use of dental materials.
- 3-Realize that the success or failure of many forms of dental treatment depends upon the correct selection of materials possessing adequate properties, as well as careful manipulation of these materials.

محتويات المساق:

| Unit Number | Unit Name                      | Unit Content   | Time Needed |
|-------------|--------------------------------|--|-------------|
| 1.          | Properties of dental materials | <ul style="list-style-type: none"> <li>▪ Effect of materials on the environment.</li> <li>▪ Effect of the environment on materials.</li> <li>▪ Chemical, Mechanical &amp; physical properties.</li> <li>▪ Requirements.</li> <li>▪ Definition of mechanical properties like:                             <ul style="list-style-type: none"> <li>○ Stress.</li> <li>○ Strain.</li> <li>○ Modulus of elasticity.</li> <li>○ Tensile strength.</li> <li>○ Compressive strength.</li> <li>○ Resilience.</li> <li>○ Toughness.</li> <li>○ Shear strength.</li> <li>○ Viscosity.</li> <li>○ Adhesion, Cohesion.</li> <li>○ Coefficient of thermal expansion.</li> <li>○ Corrosion.</li> <li>○ Tarnish.</li> <li>○ Setting, working time.</li> <li>○ Shelf life.</li> </ul> </li> </ul> |             |
| 2.          | Model & die materials          | <ul style="list-style-type: none"> <li>▪ Summary of model &amp; die materials.</li> <li>▪ Gypsum products.</li> <li>▪ Chemical, physical properties</li> </ul>   |             |

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|    |  | <p>of gypsum.</p> <ul style="list-style-type: none"> <li>▪ Types of gypsum &amp; production.</li> <li>▪ Mechanism of setting reaction.</li> <li>▪ Setting time.</li> <li>▪ Effect of temperature, humidity.</li> <li>▪ Manipulation of use.</li> </ul>  |  |
| 3. | <b>Investment materials</b>            | <ul style="list-style-type: none"> <li>▪ Summary of investment materials.</li> <li>▪ Requirement for investment materials.</li> <li>▪ Types of investment materials.</li> <li>▪ Gypsum – bonded investments.                             <ul style="list-style-type: none"> <li>○ Constituents, manipulation.</li> <li>○ Properties.</li> </ul> </li> <li>▪ Phosphate – bonded investments.                             <ul style="list-style-type: none"> <li>○ Composition, setting.</li> <li>○ Manipulation.</li> <li>○ Properties.</li> </ul> </li> <li>▪ Silica – bonded investments.                             <ul style="list-style-type: none"> <li>○ Setting reaction.</li> <li>○ Properties.</li> </ul> </li> </ul> |  |
| 4. | <b>Waxes &amp; Baseplate materials</b> | <ul style="list-style-type: none"> <li>▪ Components.</li> <li>▪ Physical properties.</li> <li>▪ Thermal expansion &amp; Contraction.</li> <li>▪ Internal Stresses.</li> <li>▪ Melting range.</li> <li>▪ Summary of wax's types &amp; their uses:                             <ul style="list-style-type: none"> <li>○ Modeling wax.</li> </ul> </li> </ul>  |  |



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|----|-----------------------------|--|--|
|    |                             | <ul style="list-style-type: none"> <li>○ Casting wax.</li> <li>○ Inlay wax.</li> <li>○ Sticky wax.</li> <li>○ Utility wax.</li> <li>○ Base plate wax.</li> <li>○ Boxing wax.</li> </ul>  |  |
| 5. | <b>Impression materials</b> | <ul style="list-style-type: none"> <li>▪ Requirement of impression material.</li> <li>▪ Classification of impression materials. <ul style="list-style-type: none"> <li>▪ Rigid materials.</li> <li>▪ Elastic Materials.</li> <li>▪ Impression Trays.</li> <li>▪ Plaster of Paris.</li> </ul> </li> <li>○ Composition, chemistry.</li> <li>○ Manipulation.</li> <li>○ Properties. <ul style="list-style-type: none"> <li>▪ Impression composition (compound)</li> </ul> </li> <li>○ Constituents &amp; applications.</li> <li>○ Manipulation.</li> <li>○ Properties. <ul style="list-style-type: none"> <li>▪ Zinc-Oxide-eugenol</li> </ul> </li> <li>○ Composition, chemistry</li> <li>○ Manipulation</li> <li>○ Properties.</li> <li>○ Application. <ul style="list-style-type: none"> <li>▪ Wax rim margin composition &amp; properties</li> <li>▪ Alginates.</li> </ul> </li> <li>○ Ccomposition, setting.</li> <li>○ Mmanipulation.</li> <li>○ Properties.</li> <li>○ Applications.</li> </ul> |  |

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|    |  | <ul style="list-style-type: none"> <li>▪ Agar-Agar</li> <li>○ Composition.</li> <li>○ Manipulation.</li> <li>○ Properties.</li> <li>▪ Composition, setting &amp; properties for:             <ul style="list-style-type: none"> <li>▪ Silicones.</li> <li>▪ Polysulphides.</li> </ul> </li> </ul>   |  |
| 6. | <b>Polymers</b>                          | <ul style="list-style-type: none"> <li>▪ Chemical properties of polymers.</li> <li>▪ Preparation of polymer.</li> <li>▪ Denture base materials</li> <li>▪ Acrylic resin base.</li> <li>▪ Requirements of acrylic resin.</li> <li>▪ Component, mixing &amp; types.</li> <li>▪ Repair materials.</li> <li>▪ Relining materials.</li> <li>▪ Classification or types relining materials.</li> <li>○ Composition.</li> <li>○ Properties.</li> <li>▪ Acrylic teeth.</li> <li>▪ Acrylic used in crowns &amp; Bridges.</li> </ul> |  |
| 7. | <b>Alloys, inlays, &amp; Crownbridge</b> | <ul style="list-style-type: none"> <li>▪ Requirements.</li> <li>▪ Composition.</li> <li>▪ Application.</li> <li>▪ Gold alloys with at test 75% noble metals.</li> <li>○ Classification, Composition.</li> <li>○ Dental uses.</li> <li>○ Heat treatment.</li> <li>○ Mechanical properties.</li> </ul>  |  |

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|------------|---------------------------------------|--|--|
|            |                                       | <ul style="list-style-type: none"> <li>▪ Medium &amp; low gold alloys.</li> <li>▪ Silver palladium alloys.</li> <li>▪ nickle – chromium alloys.</li> </ul>   |  |
| <b>8.</b>  | <b>Porcelain in Dentistry</b>         | <ul style="list-style-type: none"> <li>▪ Summary of Dental porcelain.</li> <li>▪ Application of porcelain.</li> <li>▪ Classification, Composition.</li> <li>▪ Manipulation.</li> <li>▪ Thermal, mechanical &amp; chemical properties.</li> <li>▪ New porcelain Properties.</li> <li>▪ Castable glass – Ceramics.</li> </ul>  |  |
| <b>9.</b>  | <b>Porcelain bonded to alloys</b>     | <ul style="list-style-type: none"> <li>▪ Summary of porcelain bonded to alloys.</li> <li>▪ Types of Alloys.</li> <li>▪ Requirements</li> <li>▪ High gold alloys.</li> <li>▪ Gold – palladium.</li> <li>▪ Palladium - silver.</li> <li>▪ High palladium alloys.</li> <li>▪ nickle - Chromium.</li> <li>▪ Choice of ceramic - materials.</li> <li>▪ Nature of Coram - metallic bonded.</li> <li>▪ Gold - porcelain bond.</li> <li>▪ Porcelain bonded to platinum foil.</li> <li>▪ Resin - bonded bridges.</li> </ul> |  |
| <b>10.</b> | <b>Partial denture casting alloys</b> | <ul style="list-style-type: none"> <li>▪ Cobalt - Chromium.</li> <li>○ Composition.</li> <li>○ Effect of constituents.</li> <li>○ Manipulation.</li> </ul>   |  |

## الكتب والمراجع:

- **Dental Materials: Properties and Manipulation.** 8<sup>th</sup> ed. St. Louis: Mosby, 2004.
- **Gladwin, M. & Bagby, M.,**  
**Clinical Aspects of Dental Materials: Theory, Practice, and Cases.**  
2<sup>nd</sup> ed. Philadelphia, PA: Lippincott, Williams & Wilkens, 2004.
- **Anusavice, Kenneth J., ed.**  
**Phillips' Science of Dental Materials.** 11<sup>th</sup> ed. Philadelphia: W. B. Saunders, 2003.

## برنامج الدرجة الجامعية المتوسطة

|                              |                            |                  |
|------------------------------|----------------------------|------------------|
| Dental Laboratories          | مختبرات الأسنان            | التخصص           |
| Dental Materials / practical | مواد وأجهزة الأسنان / عملي | اسم المادة       |
| 020813114                    |                            | رقم المادة       |
| 2                            |                            | الساعات المعتمدة |
| 0                            |                            | ساعة نظري        |
| 6                            |                            | ساعة عملي        |

### الوصف المختصر للمادة:

This course deals with material fundamentals, based upon metallurgy, ceramics, polymer science and surface interactions are presented as background for specific product discussions. Emphasis is put upon laboratory processes, such as precious and non-precious metal fabrication, porcelain manipulation, denture base polymer curing, and the proper handling of gypsum products.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Provide experience in materials handling and manipulation and do not emphasize technique.
2. Know how to deal with different materials used in lab and clinic.
3. Know properties of all materials used in the lab and clinic for benefit of the patient and doctor.

