

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

ACADEMIC AFFAIRS

Course Number: DHYG 103 Department: Dental Hygiene

Course Title: Oral Anatomy 1 Semester: Spring Year: 1997

Objectives/Competencies

Course Objective	Competencies
<ol style="list-style-type: none">1. Utilize appropriate clinical dental terminology.2. Describe the detailed morphology of the permanent dentition.3. Describe the detailed morphology of primary dentition.4. Describe the morphological differences between the primary and permanent dentition. Describe the intra-arch relationship of the teeth and their effect on the health of the supportive structures.5. Describe the morphological characteristics of the dental pulp for each of the permanent teeth.6. Describe and identify structures that compose the surface form of the oral cavity.	<ol style="list-style-type: none">1. Lesson I:<ol style="list-style-type: none">a. Locational Terms: anterior, posterior, superior, medial, lateral.b. Oral Structures:<ol style="list-style-type: none">1. External Structures of the Oral Cavity: labium superious, labium inferious, vermilion zone and border, wet line, labial commissure, tubercle of the lip, philtrum, labiomental groove, lablomarginal groove, labionasal groove, submental groove.2. Division of the Oral Cavity: oral vestibule, oral cavity proper.3. Structures for the Oral Vestibule: labial frenum, buccal frenum, linea alba, vestibular fomix or vestibular sulcus, maxillary tuberosity, mandibular retromolar area, stenson's papilla, opening to stenson's duct, caliculus angularis or commissural papule, fordyce granules of fordyce

Course Objective	Competencies
	<p style="text-align: center;">spots, gingiva, masticatory, lining, specialized.</p> <p>2. Lesson 2: Nomenclature and Terminology: The student will be able to define, describe, and identify (where appropriate) the following:</p> <ol style="list-style-type: none"> a. deciduous or permanent teeth by their proper names, when given a diagram or description of their function, arch position, or alternate name. b. the type of deciduous or permanent teeth per quadrant, arch and in total. c. the type and number of teeth which are anterior or posterior. d. a knowledge of dental formulae by supplying, or selecting from a list the correct information regarding a given dental formula. e. the general eruption sequence or order, for deciduous and permanent teeth by listing, or selecting from a list, the proper sequences. f. the three periods of man's dentition, as well as their approximate time intervals of existence, and normal initiation and termination. (deciduous, mixed, permanent) g. the terms succedaneous or non-succedaneous and be able to choose from a list, the tooth or teeth which are succedaneous or nonsuccedaneous. h. the proper name for non tooth surfaces, thirds of tooth surfaces, when given a diagram or a description.

Course Objective	Competencies
	<ul style="list-style-type: none"> i. supply the correct name for line or point angles. j. the various numbering systems presented by supplying or selecting from a list, the correct names or description for a given symbol, or the correct symbol for a given name or description. (Universal, Palmer, and International system) k. the live surfaces of a tooth. l. the proper definition or description of the following terms and make applications to these terms to diagrams or situations: crown, clinical crown, root, anatomic root, clinical root, cervix, root trunk, apex of root, enamel, cementum, dentin, cervical line, junctions (cementodental junction, dentinoenamel junction, cements enamel junction), cusp, cingulum, marginal ridge, fossa, fissure, pit, sulcus, facial surface, buccal surface, labial surface, mesial surface, distal surface, lingual surface, palatal surface, occlusal surface, incisal edge, proximal surface, crest of curvature, free gingiva, attached gingiva, alveolar mucosa, gingival margin, free gingival groove, mucogingival junction, stippling, interdental papilla, gingival sulcus. m. Describe the structures of the oral cavity proper: palate (hard palate, soft palate), palatine torus, palatine rugae, palatine raphe, incisive papilla, oropharyngeal isthmus, palatoglossal arch or fold, palatine fovea, palatine tonsils, hamulus,

Course Objective	Competencies
	<p>pterygomandibular anchor fold.</p> <ul style="list-style-type: none"> n. Describe the tongue: dorsal surface, ventral surface, filiform papilla, fungiform papilla, foliate papilla, foramen cecum, terminal sulcus, lingual tonsils, median sulcus, lingual frenum, lingual vein, plica fimbriata. o. Describe the floor of the mouth: sublingual sulcus or alveolingual sulcus, sublingual folds (eminence) or plica sublingualis, sublingual caruncles, opening to: Wharton's duct, ducts of Rivinius, duct of Bartholin, torus maxillary and mandibular, cusp slopes ridge, marginal ridge, triangular ridge, transverse ridge, oblique ridge, pulp cavity, pulp canals, pulp chambers, pulp horn, apical foramen, labial ridge, oblique ridge, transverse ridge, triangular ridge, cervical ridge, contact area, alveolus, abrasion anomaly, attrition calcification, caries embrasure, erosion, eruption, plaque, pit, self cleansing surface, supernumerary teeth, tubercle. p. Traits, class: incisor, premolar, molar, canine. q. Set: deciduous, permanent. r. Arch: maxillary, mandibular s. Type: difference between those in same class: dilaceration, exfoliation, facet, furcation, interproximal space. <p>3. Lesson Three: Form and Function</p>

