

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
24 Douglas Street
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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0069150 **-Session-1986-87**
-Superclass- PF

-Title- PARTIAL DENTURE CONSTRUCTION (x 2)

-DESCRIPTION-

Type and Purpose A Specialist Module (2) which enables the Dental Technology student to acquire a knowledge of the construction of partial dentures and the principles involved.

Preferred Entry Level 09154 Complete Denture Construction

Learning Outcomes The student should:

1. know the principles underlying the construction of partial dentures;
2. know the principles of partial denture retention;
3. set-up and wax-up partial dentures to a given prescription;
4. demonstrate safe working practice.

Content/Context Corresponding to Learning Outcomes 1-4:

1. Principles underlying the construction of partial dentures:
 - (a) restoration of appearance;
 - (b) restoration of phonetics;
 - (c) restoration of mastication;
 - (d) restoration of vertical dimension;

- (e) restoration of muscle tone;
 - (f) laws of articulation.
2. Factors affecting retention of partial dentures explained as:
- (a) Physical:
 - (i) adhesion-attraction of unlike molecules;
 - (ii) cohesion - attraction of like molecules;
 - (iii) surface tension - meniscus occurring in the saliva which resists penetration of air under the denture;
 - (iv) atmospheric pressure - weight of the atmosphere which exerts a pressure of 14.7 lb per sq inch at sea level;
 - (v) gravity - weight of denture should be kept to a minimum.
 - (b) Anatomical: well developed firm alveolar ridges with an even thickness of tissue and a good depth of sulcus from the crest of the ridge to enhance retention. Usable undercuts on natural standing teeth may be used if required to improve the retention of partial dentures.
 - (c) Mechanical:
 - (i) fit - good impressions;
 - (ii) shape - functional impressions, flanges in harmony with facial muscles and tongue;
 - (iii) occlusion and articulation.
 - (d) Physiological: muscle action at reflex level aiding retention of dentures; however, young patients are more able to adjust to new partial dentures in this manner than the older patient.
 - (e) Surveying:
 - (i) non-undercut area;
 - (ii) undercut area;
 - (iii) depth of undercut area;
 - (iv) clasping of natural teeth;
 - (v) path of denture insertion.

3. Articulate models using record blocks:
 - (a) set-up upper or lower anteriors to prescription;
 - (b) set-up upper posteriors to interdigitate with lower posteriors;
 - (c) set-up lower posteriors to interdigitate with upper posteriors;
 - (d) set upper anteriors to allow for overjet-overbite;
 - (e) set lower anteriors to allow for overjet-overbite;
 - (f) spot grind teeth to balanced articulation;
 - (g) wax-up.
 4. Safe working practice with bunsen, instruments, wax and handpiece.
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Suggested Learning and Teaching Approaches

Relating to Learning Outcomes 1-4:

This is a practical-based module in which the majority of the time should be spent in practising skills to achieve a satisfactory standard of work.

- 1-2 A collection of demonstration models, visual aids, films and existing set-ups could be shown to the student during a short lecture and discussion, backed up where possible by a visit to a clinic.
 3. The whole procedure for partial denture construction could be demonstrated by the use of a series of pre-prepared set-ups at different stages in their construction, so that the time factor is eliminated and the student can gain an overview of the task he/she will be required to carry out. The student should subsequently, under constant guidance, make several different set-ups. Formative assessment should accompany each practical activity so that remedial action can be undertaken. There should also be a discussion on the restraint imposed by industry on the time allocated to the task.
 4. The safety procedures should be demonstrated and subsequently discussed frequently throughout the module.
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Assessment Procedures

Relating to Learning Outcomes 1-4:

1. Short written or oral tests held when appropriate during the module but allowing time for remediation and retesting if necessary.

2. Short written or oral tests held when appropriate during the module but allowing time for remediation and retesting if necessary.
3. Observation of performance during practical work and the use of a checklist to indicate that satisfactory partial dentures have been made on at least three occasions.

The following checklist may be useful for the purposes of formative assessment of the stages in construction:

- 3.1 occlusion of models using record blocks or wax wafer;
- 3.2 articulation of models - plane line articulator, fixed condylor path articulator;
- 3.3 reading of prescription - identification of teeth to be replaced:

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- 3.4 mould and shade of porcelain and acrylic teeth;
- 3.5 type of denture base - acrylic, stainless steel, cobalt chromium alloy;
- 3.6 gum-fitting of the teeth;
- 3.7 clasping of teeth - wrought, cast;
- 3.8 record block markings - centre line, occlusal plane, high smile line, low smile line, canine line;
- 3.9 surveying of model;
 - (a) path of denture insertion - lines on side or back of model;
 - (b) high survey lines - occlusally approaching;
 - (c) low survey lines - gingivally approaching;
 - (d) wanted undercuts;
 - (e) blocking out of undercuts;

3.10 denture base extension;

- (a) maxilla - alveolar ridge, sulcus, rugae, hard palate, incisive papilla, frenal attachments, palatal torus, tuberosity, soft palate;
- (b) mandible - alveolar ridge, buccal sulcus, labial sulcus, lingual sulcus, frenal attachments, retromolar pads;

3.11 setting-up of teeth;

- (a) anterior teeth-ridge relationship, tooth inclinations, overbite, overjet;
- (b) posterior teeth - ridge relation, compensating curves;
- (c) tooth occlusion - lingually, buccally, centric, protusion;

3.12 Waxing-up of denture - peripheral outline, shape of denture, contouring of wax, aesthetics and general, appearance of try-in.

4. Observation of performance during practical activities, using a checklist to indicate satisfactory performance eg.

safe working practice observed for:

electrical equipment;

bunsen burner;
eye protection;
face protection.

Performance Criteria

Learning Outcomes 1 and 2:

The performance in the respective tests should indicate that the student has mastered the content required for each Learning Outcome. The exact score required will depend on the difficulty and extent of the tests and cannot be fully judged in advance; it is however unlikely to be less than 70%.

Learning Outcome 3:

As soon as the student has satisfied the tutor of the quality of the finished product on three occasions he/she should be credited with the Learning Outcome. The partial dentures to be used for summative assessment should be retained.

Learning Outcome 4:

The tutor must be satisfied that the student has observed the correct procedure for each item on the checklist before he/she is credited with the Learning Outcome.

For Learning Outcomes 1, 2, 3 and 4 the standard to be achieved will be a matter for the professional judgement of the tutor aided by the Council's assessor.

Award of the module depends on the satisfactory achievement of all the Learning Outcomes.