محتويات المساق:

| Unit Number | Unit Name  | Unit Content  | Time Needed |
|-------------|--|---|-------------|
| 1.          | Introduce the used Impression materials to the student | <ul style="list-style-type: none"> <li>▪ Types of trays according to the material used</li> <li>▪ Types of trays used to complete and partial dentures</li> <li>▪ Types of trays according to the size</li> <li>▪ Classification of impression materials</li> <li>▪ Mixing of impression materials</li> <li>▪ Preservation of impression materials</li> <li>▪ How to deal with the impression received from doctor</li> </ul> |             |
| 2.          | Model & die materials                                  | <ul style="list-style-type: none"> <li>▪ Summary of model &amp; die materials.</li> <li>▪ Mixing</li> <li>▪ Making cast base and trimming</li> </ul>  |             |
| 3.          | Investment materials                                   | <ul style="list-style-type: none"> <li>▪ Summary of investment materials.</li> <li>▪ Mixing.</li> </ul>   |             |
| 4.          | Waxes & Baseplate materials                            | <ul style="list-style-type: none"> <li>▪ Components and different types</li> <li>▪ Practical use of each type</li> </ul>  |             |
| 5.          | Denture rebasing and relining materials                | <ul style="list-style-type: none"> <li>▪ Mixing rebase acrylic material</li> <li>▪ Types and use of relining materials</li> </ul>   |             |

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| 6. | <b>Alloys, inlays, &amp; Crownbridge</b> | <ul style="list-style-type: none"><li>▪ Types of alloys in dental lab</li><li>▪ uses of alloys in dental lab</li><li>▪</li></ul>   |  |
| 7. | <b>Porcelain in Dentistry</b>            | <ul style="list-style-type: none"><li>▪ Summary of Dental porcelain.</li><li>▪ Preparation and construction</li><li>▪</li></ul>  |  |
| 8. | <b>Partial denture casting alloys</b>    | <ul style="list-style-type: none"><li>▪ Introduction to Cobalt - Chromium.</li><li>▪ Pouring and use</li><li>▪ Effect of its ingredient on the characteristics</li></ul> |  |
| 9. | <b>Anterior teeth fillings</b>           | <ul style="list-style-type: none"><li>▪ types</li><li>▪ mixing and uses</li><li>▪ mechanical characteristics</li><li>▪</li></ul>   |  |
| 10 | <b>Posterior teeth filling</b>           | <ul style="list-style-type: none"><li>▪ types</li><li>▪ mixing and uses</li><li>▪ mechanical characteristics</li><li>▪</li></ul>   |  |



## الكتب والمراجع:

### 1. Gladwin, M. & Bagby, M., Clinical Aspects of Dental Materials:

**Theory, Practice, and Cases.** 2<sup>nd</sup> ed. Philadelphia, PA: Lippincott, Williams & Wilkens, 2004. Anusavice, Kenneth J., ed. Combe, E.C.

### 2- Craig, Robert G. (and others). Dental Materials: Properties and

**Manipulation.** 8<sup>th</sup> ed. St. Louis: Mosby, 2004

### 3- Phillips' Science of Dental Materials. 11<sup>th</sup> ed. Philadelphia: W. B.

Saunders, 2003

### 4 .Craig, Robert G., and Powers, John M., eds.

**Restorative Dental Materials.** 11<sup>th</sup> ed. St. Louis: Mosby, 2002

### 5-Mc Cabe, John F. and Walls AWG. Anderson's

**Applied Dental Materials.** 8<sup>th</sup> Blackwell Scientific publications, 1998.

## برنامج الدرجة الجامعية المتوسطة

|                          |                       |                  |
|--------------------------|-----------------------|------------------|
| Dental Laboratories      | مختبرات الأسنان       | التخصص           |
| Fixed Prosthodontics (1) | التعويضات الثابتة (1) | اسم المادة       |
| 020813131                |                       | رقم المادة       |
| 2                        |                       | الساعات المعتمدة |
| 2                        |                       | ساعة نظري        |
| 0                        |                       | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to acknowledge the students With the fundamentals of tooth preparation for extra coronal single-crown restorations and fixed partial denture abutments. Also, it is putting emphasis on the principles of fixed appliance design and fabrication are covered. In addition, it. concentrates on the treatment and restorations as they are related to the periodontium

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know the theoretical background of Fixed prosthodontics construction
2. Know the theoretical steps and background of fixed prosthodontics construction
3. Know the Parts Of Fixed Prosthodontic Bridge And Type .
4. 3. Know the Type Of Fixed Prosthodontic Bridge.

محتويات المساق:

| Unit Number | Unit Name                                   | Unit Content  | Time Needed |
|-------------|---|---|-------------|
| 1.          | <b>Introduction To Fixed Prosthodontics</b> | <ul style="list-style-type: none"> <li>▪ Definitions                             <ul style="list-style-type: none"> <li>○ Fixed restoration</li> <li>○ Abutment</li> <li>○ Pontic</li> <li>○ Retainer</li> <li>○ Unit</li> <li>○ Crown</li> <li>○ Bridge</li> </ul> </li> <li>▪ Ways of replacing missing teeth</li> <li>▪ Indications of bridges</li> <li>▪ Indications of crowns</li> <li>▪ Disadvantages of not restoring missed teeth</li> <li>▪ Bridges contraindications</li> </ul> |             |
| 2.          | <b>Fixed Bridges</b>                        | <ul style="list-style-type: none"> <li>▪ Training on making all steps of complete denture in the lab</li> <li>▪ Types of bridges</li> <li>▪ Classification of bridges according to position and material used</li> <li>▪ General idea about fixed bridge</li> <li>▪ Fixed-removable bridges</li> <li>▪ Compound bridge</li> <li>▪ Spring bridge</li> <li>▪ Cantilever bridge</li> </ul>   |             |

|    |                        |  |  |
|----|------------------------|--|--|
| 3. | <b>Retainers</b>       | <ul style="list-style-type: none"> <li>▪ Requirements</li> <li>▪ Factors that affecting required retention</li> <li>▪ Types of retainers</li> <li>▪ PJC</li> <li>▪ metal crown</li> <li>▪ 3/4 metal crown</li> <li>▪ Inlays/onlays</li> <li>▪ telescopic crown</li> <li>▪ bonded crowns</li> <li>▪ Idea about tooth preparation according to the above crowns</li> </ul> |  |
| 4. | <b>Finishing Lines</b> | <ul style="list-style-type: none"> <li>▪ Definitions</li> <li>▪ Types</li> </ul>   |  |
| 5. | <b>Pontics</b>         | <ul style="list-style-type: none"> <li>▪ Definitions</li> <li>▪ Requirements</li> <li>▪ Post-crowns</li> <li>▪ Casted post and core</li> </ul>   |  |
| 6. | <b>Waxing</b>          | <ul style="list-style-type: none"> <li>▪ Waxing of occlusal surface</li> <li>▪ Waxing of contact surface</li> <li>▪ Waxing of occlusal points</li> <li>▪ Waxing of labial and palatal surface</li> <li>▪ Spaces between teeth and preservation of finish lines</li> <li>▪ Waxing of inlays and onlays</li> <li>▪ preservation of finish lines</li> </ul>                 |  |
| 7. | <b>surveying</b>       | <ul style="list-style-type: none"> <li>▪ Types and uses.</li> <li>▪ Lab preps.</li> <li>▪ Pouring trimming and die preps.</li> <li>▪ Separation the die from impression</li> </ul>   |  |

## الكتب والمراجع:

1. Void, JD

Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances. Dept. of the Air Force, Headquarters US Air Force, 1999

2. Shillingburg, Herbert T. (and others).

Fundamentals of Fixed Prosthodontics. 3rd ed. Chicago: Quintessence, 1997.

3. Murray, H.V. and Sludre, T.B.

Fixed Restorative Techniques (Dental Laboratory Technology Manuals) Rev. ed.  
University of North Carolina Press, 1989.

## برنامج الدرجة الجامعية المتوسطة

|                              |                                      |                  |
|------------------------------|--------------------------------------|------------------|
| Dental Laboratories          | مختبرات الأسنان                      | التخصص           |
| التعويضات الثابتة (1) / عملي | Fixed Prosthodontics (1) / Practical | اسم المادة       |
| 020813132                    |                                      | رقم المادة       |
| 2                            |                                      | الساعات المعتمدة |
| 0                            |                                      | ساعة نظري        |
| 6                            |                                      | ساعة عملي        |

### الوصف المختصر للمادة:

This course is arranged in away to make it easy for the student to gain clinical and laboratory experiences in the discipline of fixed prosthodontics. The students will gain knowledge and skills in the preclinical situations during the course study through their practice in the lab. .

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Construct fixed restorations for patients requiring single crowns and fixed partial dentures.
2. Facilitate the construction of removable partial denture abutment crowns.
3. Know all materials used for construction



محتويات المساق:

| Unit Number | Unit Name   | Unit Content  | Time Needed |
|-------------|---|---|-------------|
| 1.          | fixed restoration laboratory, related instrument, equipments and different branches | <ul style="list-style-type: none"> <li>▪ Plaster lab.</li> <li>▪ Wax lab.</li> <li>▪ Metal casting lab.</li> <li>▪ Porcelain lab.</li> </ul>  |             |
| 2.          | Pouring The Impression  | <ul style="list-style-type: none"> <li>▪ Handling and dealing with the impression</li> <li>▪ Pouring the impression. And separating the model.</li> <li>▪ Fabricating the base, model trimming and a parallel cutting of the abutments.</li> </ul>              |             |
| 3.          | Finishing Lines   | <ul style="list-style-type: none"> <li>▪ Introduction to finishing lines and related types. [Preparing stone models].</li> <li>▪ Introduction to various types of burs used in preparing the teeth.</li> <li>▪ Preparing on natural extracted teeth.</li> </ul> |             |
| 4.          | Preparing Of Temporary Crowns And Bridges   | <ul style="list-style-type: none"> <li>▪ Introduction to types of materials used in preparing crowns and bridges.</li> <li>▪ Making temporary crowns and bridges in lab using quick setting acrylic.</li> </ul>   |             |

|           |  |  |  |
|-----------|--|--|--|
| <b>5.</b> | <b>Waxing Of Occlusal Surface Of Upper And Lower Teeth</b> | <ul style="list-style-type: none"><li>▪ Removing half of the occlusal surfaces of teeth on stone model.</li><li>▪ Rebuilding with wax to be similar to the other half.</li></ul> |  |
|-----------|--|--|--|

### الكتب والمراجع:

1. **Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances.** Dept. of the Air Force, Headquarters US Air Force, 1999.

2. **Shillingburg, Herbert T. (and others).**

**Fundamentals of Fixed Prosthodontics.** 3rd ed. Chicago: Quintessence, 1997.

3. **Murray, H.V. and Sludre, T.B.**

**Fixed Restorative Techniques (Dental Laboratory Technology**

**Manuals)** Rev. ed. University of North Carolina Press, 1989.

## برنامج الدرجة الجامعية المتوسطة

|                          |                       |                  |
|--------------------------|-----------------------|------------------|
| Dental Laboratories      | مختبرات الأسنان       | التخصص           |
| Fixed Prosthodontics (2) | التعويضات الثابتة (2) | اسم المادة       |
| 020813231                |                       | رقم المادة       |
| 2                        |                       | الساعات المعتمدة |
| 2                        |                       | ساعة نظري        |
| 0                        |                       | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to acknowledge the students With the fundamentals of tooth preparation for extra coronal single-crown restorations and fixed partial denture abutments. Also, it is putting emphasis on the principles of fixed appliance design and fabrication are covered. In addition, it. concentrates on the treatment and restorations as they are related to the periodontium

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Demonstrate the various materials, equipment and instrument used in fixed prosthodontics construction.
2. Have a knowledge on occlusion
3. Know Theoretical Background About Implantology .