Course Objective	Competencies
	<ul style="list-style-type: none"> a. Name three major functions of the human dentition. b. Discuss and compare the evolution c. Given sufficient information, classify the dentition of any member of the animal kingdom as heterodont, homodont, diphyodont, monophyodont or polyphyodont. d. Describe and relate each specific shape of coronal portions of the teeth to specific function of the tooth in relation to the following forms: triangular, trapezoidal, rhomboidal, obtuse angle, right angle, and acute angle. e. Describe the general rules followed in locating contact areas of individual teeth, and give 2 reasons for the importance of proper contact areas. f. Describe the changes in contact areas occurring with age and the reasons for change. g. Describe the components, boundaries and functions of the interproximal spaces. h. Discuss two purposes embrasures serve and be able to describe normal embrasure form and correctly name a description or two dimensional drawing of an embrasure. i. Locate the proper location of the crest of curvature on the facial, lingual mesial and distal surfaces. j. Differentiate between the number and names of lobes of the anterior and posterior teeth and the major structure separating lobes. k. Relate the influence of the crest of curvature of

Course Objective	Competencies
	<p>gingival health.</p> <ol style="list-style-type: none"> 1. Describe the depth and direction of cervical line curvatures on all teeth and relate these facts to the health and stability of the dentition. m. Describe root structure which is necessary for proper function of the different teeth. n. Demonstrate a knowledge of the protective functions of root anatomy by discussing root length, root number, root diameter and root concavities and root curvatures as related to periodontal health. o. Identify and discuss the different axial positions of individual teeth and axial position to function and maintaining the integrity of the dentition. p. Correlate knowledge of tooth morphology in proper use of explorer, periodontal probe and flossing techniques. q. Analyze the physiologic tooth form protecting the periodontium including fundamental curvatures, proximal contact areas, embrasures, labial and buccal contours at the cervical thirds of the crowns. <ol style="list-style-type: none"> 4. Lesson 4: Mx and Md Central and Lateral Incisors: <ol style="list-style-type: none"> a. List of select from a list the approximate ages concerning the developmental chronology of the incisors(i.e., evidence of calcification, eruption dates, root completion). b. Describe the detailed morphology of the permanent

Course Objective	Competencies
	<p>mx and md incisors by describing, selecting from a list the correct response or identify and label any drawing of the following features:</p> <ol style="list-style-type: none"> 1. contours of any surface or margin of any surface. 2. structural entities such as mamelons, grooves, pits, ridges, fossae, lobes, cingula, etc. 3. height of contour and contact areas. 4. relative dimensions and shape: m-d measurements, labio-lingual measurements, cervical dimensions, and root-crown ratio. 5. any other surface feature. <ol style="list-style-type: none"> c. Relate the shape of mx or md permanent incisors to their function. d. Make comparisons between individual incisors. e. Determine from a correct Universal number, Palmer number or International dentaire number for given incisor. f. Determine from a diagram or specimen whether a given incisor is maxillary or mandibular, right or left. g. Describe any anomalies common to this class of teeth. h. Reproduce the accurate morphological characteristics of the permanent mx and md incisors. i. Compare the pulp chamber in size and shape. j. Discuss the relationship between incisor position and lingual calculus formation. k. Recognize an incisor clinically and radiographically. l. Relate root concavities and root diameter to

Course Objective	Competencies
	<p>periodontal disease initiation or prevention.</p> <ul style="list-style-type: none"> m. Reproduce the accurate morphological characteristics of the permanent mx and md incisor teeth if requested in wax. n. Identify extracted central or lateral incisors and determine whether the given tooth is maxillary, mandibular, left or right, permanent or primary. <p>5. Lesson 5: Canines</p> <ul style="list-style-type: none"> a. List or select from a list the appropriate ages concerning the developmental chronology of the canines, evidence of calcification, eruption dates, root completion. b. Describe the detailed morphology of the permanent mx and md incisors by describing, selecting from a list the correct response or identify and label any drawing of the following features: <ul style="list-style-type: none"> 1. contours of any surface or margin of any surface. 2. structural entities such as mamelons, grooves, pits, ridges, fossae, lobes, cingula, etc. 3. height of contour and contact areas. 4. relative dimensions and shape: md measurements, labio-lingual measurements, cervical dimensions, root-crown ratio. 5. any other surface feature. c. Relate the shape of mx or md permanent canines to their function.