محتويات المساق:

| Unit Number | Unit Name                          | Unit Content  | Time Needed |
|-------------|------------------------------------|---|-------------|
| 1.          | Investing Ans Pouring              | <ul style="list-style-type: none"> <li>▪ spruing</li> <li>▪ investing</li> <li>▪ casting</li> <li>▪ separation</li> <li>▪ crown cleaning and preps</li> <li>▪ porcelain/acryl build up on metal crown</li> <li>▪ shade selection</li> </ul>   |             |
| 2.          | Temporary Crown Bridges In lab     | <ul style="list-style-type: none"> <li>▪ Requirements</li> <li>▪ material used</li> <li>▪ shade selection</li> <li>▪ ways of preps in the lab</li> </ul>  |             |
| 3.          | Porcelain Inlays                   | <ul style="list-style-type: none"> <li>▪ Definitions and introduction.</li> <li>▪ Composite inlays.</li> <li>▪ Composite Crowns.</li> </ul>   |             |
| 4.          | Soldering and resin bonded bridges | <ul style="list-style-type: none"> <li>▪ Methods of bridge parts soldering.</li> <li>▪ Resin bonded bridge:                             <ul style="list-style-type: none"> <li>○ Types.</li> <li>○ Uses.</li> <li>○ Indications And Contraindications.</li> <li>○ Lab Work.</li> <li>○ Tooth Preps.</li> <li>○ Types of cementation.</li> </ul> </li> </ul> |             |

|    |                               |  |  |
|----|-------------------------------|--|--|
| 5. | <b>Implant</b>                | <ul style="list-style-type: none"><li>▪ Introduction.</li><li>▪ Types implant prostheses.</li><li>▪ Uses of implant prostheses.</li><li>▪ Indications of implant prostheses.</li></ul> |  |
| 6. | <b>Precisional attachment</b> | <ul style="list-style-type: none"><li>▪ Introduction.</li><li>▪ Uses.</li><li>▪ Types.</li><li>▪ Indications and contraindications</li></ul>   |  |

### الكتب والمراجع:

4. Void, JD

Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances. Dept. of the Air Force, Headquarters US Air Force, 1999

5. Shillingburg, Herbert T. (and others).

Fundamentals of Fixed Prosthodontics. 3rd ed. Chicago: Quintessence, 1997.

6. Murray, H.V. and Sludre, T.B.

Fixed Restorative Techniques (Dental Laboratory Technology Manuals) Rev. ed.  
University of North Carolina Press, 1989.

## برنامج الدرجة الجامعية المتوسطة

|                     |                                      |                  |
|---------------------|--------------------------------------|------------------|
| Dental Laboratories | مختبرات الأسنان                      | التخصص           |
|                     | التعويضات الثابتة (2) / عملي         | اسم المادة       |
|                     | Fixed Prosthodontics (2) / Practical |                  |
|                     | 020813232                            | رقم المادة       |
|                     | 2                                    | الساعات المعتمدة |
|                     | 0                                    | ساعة نظري        |
|                     | 6                                    | ساعة عملي        |

### الوصف المختصر للمادة:

This course is arranged in away to make it easy for the student to gain clinical and laboratory experiences in the discipline of fixed prosthodontics. The students will gain knowledge and skills in the preclinical situations during the course study through their practice in the lab. .

### أهداف المادة الدراسية:

- Upon the completion of the course, the student will be able to:
1. Know all steps of construction.
  2. Know how to Invest The Wax Pattern In Ring .
  3. Know About Casting Metal ( Type Of Metal , Temperature Of Oven , Using Amianete Paper , Finishing Of Metal ) .
  4. Discuss the indication and contraindication of welding bridge



محتويات المساق:

| Unit Number | Unit Name   | Unit Content   | Time Needed |
|-------------|---|--|-------------|
| 1.          | <b>Steps Of Making Fixed Bridge</b>                 | <ul style="list-style-type: none"> <li>▪ Pouring the impression</li> <li>▪ Insertion of pins, fabricating, the base and model trimming.</li> <li>▪ Parallel cutting and separating of the abutments.</li> <li>▪ Waxing of pontic and abutment.</li> <li>▪ Using investment material, metal casting and finishing the metal.</li> <li>▪ Porcelain building up.</li> <li>▪ Heating in oven and finishing.</li> </ul> |             |
| 2.          | <b>Inlay And Onlay Metal And Porcelain Fillings</b> | <ul style="list-style-type: none"> <li>▪ Preparing the cavity in posterior teeth on model.</li> <li>▪ Waxing the cavity.</li> <li>▪ Using investment material, casting, the metal and finishing, or porcelain building up for on lay fillings.</li> <li>▪ Heating and finishing of porcelain.</li> </ul>   |             |
| 3.          | <b>Welding The Bridge</b>                           | <ul style="list-style-type: none"> <li>▪ Welding of the bridge units.</li> </ul>   |             |

|    |                            |   |  |
|----|----------------------------|---|--|
| 4. | <b>Resin bonded bridge</b> | <ul style="list-style-type: none"><li>▪ Preparing stone model for Resin bonded bridge.</li><li>▪ Waxing the metal part of the bridge.</li><li>▪ Using investment material, casting the metal and finishing</li><li>▪ Porcelain building up.</li><li>▪ Heating</li></ul> |  |
|----|----------------------------|---|--|

الكتب والمراجع:

1. **Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances.** Dept. of the Air Force, Headquarters US Air Force, 1999.

2. **Shillingburg, Herbert T. (and others).**

**Fundamentals of Fixed Prosthodontics.** 3rd ed. Chicago: Quintessence, 1997.

3. **Murray, H.V. and Sludre, T.B.**

**Fixed Restorative Techniques (Dental Laboratory Technology Manuals)** Rev. ed. University of North Carolina Press, 1989.

## برنامج الدرجة الجامعية المتوسطة

|                     |                 |                  |
|---------------------|-----------------|------------------|
| Dental Laboratories | مختبرات الأسنان | التخصص           |
| Dental Ceramics     | الخزف السني     | اسم المادة       |
| 020813233           |                 | رقم المادة       |
| 3                   |                 | الساعات المعتمدة |
| 1                   |                 | ساعة نظري        |
| 6                   |                 | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the students with a comprehensive study in the theoretical and practical part of Dental Ceramics types, composition and technique, beside a full knowledge in its advantages & disadvantages .Also its expected from the students to be aware of all steps in Porcelain fabrication

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know how to differentiate between different types of porcelain
2. Construct different types of porcelain restorations
3. Deal with different machines in porcelain fabrications

محتويات المساق:

| Unit Number | Unit Name  | Unit Content   | Time Needed |
|-------------|--|--|-------------|
| 1.          | <b>Introduction &amp; Definition</b>                             | History<br>• Properties<br>• Applications<br>• Advantages & Disadvantages  |             |
| 2.          | <b>Compositions</b>  | • Feldspar<br>• Quartz<br>• Kaolin<br>• Modifiers  |             |
| 3.          | <b>Types &amp; Classification</b>                                | • General Classification<br>1. Free Metallic Ceramic restorations<br>2. Porcelain fused to Metal<br>• Classification according to fusion temperatures :<br>1. High Fusion<br>2. Medium Fusion<br>3. Low Fusion |             |
| 4.          | <b>Clinical Applications</b>                                     | • Porcelain Teeth<br>• Porcelain Veneers<br>• Porcelain Restorations   |             |
| 5.          | <b>Lab Work<br/>Porcelain<br/>Fabrication<br/>Dental Copping</b> | • Wax-up<br>• Casting<br>• Finishing<br>• Etching  |             |
| 6.          | <b>Shade selection</b>   | • Hue<br>• Value<br>• Chrome   |             |

|    |                                      |   |  |
|----|--------------------------------------|---|--|
| 7. | <b>Porcelain build-up techniques</b> | <ul style="list-style-type: none"><li>• Mixing of porcelain contents</li><li>• Condensation</li><li>• Sintering</li><li>• Pressure Moldings</li></ul> |  |
| 8. | <b>Porcelain Layers Build Up</b>     | <ul style="list-style-type: none"><li>• Opaque</li><li>• Dentine</li><li>• Gingival</li><li>• Incisal</li><li>• Pigments</li><li>• Enamel</li></ul>   |  |
| 9. | <b>Porcelain firing</b>              | <p>Machines</p> <ul style="list-style-type: none"><li>• Mechanism</li><li>• Frequency</li><li>• Temperatures</li><li>• Cooling</li></ul>              |  |

### الكتب والمراجع:

1. Graber, Thomas M., and Vanarsdall, Robert L., Jr., eds.  
Orthodontics: Current Principles and Techniques.4<sup>th</sup> ed. St. Louis:  
Elsevier Mosby, 2005.
2. Dental laboratory technology: fixed and special prosthodontic and  
orthodontic appliances. Dept. of the Air Force, Headquarters US Air  
Force, 1999.
3. Proffit, William R. (and others).  
Contemporary Orthodontics.2d ed. St. Louis: Mosby-Year Book, 1993.

## برنامج الدرجة الجامعية المتوسطة

|                     |                 |                  |
|---------------------|-----------------|------------------|
| Dental Laboratories | مختبرات الأسنان | التخصص           |
| Partial Protheses   | الطقم الجزئي    | اسم المادة       |
| 020813225           |                 | رقم المادة       |
| 3                   |                 | الساعات المعتمدة |
| 3                   |                 | ساعة نظري        |
| 0                   |                 | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the student with a basic technique of for rehabilitating the partially edentulous patient. This technique will introduce the students to. Knowledge and skills, built on the concepts and principles of partial denture construction which will develop the necessary skills in the laboratory to prepare the student to deal with edentulous patient in the clinic.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know the theoretical background of complete denture construction
2. Know the practical steps and background of partial denture construction
3. Demonstrate the various material, equipment and instrument used in denture construction.
4. Give idea about all types of partial dentures (acrylic, chrome-cobalt)
5. Realize the different materials used in partial denture construction



محتويات المساق:

| Unit Number | Unit Name   | Unit Content   | Time Needed |
|-------------|---|--|-------------|
| 1.          | <b>Introduction Of Partial Denture</b>                        | <ul style="list-style-type: none"> <li>▪ Types of Dental prostheses</li> <li>▪ Types of Removable part. Dent</li> <li>▪ Classification of Removable part. Dent.</li> <li>▪ Indications &amp; Contraindications of R.P.D.</li> </ul>  |             |
| 2.          | <b>Components Of Chrom – co bale R.P.D.</b>                   | <ul style="list-style-type: none"> <li>▪ Major connectors (definition, type, sanction).</li> <li>▪ Minor Connectors (Function, Shapes &amp; Places).</li> <li>▪ Direct Retainers (clasps, Types).</li> <li>▪ Indirect Retainers.</li> <li>▪ Rests (Types, Shape).</li> <li>▪ Saddle area.</li> </ul>       |             |
| 3.          | <b>Types of Impression. Trays (Ready Made, Special Trays)</b> | <ul style="list-style-type: none"> <li>▪ Requirement Of Imp resion Trays.</li> <li>▪ Ready made tray (Stock Trays) (Types &amp; Shapes).</li> <li>▪ Special tray (custom tray) (Types, Materials)</li> <li>▪ Acrylic Resin Special Tray</li> <li>▪ Shellac special tray &amp; thermo set vinyl.</li> </ul> |             |
| 4.          | <b>Impression taking &amp; Cast pouring</b>                   | <ul style="list-style-type: none"> <li>▪ First impress resion (Prime ray impr)(Tray &amp; material used)</li> </ul>  |             |

|    |   |  |  |
|----|---|--|--|
|    |   | <ul style="list-style-type: none"> <li>▪ Care of impression &amp; making study casts.</li> <li>▪ Final (2nd impression).</li> <li>▪ Boxing</li> </ul>  |  |
| 5. | <b>Surveying</b>                              | <ul style="list-style-type: none"> <li>▪ Surveyors (definition, Types, uses).</li> <li>▪ Guiding planes, path of insertion.</li> <li>▪ Steps of surveying study casts.</li> </ul>  |  |
| 6. | <b>Surveying of master casts &amp; design</b> | <ul style="list-style-type: none"> <li>▪ Principles of surveying.</li> <li>▪ Surveying of master casts.</li> <li>▪ Design, transfer, blockout, relief &amp; beading.</li> <li>▪ Preparing the cast for duplication.</li> </ul> |  |
| 7. | <b>Duplication</b>                            | <ul style="list-style-type: none"> <li>▪ Reversible hydrocolloid (ager) moulds.</li> <li>▪ Chilling the colloidal material.</li> <li>▪ Refractory cast.</li> <li>▪ Treating the refractory cast.</li> </ul>                    |  |
| 8. | <b>Waxing the R.P.D</b>                       | <ul style="list-style-type: none"> <li>▪ Design transfer to refractory cast.</li> <li>▪ Waxing of the framework.</li> <li>▪ Waxing the maxillary cast.</li> <li>▪ Waxing the mandibular cast'</li> <li>▪ Spring.</li> </ul>    |  |
| 9. | <b>Investing &amp; Casting</b>                | <ul style="list-style-type: none"> <li>▪ Investing of wax pattern</li> <li>▪ Burnout of max pattern.</li> <li>▪ Casting of frame work.</li> <li>▪ Removing of frame work.</li> </ul>   |  |

|            |   |   |  |
|------------|---|---|--|
|            |   | <ul style="list-style-type: none"> <li>▪ Cleaning the cast.</li> <li>▪ Finishing &amp; polishing of Frame work.</li> </ul>  |  |
| <b>10.</b> | <b>Recording Jaw Relationship</b>                 | <ul style="list-style-type: none"> <li>▪ Recording centric Relation.</li> <li>▪ Face – Bow transfer.</li> <li>▪ Mounting the casts on articulator.</li> <li>▪ Selecting &amp; arranging the teeth.</li> <li>▪ Waxing.</li> </ul>  |  |
| <b>11.</b> | <b>Flasking – wax manipulation &amp; Delivery</b> | <ul style="list-style-type: none"> <li>▪ Flasking – Wax manipulation.</li> <li>▪ Packing, processing.</li> <li>▪ De Flasking.</li> <li>▪ Finishing &amp; Polishing.</li> <li>▪ Insertion.</li> <li>▪ Special in Structure for the patient after delivery.</li> </ul>  |  |
| <b>12.</b> | <b>Base plates &amp; wax occlusal rims</b>        | <ul style="list-style-type: none"> <li>▪ Base plates requirements.</li> <li>▪ Base plate materials.</li> <li>▪ Autopolymerizing record bases (acrylic resin).</li> <li>▪ Sprinkle on method.</li> <li>▪ Finger adapted dough method.</li> <li>▪ Wax occlusion Rim.</li> <li>▪ Shellac base plates.</li> <li>▪ Vacuum – adapted the thermoplastic.</li> <li>▪ Resin base plates.</li> <li>▪ Wax occlusion rims.</li> </ul> |  |
| <b>13.</b> | <b>Relining &amp; Repair</b>                      | <ul style="list-style-type: none"> <li>▪ Relining &amp; Rebasng.</li> <li>▪ Differences between Relining</li> </ul>   |  |

|            |                              |  |  |
|------------|------------------------------|--|--|
|            |                              | <p>&amp; Rebasing Indications for each.</p> <ul style="list-style-type: none"><li>▪ Metal repairs.</li><li>▪ Precious &amp; non-precious metal solder.</li><li>▪ Soldering techniques.</li><li>▪ Major connector repair.</li></ul>                       |  |
| <b>14.</b> | <b>Precision Attachments</b> | <ul style="list-style-type: none"><li>▪ Definition, indication &amp; contraindication of precision attachments.</li><li>▪ Advantages &amp; Disadvantages of Precession. Attachment.</li><li>▪ Technical procedures.</li><li>▪ Stress Breakers.</li></ul> |  |
| <b>15.</b> | <b>Wrought wire clasps</b>   | <ul style="list-style-type: none"><li>▪ Definition &amp; discription.</li><li>▪ Material.</li><li>▪ Precious &amp; non – precious metal.</li><li>▪ Wire selection.</li><li>▪ Construction Technique.</li><li>▪ Clasp contouring.</li></ul>               |  |

## الكتب والمراجع:

1. Zarb, George A. (and others).

**Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses.**12<sup>th</sup> ed. St. Louis, MO: Mosby, 2004.

2. Carr, A.B., McGivney, G.P. and Brown, D.T.

**McCracken's Removable Partial Prosthodontics.**11<sup>th</sup> ed. Mosby, 2004.

3. Void, JD

**Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances.**

Dept. of the Air Force, Headquarters US Air Force, 1999.

4. Sowter, J.B. and Barton, R.E.

**Removable Prosthodontic Techniques (Dental Laboratory Technology Manuals).** Rev. ed. University of North Carolina Press, 1987.

5. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.

**Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures.**

## برنامج الدرجة الجامعية المتوسطة

|                               |                       |                  |
|-------------------------------|-----------------------|------------------|
| Dental Laboratories           | مختبرات الأسنان       | التخصص           |
| Partial Protheses / Practical | الطقم الجزئي / العملي | اسم المادة       |
| 020813226                     |                       | رقم المادة       |
| 2                             |                       | الساعات المعتمدة |
| 0                             |                       | ساعة نظري        |
| 6                             |                       | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the students with a basic technique for rehabilitating the partially edentulous patient. It introduces the students to the practical background of partial denture construction. The skills gained will help him Manage using and dealing with chrome-cobalt materials. Moreover, the course deals with techniques to help the students in gaining skill, about the prosthesis to be used in dental lab.

### أهداف المادة الدراسية:

- Upon the completion of the course, the student will be able to:
- 1- Gain the practical background of partial denture construction.
  - 2- Know the practical steps and background partial denture construction.
  - 3- Demonstrate the various material, equipment and instrument used in denture construction.
  - 4- Manage using and dealing with chrome-cobalt materials.

محتويات المساق:

| Unit Number | Unit Name                                  | Unit Content   | Time Needed |
|-------------|--|--|-------------|
| 1.          | <b>Introduction to parcial denture lab</b> | <ul style="list-style-type: none"> <li>▪ Plaster lab.</li> <li>○ Plaster of paris.</li> <li>○ Plaster of pair.</li> <li>○ Stone.</li> <li>○ Hard stone</li> <li>○ Articulator.</li> <li>○ Plaste knife,</li> <li>○ Rubble bovl and spatula</li> <li>○ Trimmer</li> <li>○ Vibrator</li> <li>○ Flask</li> <li>○ Hammer-saw</li> <li>▪ Wax lab.</li> <li>○ types of wax.</li> <li>○ Meter frame wax.</li> <li>○ Wax Knife.</li> <li>○ Wax carver.</li> <li>○ Den son burner.</li> <li>○ Casting lab.</li> <li>○ Casting machine.</li> <li>○ Wax oven.</li> <li>○ Hooting even.</li> <li>○ Polishing machine.</li> <li>○ Finishing Machine.</li> </ul> |             |
| 2.          | <b>Handling and pouring the imp</b>        | <ul style="list-style-type: none"> <li>▪ Handling and pouring the imp .</li> <li>▪ Fabricating the base.</li> <li>▪ Celebrating the imp from the model.</li> <li>▪ Trimming</li> </ul>   |             |



|    |  |  |  |
|----|--|--|--|
|    |  | <ul style="list-style-type: none"> <li>▪ Duplication of Models</li> </ul>  |  |
| 3. | <b>Primary impression and study model</b>              | <ul style="list-style-type: none"> <li>▪ Choosing the proper tray.</li> <li>▪ Mixing and loading the immaterial.</li> <li>▪ Boxing the imp.</li> <li>▪ Mixing the plaster.</li> <li>▪ Celebrating the imp from the model and fabricating the base.</li> <li>▪ Trimming</li> <li>▪ Surveying and special tray fabricator</li> </ul> |  |
| 4. | <b>Final impression and surveying the master model</b> | <ul style="list-style-type: none"> <li>▪ Boxing the imp.</li> <li>▪ Pouring the imp and fabricating the base.</li> <li>▪ Celebration the imp for the riddle.</li> <li>▪ Trimming</li> <li>▪ Relief</li> </ul>  |  |
| 5. | <b>Duplication of the master model.</b>                | <ul style="list-style-type: none"> <li>▪ Agar – Agar imp.</li> <li>▪ Poring the imp using investment master.</li> <li>▪ Treating the model.</li> </ul>   |  |
| 6. | <b>Waxing the frame work</b>                           | <ul style="list-style-type: none"> <li>▪ Designing on the model.</li> <li>▪ Waxing the frame work.</li> <li>▪ Sparing.</li> </ul>  |  |
| 7. | <b>Using investment material and costing</b>           | <ul style="list-style-type: none"> <li>▪ Using investment</li> <li>▪ Casting.</li> <li>▪ Using Sandy blast.</li> <li>▪ Finishing and polishing.</li> </ul>   |  |

|     |   |   |  |
|-----|---|---|--|
| 8.  |   | <ul style="list-style-type: none"><li>▪ Making rims.</li><li>▪ Transferring the central relation to articulator.</li><li>▪ Loading the model on articulator.</li></ul>  |  |
| 9.  | <b>Arrangement Of Teeth, Waxing and finishing</b> | <ul style="list-style-type: none"><li>▪ Choosing and arranging the teeth.</li><li>▪ Waxing.</li><li>▪ Flasking.</li><li>▪ Boiling the wax</li><li>▪ Mixing and application of acral.</li><li>▪ Pressuring the flask.</li><li>▪ Curing the acral.</li><li>▪ Finishing and polishing.</li></ul> |  |
| 10. | <b>Relining and Repairing</b>                     | <ul style="list-style-type: none"><li>▪ Relining procedure.</li><li>▪ Repairing Procedure.</li></ul>  |  |
| 11. | <b>Attachment and stress breakers</b>             | <ul style="list-style-type: none"><li>▪ Making attachments.</li><li>▪ Making and using stress breakers.</li></ul>   |  |

**الكتب والمراجع:**

**6. Zarb, George A. (and others).**

**Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses.**12<sup>th</sup> ed. St. Louis, MO: Mosby, 2004.

**7. Carr, A.B., McGivney, G.P. and Brown, D.T.**

**McCracken's Removable Partial Prosthodontics.**11<sup>th</sup> ed. Mosby, 2004.

**8. Void, JD**

**Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances.**

Dept. of the Air Force, Headquarters US Air Force, 1999.

**9. Sowter, J.B. and Barton, R.E.**

**Removable Prosthodontic Techniques (Dental Laboratory Technology Manuals).** Rev. ed. University of North Carolina Press, 1987.

**10. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.**

**Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures**

## برنامج الدرجة الجامعية المتوسطة

|                                  |                  |                  |
|----------------------------------|------------------|------------------|
| Dental Laboratories              | مختبرات الأسنان  | التخصص           |
| Complete Denture Prosthetics (1) | الطقم الكامل (1) | اسم المادة       |
| 020813221                        |                  | رقم المادة       |
| 2                                |                  | الساعات المعتمدة |
| 2                                |                  | ساعة نظري        |
| 0                                |                  | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the students with the knowledge of basic technique for rehabilitating the completely edentulous patient. This technique will be dealt with throughout the course to help the students building their skills and concepts of complete denture construction helping them in developing the necessary skills in the lab .

### أهداف المادة الدراسية:

- Upon the completion of the course, the student will be able to:
1. Know the theoretical background of complete denture construction
  2. Know the practical steps and background of complete denture construction
  3. Demonstrate the various material, equipment and instrument used in denture construction.

محتويات المساق:

| Unit Number | Unit Name                      | Unit Content   | Time Needed |
|-------------|--------------------------------|--|-------------|
| 1.          | History and clinical examinant | <ul style="list-style-type: none"> <li>▪ History taking</li> <li>▪ Extra-oral examinations</li> </ul>  |             |
| 2.          | Intra-oral examination         | <ul style="list-style-type: none"> <li>▪ ridge classification</li> <li>▪ type of residual ridges</li> <li>▪ OPG findings</li> </ul>  |             |
| 3.          | Trays and impression materials | <ul style="list-style-type: none"> <li>▪ trays definition</li> <li>▪ trays types</li> <li>▪ requirements</li> <li>▪ stock tray and special tray</li> <li>▪ tray selection</li> <li>▪ impression materials</li> </ul>   |             |
| 4.          | Preliminary impression         | <ul style="list-style-type: none"> <li>▪ mouth examination</li> <li>▪ materials used for 1ry impression</li> <li>▪ tray selection</li> <li>▪ impression taking</li> <li>▪ boxing</li> <li>▪ base making</li> <li>▪ trimming</li> <li>▪ cast surveying</li> </ul> |             |
| 5.          | Taking final impression        | <ul style="list-style-type: none"> <li>▪ types of impression material used</li> <li>▪ trying of special tray in the mouth</li> <li>▪ Boxing the impression.</li> <li>▪ Pouring the impression and</li> </ul>   |             |

|    |                                       |  |  |
|----|---------------------------------------|--|--|
|    |                                       | making the master model  |  |
| 6. | <b>Baseplate and occlusal rims</b>    | <ul style="list-style-type: none"><li>▪ Definition.</li><li>▪ Material used.</li><li>▪ Requirements.</li><li>▪ Lab work.</li><li>▪ Occlusal rims.</li></ul>  |  |
| 7. | <b>articulators</b>                   | <ul style="list-style-type: none"><li>▪ simple hinge articulator</li><li>▪ average value articulator</li><li>▪ hanu articulator</li><li>▪ face-bow definition and uses</li></ul>   |  |
| 8. | <b>Registration jaw relationships</b> | <ul style="list-style-type: none"><li>▪ principles</li><li>▪ centric relation</li><li>▪ centric occlusion</li><li>▪ free way space</li><li>▪ orientation of occlusal plane</li><li>▪ camper's line</li><li>▪ OVD</li><li>▪ recording centric relation</li><li>▪ mounting the casts</li><li>▪ eccentric records</li></ul> |  |

## الكتب والمراجع:

1. Zarb, George A. (and others).  
Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses.12th ed. St. Louis, MO: Mosby, 2004.  
Winkler S.
2. Essentials of Complete Denture Prosthodontics.2<sup>nd</sup> ed. Year Book  
Medical Pub,1988.
3. Sowter, J.B. and Barton, R.E.  
Removable Prosthodontic Techniques (Dental Laboratory Technology  
Manuals). Rev. ed. University of North Carolina Press, 1987.
4. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.  
Dental Laboratory Procedures Complete Dentures & Maxillofacial  
Procedures.Mosby Company, 1986



## برنامج الدرجة الجامعية المتوسطة

|                         |   |                  |
|-------------------------|---|------------------|
| Dental Laboratories     | مختبرات الأسنان                             | التخصص           |
| الطقم الكامل (1) / عملي | Complete Denture Prosthetics (1)/ Practical | اسم المادة       |
| 020813222               |   | رقم المادة       |
| 2                       |   | الساعات المعتمدة |
| 0                       |   | ساعة نظري        |
| 6                       |   | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the student with practical skills needed for rehabilitating the completely edentulous patient. This knowledge and skills will be gained through the practical work in the dental labs and clinics based on the theoretical part.

### أهداف المادة الدراسية:

- Upon the completion of the course, the student will be able to:
1. Know the theoretical background of complete denture construction
  2. Know the practical steps and background of complete denture construction
  3. Demonstrate the various material, equipment and instrument used in denture construction

محتويات المساق:

| Unit Number | Unit Name  | Unit Content   | Time Needed |
|-------------|--|--|-------------|
| 1.          | complete denture lab with related materials, equipment, instruments and branches | <ul style="list-style-type: none"> <li>▪ Plaster lab.                             <ul style="list-style-type: none"> <li>○ Plaster of Paris.</li> <li>○ Stone.</li> <li>○ Hard stone</li> <li>○ Articulators.</li> <li>○ Plaster knife,</li> <li>○ Rubber bowl and Manuel mixing instrument spatula.</li> <li>○ Trimmer.</li> <li>○ Vibrator.</li> <li>○ Flasks.</li> <li>○ Flask Press hydrolyte</li> <li>○ Hammer-saw</li> </ul> </li> <li>▪ Wax lab.                             <ul style="list-style-type: none"> <li>○ Types of wax.</li> <li>○ separating material</li> <li>○ Wax carver.</li> <li>○ Boiler.</li> <li>○ Scissors.</li> <li>○ Benson burner.</li> </ul> </li> <li>▪ Finishing lab                             <ul style="list-style-type: none"> <li>○ Polishing and finishing instruments.</li> <li>○ Straight hand piece.</li> <li>○ Polishing machine.</li> <li>○ Various brushes.</li> </ul> </li> </ul> |             |
| 2.          | Pouring the impression   | <ul style="list-style-type: none"> <li>▪ Handling and dealing with impression.</li> <li>▪ Pouring the impression.</li> </ul>   |             |

|    |   |  |  |
|----|---|--|--|
|    |   | <ul style="list-style-type: none"> <li>▪ Fabricating the base.</li> <li>▪ Separating the impression from the model.</li> <li>▪ Model Trimming</li> <li>▪ Duplication of Models</li> </ul>  |  |
| 3. | <b>Taking primary impression</b>                        | <ul style="list-style-type: none"> <li>▪ Choosing tray and impression material.</li> <li>▪ Mixing of impression material and loading on tray.</li> <li>▪ Boxing the impression.</li> <li>▪ Pouring the impression, to fabricating the base.</li> <li>▪ Separating the impression from the model and trimming.</li> <li>▪ Fabricating of Special tray by using cold acryl and shellac.</li> </ul> |  |
| 4. | <b>Taking final impression And making occlusal rims</b> | <ul style="list-style-type: none"> <li>▪ Choosing final impression Material.</li> <li>▪ Dealing with final impression</li> <li>▪ Boxing the impression.</li> <li>▪ Pouring the impression and making the master model</li> <li>▪ Making different types of denture bases</li> <li>▪ Making occlusal rims</li> </ul>  |  |

## الكتب والمراجع:

- 1- Zarb, George A. (and others).  
Prosthetic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Prosthesis. 12th ed. St. Louis, MO: Mosby, 2004.
- 2- Winkler S.  
Essentials of Complete Denture Prosthodontics. 2nd ed. Year Book Medical Pub, 1988.
- 3- Sowter, J.B. and Barton, R.E.  
Removable Prosthodontic Techniques (Dental Laboratory Technology Manuals). Rev. ed. University of North Carolina Press, 1987.
4. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.  
Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures. Mosby Company, 1986

## برنامج الدرجة الجامعية المتوسطة

|                                  |                  |                  |
|----------------------------------|------------------|------------------|
| Dental Laboratories              | مختبرات الأسنان  | التخصص           |
| Complete Denture Prosthetics (2) | الطقم الكامل (2) | اسم المادة       |
| 020813223                        |                  | رقم المادة       |
| 2                                |                  | الساعات المعتمدة |
| 2                                |                  | ساعة نظري        |
| 0                                |                  | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the students with the knowledge of basic technique for rehabilitating the completely edentulous patient. This technique will be dealt with throughout the course to help the students building their skills and concepts of complete denture construction helping them in developing the necessary skills in the lab.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know the practical steps and background of complete denture construction
2. Give idea about all types of complete dentures (immediate and overdentures)
3. Realize the different materials used in complete denture construction.

محتويات المساق:

| Unit Number | Unit Name                              | Unit Content  | Time Needed |
|-------------|--|---|-------------|
| 1.          | Tooth selection                        | <ul style="list-style-type: none"> <li>▪ principles</li> <li>▪ size, form, color and materials</li> <li>▪ differences in occlusion between artificial and natural dentition</li> </ul>  |             |
| 2.          | Setting of artificial teeth and waxing | <ul style="list-style-type: none"> <li>▪ Principles of setting.</li> <li>▪ Upper and lower teeth/anterior and posterior.</li> <li>▪ Waxing of the teeth.</li> <li>▪ Post damming-definition, functions and lab work.</li> </ul>   |             |
| 3.          | Trial denture                          | <ul style="list-style-type: none"> <li>▪ trying procedure</li> <li>▪ check occlusion, CR, freeway space, retention, appearance and borders</li> <li>▪ final wax up</li> </ul>   |             |
| 4.          | Flasking                               | <ul style="list-style-type: none"> <li>▪ type of flasks</li> <li>▪ lab steps</li> <li>▪ cold mould seal</li> <li>▪ wax elimination</li> <li>▪ mixing and backing the mold</li> <li>▪ polymerization</li> <li>▪ deflasking</li> <li>▪ finishing and polishing the denture</li> <li>▪ remounting</li> <li>▪ selective grinding</li> </ul> |             |



|    |   |   |  |
|----|---|---|--|
| 5. | insertion   | <ul style="list-style-type: none"><li>▪ Check retention, stability, occlusion and appearance and sharp edges.</li><li>▪ patient instruction</li></ul>   |  |
| 6. | Relining, rebasing and repair of complete denture | <ul style="list-style-type: none"><li>▪ indications of Relining, rebasing and technique of Relining, rebasing and repair in the lab</li><li>▪ repair with missed section</li><li>▪ adding post dam</li><li>▪ anterior teeth replacement</li><li>▪ soft relining</li></ul> |  |
| 7. | Immediate dentures                                | <ul style="list-style-type: none"><li>▪ definition</li><li>▪ indications and contraindications</li><li>▪ advantages and disadvantages</li><li>▪ practical steps</li></ul>   |  |
| 8. | Overdentures                                      | <ul style="list-style-type: none"><li>▪ definition</li><li>▪ indications and contraindications</li><li>▪ advantages and disadvantages</li><li>▪ practical steps in lab</li></ul>  |  |

## الكتب والمراجع:

1. Zarb, George A. (and others).  
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Winkler S.
2. Essentials of Complete Denture Prosthodontics.2<sup>nd</sup> ed. Year Book  
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3. Sowter, J.B. and Barton, R.E.  
Removable Prosthodontic Techniques (Dental Laboratory Technology  
Manuals). Rev. ed. University of North Carolina Press, 1987.
4. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.  
Dental Laboratory Procedures Complete Dentures & Maxillofacial  
Procedures.Mosby Company, 1986

## برنامج الدرجة الجامعية المتوسطة

|                         |   |                  |
|-------------------------|---|------------------|
| Dental Laboratories     | مختبرات الأسنان                             | التخصص           |
| الطقم الكامل (2) / عملي | Complete Denture Prosthetics (2)/ Practical | اسم المادة       |
| 020813224               |   | رقم المادة       |
| 2                       |   | الساعات المعتمدة |
| 0                       |   | ساعة نظري        |
| 6                       |   | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the student with practical skills needed for rehabilitating the completely edentulous patient. This knowledge and skills will be gained through the practical work in the dental labs and clinics based on the theoretical part.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know the practical steps and background of complete denture construction
2. Know The Practical Steps And Background Of Repairing, Relining And Repasing Of Complete Dentures.
3. Know About Immediate And Over Dentures Making Procedures .

محتويات المساق:

| Unit Number | Unit Name  | Unit Content   | Time Needed |
|-------------|--|--|-------------|
| 1.          | Arrangement and waxing of the teeth after the registering of centric relation in clinic. | <ul style="list-style-type: none"> <li>▪ Types of articulators.</li> <li>▪ Choosing the proper articulator</li> <li>▪ Loading model on articulators</li> <li>▪ Introduction to face-bow</li> <li>▪ Choosing the suitable teeth.</li> <li>▪ Arrangement of anterior upper and lower teeth.</li> <li>▪ Arrangement of posterior or upper and lower teeth.</li> <li>▪ Waxing and making post dam.</li> </ul>  |             |
| 2.          | Preparing of the complete denture after try – in clinic                                  | <ul style="list-style-type: none"> <li>▪ Finial Waxing.</li> <li>▪ Choosing the flask and loading the model in.</li> <li>▪ Plaster Mixing and making the first lager.</li> <li>▪ Making 2nd and 3rd layer in flask.</li> <li>▪ Boiling the flask and removing the wax.</li> <li>▪ Opening the flask and cleaning the residual wax.</li> <li>▪ Mixing of hot acryl.</li> <li>▪ Pressing the flask.</li> <li>▪ Opening the flask and using of foil.</li> <li>▪ Re - pressing the flask.</li> <li>▪ Acryl polymerization.</li> <li>▪ Removing the denture polishing and finishing.</li> </ul> |             |

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|----|--|---|--|
|    |  | <ul style="list-style-type: none"><li>Reloading of the denture on articulator and making occlusal balance.</li></ul>                            |  |
| 3. | <b>Repairing relining and rebasing</b> | <ul style="list-style-type: none"><li>Repairing of dentures and adding teeth.</li><li>Relining procedure.</li><li>Rebasing procedure.</li></ul> |  |
| 4. | <b>Immediate and over dentures</b>     | <ul style="list-style-type: none"><li>Immediate dentures making procedures.</li><li>Over dentures making procedures.</li></ul>                  |  |

الكتب والمراجع:

- 1- Zarb, George A. (and others).  
Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Prosthesis. 12th ed. St. Louis, MO: Mosby, 2004.
- 2- Winkler S.  
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- 3- Sowter, J.B. and Barton, R.E.  
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- 4- Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.  
Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures. Mosby Company, 1986

## برنامج الدرجة الجامعية المتوسطة

|                         |                     |                  |
|-------------------------|---------------------|------------------|
| Dental Laboratories     | مختبرات الأسنان     | التخصص           |
| Orthodontics Appliances | أجهزة تقويم الأسنان | اسم المادة       |
| 020813227               |                     | رقم المادة       |
| 3                       |                     | الساعات المعتمدة |
| 3                       |                     | ساعة نظري        |
| 0                       |                     | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide students with knowledge of how to construct basic orthodontic appliances. Orthodontic appliances are fabricated with heavy emphasis on wire bending. The course should make it easy for the student to understand the orthodontic classification system, orthodontic terminology, work authorizations, and purposes of the appliances. Finally, the course exposes the student to fixed, banded, edged wise cases and surgical orthodontic cases.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Work heavily on wire bending.
2. Understanding the orthodontic classification system, orthodontic terminology, work authorizations, and purposes of the appliances.
3. Be exposed to fixed, banded, edged wise cases and surgical orthodontic cases to know the lab steps of such cases.



محتويات المساق:

| Unit Number | Unit Name | Unit Content   | Time Needed |
|-------------|-----------|--|-------------|
| 1.          | Springs   | <ul style="list-style-type: none"> <li>▪ Springs</li> <li>○ Location &amp; Spring closing (Burial, Palatal, Maxillary &amp; Molecular). Guarded &amp; Guided springs.</li> <li>○ Guarded spring, self – supporting spring.</li> <li>○ Guided spring.</li> <li>▪ Screws</li> <li>○ Types.</li> <li>○ Sizes.</li> <li>○ Uses</li> <li>▪ Retention of Appliances</li> <li>○ General principles</li> <li>▪ Adam's clasp variations.</li> <li>▪ Fitted labial bow.</li> <li>▪ Anchorage.</li> <li>○ Definition &amp; Principles.</li> <li>○ Proper Application.</li> <li>▪ Baseplate</li> <li>○ Specifications of acrylic.</li> <li>○ Baseplate design</li> <li>○ Function of baseplate.</li> <li>○ Additional Use of Atoner or posterior bite planes.</li> </ul> |             |
| 2.          | Screws    | <ul style="list-style-type: none"> <li>▪ Screws</li> <li>○ Types</li> <li>○ Sizes</li> </ul>   |             |

|    |   |   |  |
|----|---|---|--|
|    |   | <ul style="list-style-type: none"> <li>○ Uses <ul style="list-style-type: none"> <li>▪ Retention of Appliances</li> </ul> </li> <li>○ General principles <ul style="list-style-type: none"> <li>▪ Adam's clasp variations.</li> <li>▪ Fitted labial bow.</li> <li>▪ Anchorage.</li> </ul> </li> <li>○ Definition &amp; Principles.</li> <li>○ Proper Application. <ul style="list-style-type: none"> <li>▪ Baseplate</li> </ul> </li> <li>○ Specifications of acrylic.</li> <li>○ Baseplate design</li> <li>○ Function of baseplate.</li> <li>○ Additional Use of Atoner or posterior bite planes.</li> </ul> |  |
| 3. | <b>The materials for removable appliance construction</b> | <ul style="list-style-type: none"> <li>▪ Stainless steel wires. <ul style="list-style-type: none"> <li>○ Properties of stainless steel wire.</li> <li>○ Diameter of wire.</li> <li>○ Types &amp; hardness grades.</li> </ul> </li> <li>▪ Acrylic Resins. <ul style="list-style-type: none"> <li>○ Heat – Cured acrylic.</li> <li>○ Self – Cured acrylic..</li> </ul> </li> <li>○ Advantage, disadvantages and uses for each type</li> </ul>   |  |
| 4. | <b>Designs of removable or orthodontic appliances</b>     | <ul style="list-style-type: none"> <li>▪ Tooth movement in line of the arch. <ul style="list-style-type: none"> <li>○ Mesial movement of incisors.</li> <li>○ Distal movement of canines</li> </ul> </li> <li>○ Movement using palatal spring.</li> <li>○ Movement using Bursal retractor.</li> <li>○ Movement using movement of</li> </ul>   |  |

|    |  |  |  |
|----|--|--|--|
|    |  | <p>molars using screws.</p> <ul style="list-style-type: none"> <li>○ Distal using spring.</li> <li>▪ Labia – Bucco-lingual movements of teeth</li> <li>○ Labial movement of central incisor.</li> <li>○ Retraction of upper incisors (Robert's Retractor).</li> <li>○ Labial expansion of upper incisors (Expansion screw).</li> <li>○ Buccal expansion of upper buccal segments             <ul style="list-style-type: none"> <li>▪ Extra – oral face bow.</li> <li>▪ Function appliances / The Andersen appliance</li> <li>▪ Passive appliance.</li> </ul> </li> <li>○ Space maintainers.</li> <li>○ Hawley Retainer</li> </ul> |  |
| 5. | <b>Welding &amp; Soldering for orthodontic appliance construction</b>                        | <ul style="list-style-type: none"> <li>▪ General principles.</li> <li>▪ Equipment &amp; materials</li> <li>▪ Methods.</li> </ul>   |  |
| 6. | <b>The relation &amp; communication between the orthodontist &amp; the dental technician</b> | <ul style="list-style-type: none"> <li>▪ Appliance designing.</li> <li>▪ Appliance Fabrication.</li> <li>▪ Prescription &amp; Instructions.</li> </ul>   |  |

## الكتب والمراجع:

4. Graber, Thomas M., and Vanarsdall, Robert L., Jr., eds.

Orthodontics: Current Principles and Techniques.4<sup>th</sup> ed. St. Louis:

Elsevier Mosby, 2005.

5. Void, JD

Dental laboratory technology: fixed and special prosthodontic and  
orthodontic appliances. Dept. of the Air Force, Headquarters US  
Air Force, 1999.

6. Proffit, William R. (and others).

Contemporary Orthodontics.2d ed. St. Louis: Mosby-Year Book, 1993.

7. Adams, C.P. and Kerr, W. J. S.

The design, construction, and use of removable orthodontic appliances.

London; Boston: Butterworth-Heinemann, 1990.

## برنامج الدرجة الجامعية المتوسطة

|                                     |                            |                  |
|-------------------------------------|----------------------------|------------------|
| Dental Laboratories                 | مختبرات الأسنان            | التخصص           |
| Orthodontics Appliances / Practical | أجهزة تقويم الأسنان / عملي | اسم المادة       |
| 020813228                           |                            | رقم المادة       |
| 2                                   |                            | الساعات المعتمدة |
| 0                                   |                            | ساعة نظري        |
| 6                                   |                            | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to make it easy for the students to construct basic orthodontic appliances. Orthodontic appliances are fabricated with heavy emphasis on wire bending. The course is prepared to make it easy for the students to gain skills to be used in febricity appliance. Finally, the course exposes the student to fixed, banded, edged wise cases and surgical orthodontic cases

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

- 1-Work on wire bending.
- 2-Understanding the orthodontic classification system, orthodontic terminology, work authorizations, and purposes of the appliances.
- 3-Be exposed to fixed, banded, edged wise cases and surgical orthodontic cases to know the lab steps of such cases

محتويات المساق:

| Unit Number | Unit Name  | Unit Content  | Time Needed |
|-------------|--|---|-------------|
| 1.          | Springs  | <ul style="list-style-type: none"> <li>▪ Location &amp; Spring design (Burial, palatal, Maxillary &amp; Moarclibular).</li> <li>▪ Guarded &amp; Guided Springs.</li> <li>▪ Guarded spring, Self-Supporting spring.</li> <li>▪ Guided spring.</li> </ul>   |             |
| 2.          | Screws   | <ul style="list-style-type: none"> <li>▪ Types.</li> <li>▪ Sizes.</li> <li>▪ Uses.</li> </ul>   |             |
| 3.          | The materials for removable appliance construction     | <ul style="list-style-type: none"> <li>▪ Stainless steel wires</li> </ul>   |             |
| 4.          | Constriction of orthodontic appliances                 | <ul style="list-style-type: none"> <li>▪ Adams Clasp and its modifications.</li> <li>▪ Cantilever spring.</li> <li>▪ Different types of springs.</li> <li>▪ Single lobs spring.</li> <li>▪ Double lobe spring.</li> <li>▪ Buccal canine retractor.</li> <li>▪ Variation imposed on cantilever spring.</li> <li>▪ Guards and guide of spring.</li> </ul> |             |
| 5.          | Construction of different parts of R. ortho appliances | <ul style="list-style-type: none"> <li>▪ Anderson appliance.</li> <li>▪ Robert retractor.</li> <li>▪ Anterior expansion Plata.</li> </ul>   |             |

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|           |                              | <ul style="list-style-type: none"><li>▪ Haply retainer.</li></ul>   |  |
| <b>6.</b> | <b>Waxing</b>                | <ul style="list-style-type: none"><li>▪ Waxing up the appliance.</li><li>▪ Flanking the appliance using hot acryl or self acryl</li></ul>                                 |  |
| <b>7.</b> | <b>Soldering and welding</b> | <ul style="list-style-type: none"><li>▪ Soldering and welding stain less steel</li><li>▪ Low level of processing solutions.</li><li>▪ Quick removal of the film</li></ul> |  |
| <b>8.</b> | <b>Repair</b>                | <ul style="list-style-type: none"><li>▪ Repairing of broken appliances.</li></ul>   |  |



## الكتب والمراجع:

1. Graber, Thomas M., and Vanarsdall, Robert L., Jr., eds.  
Orthodontics: Current Principles and Techniques.  
4<sup>th</sup> ed. St. Louis: Elsevier Mosby, 2005.
2. Void, JD  
Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances. Dept. of the Air Force, Headquarters US Air Force, 1999.
3. Profit, William R. (and others).  
Contemporary Orthodontics. 2d ed. St. Louis: Mosby-Year Book, 1993.
4. Adams, C.P. and Kerr, W. J. S.  
The design, construction, and use of removable orthodontic appliances.  
London; Boston: Butterworth-Heinemann, 1990.

## برنامج الدرجة الجامعية المتوسطة

|                                  |                        |                  |
|----------------------------------|------------------------|------------------|
| Dental Laboratories              | مختبرات الأسنان        | التخصص           |
| Occlusal And Surgical Appliances | أجهزة الجراحة والاطباق | اسم المادة       |
| 020813229                        |                        | رقم المادة       |
| 3                                |                        | الساعات المعتمدة |
| 2                                |                        | ساعة نظري        |
| 3                                |                        | ساعة عملي        |

### الوصف المختصر للمادة:

This course is designed to provide the student a comprehensive study of theatrical and practical elements in occlusal rehabilitation and surgical appliances. Taking into consideration that the primary concern of the dental technologist is the restoration of the occlusal surfaces of teeth of opposing arches together in such a manner that they still function to preserve the health of the masticatory system. The course will deal with the dynamics of mandibular movement and its effect on tooth form, Principles of and instrumentation will be presented to enable the student to simulate mandibular movements on an articulator. Occlusal restorations will be fabricated in waxen a semi adjustable articulator, according to functional criteria

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Know how to construct occlusal and surgical appliances
2. Realise the steps of obturator construction.
3. Have an idea about materials used in the construction.
4. Know how to construct speech devices and jaw fracture devices.

محتويات المساق:

| Unit Number | Unit Name                    | Unit Content  | Time Needed |
|-------------|------------------------------|---|-------------|
| 1.          | Obturators                   | <ul style="list-style-type: none"> <li>▪ Immediate obturators.                             <ul style="list-style-type: none"> <li>○ Requirements of immediate obturators.</li> <li>○ Materials used for immediate obturators.</li> </ul> </li> <li>▪ Interim obturators.                             <ul style="list-style-type: none"> <li>○ Requirements of interim obturators.</li> <li>○ Materials used for interim obturators.</li> </ul> </li> <li>▪ Definitive obturators.                             <ul style="list-style-type: none"> <li>○ Requirements of definitive obturators.</li> <li>○ Materials used for definitive obturators.</li> </ul> </li> </ul> |             |
| 2.          | Facial & Surgical prostheses | <ul style="list-style-type: none"> <li>▪ Mandibular resection devices.                             <ul style="list-style-type: none"> <li>○ Requirements of mandibular resection devices.</li> <li>○ Materials.</li> </ul> </li> <li>▪ Edentulous mandibular resection device.</li> <li>▪ Dentulous mandibular resection device.</li> <li>▪ Facial prostheses.                             <ul style="list-style-type: none"> <li>○ Requirements of facial prostheses.</li> <li>○ Materials for facial prostheses.</li> </ul> </li> <li>○ Laboratory facility requirements.</li> </ul>  |             |

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|------------------|---|--|--|
| <p><b>3.</b></p> | <p><b>Speech aid devices<br/>preventive devices</b></p>             | <ul style="list-style-type: none"> <li>▪ Carving of teeth on a by using red wax to be larger than normal teeth</li> <li>▪ Carving of teeth by using pouring wax to be in normal size</li> <li>▪ training on pouring wax teeth then making acrylic teeth</li> <li>▪ cutting parts from natural teeth and rebuilt by wax and recarving them</li> <li>▪ remove some teeth from the model and rebuilt by pouring wax.</li> </ul> |  |
| <p><b>4.</b></p> | <p><b>Occlusion<br/>appliances</b></p>                              | <ul style="list-style-type: none"> <li>▪ Occlusal appliance for treatment temporomandibular Joint.</li> <li>▪ Surgical Orthodontic appliances.</li> <li>○ Requirements of occlusion appl.</li> <li>○ Materials of occlusion appliances.</li> </ul>   |  |
| <p><b>5.</b></p> | <p><b>Appliances Used in<br/>treatment of jaws<br/>fracture</b></p> | <ul style="list-style-type: none"> <li>▪ Surgical appliances.</li> <li>○ Requirements of Fractured appliances.</li> <li>○ Mat aerials of Fractured appliances.</li> <li>▪ Acrylic cast covering teeth used in fractures</li> </ul>   |  |

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|------------------|---|--|--|
| <p><b>6.</b></p> | <p><b>(Lab. Work)<br/>obturators<br/>construction</b></p> | <ul style="list-style-type: none"><li>▪ Mountain the gypsum model for maxillary arch.</li><li>▪ Cut the study cast in places need &amp; Fracture line.</li><li>▪ Fixed study model to articulator.</li><li>▪ Waxed the vacuum obturators.</li><li>▪ Flasking of obturators</li><li>▪ Finishing &amp; Polishing obturators.</li></ul> |  |
| <p><b>7.</b></p> | <p><b>Occlusion<br/>appliances<br/>construction</b></p>   | <ul style="list-style-type: none"><li>▪ Mountine gypsum model.</li><li>▪ Fixed study model to articulator.</li><li>▪ Waxing occlusion appliances.</li><li>▪ Flasking</li><li>▪ Finishing and polishing.</li></ul>  |  |

الكتب والمراجع:

1- Carr, A.B., McGivney, G.P. and Brown, D.T.

McCracken's Removable Partial Prosthodontics. Prosthodontics. 11<sup>th</sup> ed. Mosby, 2004.

2-- Void, JD

Dental laboratory technology: fixed and special prosthodontic and orthodontic appliances. Dept. of the Air Force, Headquarters US Air Force, 1999

3- Sowter, J.B. and Barton, R.E.

Removable Prosthodontic Techniques (Dental Laboratory Technology Manuals). Rev. ed. University of North Carolina Press, 1987.

4-.Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.

Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures. Mosby Company, 1986.

## برنامج الدرجة الجامعية المتوسطة

|                     |                   |                  |
|---------------------|-------------------|------------------|
| Dental Laboratories | مختبرات الأسنان   | التخصص           |
| First Aid           | الاسعافات الأولية | اسم المادة       |
| 020800111           |                   | رقم المادة       |
| 3                   |                   | الساعات المعتمدة |
| 2                   |                   | ساعة نظري        |
| 3                   |                   | ساعة عملي        |



### الوصف المختصر للمادة:

- To acquaint students with principles of 1st aid , and most common causes of injuries in addition to enable him to prioritize 1st aid procedures according to the severity of the case and to realize the practical aspects of 1st aid procedures.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. To realize theoretical basics of 1st aid and the priorities in managing 1st aid procedures
2. Acquainted with principles of 1st aid
3. able to put priorities for introducing 1st aid services in major accidents among several injured persons
4. able to put patient in the best position prior to transfer him to the hospital
5. Able to organize work with others to participate in 1st aid procedures.
6. To attend demonstration on different 1st aid procedures
7. To perform visits to emergency sections at different hospitals, civil defense department to be familiar with the services offered by those department.
8. To visit hospitals emergency dept. in order to recognize cases of injuries resulted from different accidents and to realize the 1st aid procedures made of each case

محتويات المساق:

| Unit Number | Unit Name          | Unit Content  | Time Needed |
|-------------|--------------------|---|-------------|
| 1.          | Introduction       | <ul style="list-style-type: none"> <li>▪ Definition of first aids</li> <li>▪ Equipments and supplies</li> <li>▪ Aims of first aids</li> <li>▪ The causes of injuries ( earthquakes, volcanoes, wars, fires, car accidents, quarrels, poisoning, falling from heights</li> </ul> <p><b>Practical:</b> to recognize the first aid equipment's</p> |             |
| 2.          | Patient assessment | <ul style="list-style-type: none"> <li>▪ Evaluate the site of accident</li> <li>▪ priorities in first aid</li> <li>▪ Baseline vital signs</li> </ul> <p><b>Practical:</b> learn to measure the vital signs (pulse, respiration rate, blood pressure, temperature)</p>   |             |
| 3.          | Airway emergencies | <ul style="list-style-type: none"> <li>▪ Respiratory tract and suffocation</li> <li>▪ Airways accessories</li> <li>▪ Foreign body in the nose, pharynx</li> <li>▪ Choking – Heimlich Man oeuvre</li> </ul> <p><b>Practical:</b> apply airway opening methods ( mouth to mouth- Sylvester technique- Holger Neilson technique)</p>               |             |

|           |   |  |  |
|-----------|---|--|--|
| <p>4.</p> | <p><b>Bleeding &amp; Shock</b></p>        | <ul style="list-style-type: none"> <li>▪ Definition</li> <li>▪ Causes</li> <li>▪ Classification of bleeding and shock</li> <li>▪ Emergency care for shock, bleeding</li> <li>▪ Bleeding from( ear, nose and mouth)</li> </ul> <p><b>Practical:</b><br/>(how to stop bleeding- applying a roller bandage-applying triangular bandage- use the tourniquet)</p> |  |
| <p>5.</p> | <p><b>Soft tissue injuries(wounds</b></p> | <ul style="list-style-type: none"> <li>▪ Definition</li> <li>▪ Closed injuries</li> <li>▪ Opened injuries</li> <li>▪ Dressing and bandages</li> <li>▪ Tetanus, gas gangrene, rabies</li> <li>▪ Emergency</li> </ul> <p><b>Practical:</b> Dressing and bandages</p>   |  |
| <p>6.</p> | <p><b>Burns</b></p>                       | <ul style="list-style-type: none"> <li>▪ Definition</li> <li>▪ Classification</li> <li>▪ Causes(chemical, electrical, sun burn)</li> <li>▪ Emergency medical care</li> <li>▪ Role of nines</li> </ul> <p><b>Practical:</b> principles of burn care</p>   |  |
| <p>7.</p> | <p><b>Trauma and Fractures</b></p>        | <ul style="list-style-type: none"> <li>▪ Fractures</li> <li>▪ Joint and tendons injuries</li> <li>▪ Causes and diagnosis</li> <li>▪ Emergency care</li> <li>▪ Splinting, equipments</li> <li>▪ Spinal cord injuries</li> <li>▪ Pelvic injuries</li> </ul>  |  |

|     |                                   |   |  |
|-----|-----------------------------------|---|--|
|     |                                   | <ul style="list-style-type: none"> <li>▪ Emergency care</li> <li>▪ <b>Practical:</b> stabilizing the fracture</li> </ul>  |  |
| 8.  | <b>Poisoning and overdose</b>     | <ul style="list-style-type: none"> <li>▪ Types</li> <li>▪ Signs and symptoms</li> <li>▪ Animal bites</li> <li>▪ Management of poisoning</li> </ul>  |  |
| 9.  | <b>Environmental emergency</b>    | <ul style="list-style-type: none"> <li>▪ Heat stroke</li> <li>▪ Heat exhaustion</li> <li>▪ Hypothermia( signs and symptoms)</li> <li>▪ Drowning</li> <li>▪ Fever and sun shock</li> </ul>   |  |
| 10. | <b>Cardiovascular emergencies</b> | <ul style="list-style-type: none"> <li>– Heart failure</li> <li>– Cardiac arrest</li> <li>– Angina pectoris</li> <li>– CPR (Adults,children, infants)</li> <li>– Practical: apply CPR technique ( adults,children)</li> </ul>           |  |
| 11. | <b>Altered mental status</b>      | <ul style="list-style-type: none"> <li>– Diabetic coma</li> <li>– Coma and dizziness</li> <li>– Epilepsy( seizures)</li> <li>– Convulsions</li> <li>– Severe pain</li> <li>– Practical: how to behave with epileptic patient</li> </ul> |  |

## الكتب والمراجع:

1. First aid hand book National safety council and Alton L Thygrson, 1995, Jones and Bartlett publisher
2. The American red cross first aid and safety hand book , American red cross and Kathleen A. Handal, 1992 , The American national red cross
3. First aid in the work places , Goold, Grant B, Robert J. Brady, 2<sup>nd</sup> edition,1998.
4. First aid for colleges and universities, Karren, Keth, Hafen, Brenta, Limmer, Daniel, Mistouish, Joseph J, Benjmain Cummings co. 9<sup>th</sup> edition 2008.
5. First Aid : taking action , National safety council , Mcgrow –Hill,2007.
6. First aid : Responding to Emergencies , American Red Cross Staff, Stay Wellrom 4<sup>th</sup> edition, 2005
7. Emergency Medical treatment , Vogel. Stephan,EMT.inc ,1993

## برنامج الدرجة الجامعية المتوسطة

|                     |                  |                  |
|---------------------|------------------|------------------|
| Dental Laboratories | مختبرات الأسنان  | التخصص           |
| Field Training      | التدريب الميداني | اسم المادة       |
| 020813241           |                  | رقم المادة       |
| 3                   |                  | الساعات المعتمدة |
| 0                   |                  | ساعة نظري        |
|                     |                  | ساعة عملي        |

### الوصف المختصر للمادة:

This training course is designed to provide the student with practical skills in all phases of dental laboratory procedures. More specifically, the course is arranged in away that the student will gain field training in all areas of basic laboratory work, including fixed prosthodontics, complete dentures, as well as advanced laboratory work (Maxillofacial prosthesis, ceramics). It reinforces and extend their previous learning in all steps of all dental courses.

### أهداف المادة الدراسية:

Upon the completion of the course, the student will be able to:

1. Learn model pouring, custom tray making, occlusion rims, mounting the articulators, all leading to setting teeth.
2. Acquire further instruction and laboratory work-in removable prosthodontics, immediate denture, and overdenture.
3. Understand further instruction and laboratory work-in maxillofacial prosthesis, and ceramics.
4. Survey different models.
5. Understand further instruction and laboratory work-in orthodontic appliances.

## محتويات المساق:

| Unit Number | Unit Name                                  | Unit Content  | Time Needed |
|-------------|--|---|-------------|
| 1.          | Preservation and pouring of the impression | <ul style="list-style-type: none"> <li>▪ caring of the impression</li> <li>▪ pouring</li> <li>▪ separation and making casts</li> </ul>  |             |
| 2.          | Complete denture steps                     | <ul style="list-style-type: none"> <li>▪ Training on making all steps of complete denture in the lab</li> </ul>   |             |
| 3.          | Denture repair and adding fractured teeth  | <ul style="list-style-type: none"> <li>▪ denture repair</li> <li>▪ adding fractured teeth</li> </ul>  |             |
| 4.          | Rebasing and relining                      | <ul style="list-style-type: none"> <li>▪ Training on Lab work and steps of rebasing and relining</li> </ul>   |             |
| 5.          | Immediate denture and overdenture          | <ul style="list-style-type: none"> <li>▪ Training on lab steps of immediate denture</li> <li>▪ Training on lab steps of over denture</li> </ul>                                 |             |
| 6.          | Steps of partial denture prostheses        | <ul style="list-style-type: none"> <li>▪ Training on making all steps of partial denture prostheses in the lab</li> </ul>   |             |
| 7.          | surveying                                  | <ul style="list-style-type: none"> <li>▪ Training on steps of surveying in the lab</li> </ul>   |             |
| 8.          | Steps of fixed prostheses                  | <ul style="list-style-type: none"> <li>▪ all steps of fixed prostheses</li> <li>▪ repair of fractured parts</li> <li>▪ adding porcelain to fractured crown or bridge</li> </ul> |             |



|     |  |  |  |
|-----|--|--|--|
|     |  |  |  |
| 9.  | <b>Steps of orthodontic appliances</b> | <ul style="list-style-type: none"><li>preps ortho appliance</li><li>preps acrylic night guards</li></ul>                 |  |
| 10. |  | <ul style="list-style-type: none"><li>Steps of obturators in the lab as required by doctors.</li></ul>                   |  |
| 11. |  | <ul style="list-style-type: none"><li>soldering</li><li>adding teeth</li><li>repair of fractured acrylic parts</li></ul> |  |

### الكتب والمراجع:

1. Zarb, George A. (and others).

Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Prosthesis. 12th ed. St. Louis, MO: Mosby, 20

2. Winkler S.

Essentials of Complete Denture Prosthodontics. 2nd ed.

3. Sowter, J.B. and Barton, R.E.

Removable Prosthodontic Techniques (Dental Laboratory Technology Manuals). Rev. ed. University of North Carolina Press, 1987.

4. Morrow, Robert M., Rudd, Kenneth D., Rhoads, John E.

Dental Laboratory Procedures Complete Dentures & Maxillofacial Procedures .Mosby Company, 1986

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تأسست عام 1997

جامعة البلقاء التطبيقية

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