Course Objective	Competencies
	<ul style="list-style-type: none"> d. Make comparisons between individual canines. e. Determine from a correct Universal number, Palmer number or International dentaire number for given canines. f. Determine from a diagram or specimen whether a given incisor is maxillary or mandibular, right or left. g. Describe any anomalies common to this class of teeth. h. Relate canine lingual anatomy to a transitional and functional role. i. Compare the pulp chamber in size and shape. j. Relate root concavities, root length, and diameter of the canine to the integrity of the dentition. k. Recognize a canine clinically and radiographically. l. Identify extracted canines and determine whether the given tooth is maxillary, mandibular, left or right, permanent or primary. <p>6. Lesson 6: Maxillary and Mandibular Pre-Molars</p> <ul style="list-style-type: none"> a. List or select from a list the appropriate ages concerning the developmental chronology of the premolars, evidence of calcification, eruption dates, root completion. b. Describe the detailed morphology of the permanent mx and md incisors by describing, selecting from a list the correct response or identity and label any drawing of the following features: <ul style="list-style-type: none"> 1. contours of any surface or margin of any surface. 2. structural entities such as grooves, pits, ridges,

Course Objective	Competencies
	<p>fossae, lobes, etc.</p> <ol style="list-style-type: none"> 3. height of contour on facial lingual surfaces and contact areas on mesial distal surfaces. 4. relative dimensions and shape: md measurements, labio-lingual measurements, cervical dimensions, root-crown ratio. 5. pulp cavity. 6. any other surface feature. <ol style="list-style-type: none"> c. Relate the shape of the premolars to their function. d. Make comparisons between individual premolars. e. Determine from a diagram, radiograph, or specimen, whether a given premolar is maxillary or mandibular, right or left, or permanent. f. Determine the correct universal number, Palmer number or International code number for a given premolar. g. Describe any anomalies common to this class of teeth. h. Recognize a premolar in a changing dentition. i. Relate occlusal groove anatomy to caries initiator. j. Relate root concavities, root length, and diameter to the periodontal disease initiation or prevention. k. Recognize a premolar clinically and radiographically given a dentition with orthodontically extracted premolars, identify the correct premolar extracted. l. Identify extracted premolars and determine whether the given tooth is maxillary, mandibular, left or right,

Course Objective	Competencies
	<p>permanent or primary.</p> <p>m. Reproduce the accurate morphological characteristics of the permanent mx and md premolars in wax if requested.</p> <p>7. Lesson 7: Maxillary and Mandibular Molars</p> <p>a. List or elect from a list the appropriate ages concerning the developmental chronology of the molars, evidence of calcification, eruption dates, root completion.</p> <p>b. Describe the detailed morphology of the permanent mx and md incisors by describing, selecting from a list the correct response or identify and label any drawing of the following features:</p> <ol style="list-style-type: none"> 1. contours of any surface or margin of any surface. 2. structural entities such as grooves, pits, ridges, fossae, lobes, etc. 3. height of contour on facial lingual surfaces and contact areas on mesial distal surfaces. 4. relative dimensions and shape: md measurements, labio-lingual measurements, cervical dimensions, root-crown ratio. 5. pulp cavity. 6. any other surface feature. <p>c. Relate the shape of the molars to their function.</p> <p>d. Make comparisons between individual molars.</p> <p>e. Determine from a diagram, radiograph, or specimen whether a given molar is maxillary or mandibular, right</p>

Course Objective	Competencies
	<p>or left, or permanent.</p> <ul style="list-style-type: none"> f. Determine the correct universal number, Palmer number or International code number for a given molar. g. Describe any anomalies common to this class of teeth. h. Recognize a molar in a changing dentition. i. Relate occlusal groove anatomy to caries initiator. j. Relate root concavities, root length, and diameter to the periodontal disease initiation or prevention. k. Recognize a molar clinically and radiographically given a dentition with orthodontically extracted molars, identify the correct molar extracted. l. Identify extracted molars and determine whether the given tooth is maxillary, mandibular, left or right, permanent or primary. m. Reproduce the accurate morphological characteristics of the permanent mx and md molars in wax if requested. <p>8. Lesson 8: Primary Dentition</p> <ul style="list-style-type: none"> a. Identify deciduous teeth by correct name. b. Differentiate between a primary or secondary tooth. c. Discuss the eruption dates of each primary tooth. d. Discuss the morphological differences and similarities between primary and permanent teeth with particular emphasis on the first molar differences and second molar similarities. e. Discuss the importance and function of the primary

Course Objective	Competencies
	<p>dentition.</p> <ul style="list-style-type: none"> f. Determine from a diagram or description or specimen; the classification, arch or quadrant portion of a deciduous tooth. g. Determine from a diagram or description which deciduous tooth is being described or illustrated. h. Determine the correct Universal or Palmer notation for a given diagram or description of any deciduous tooth. i. Identify from a diagram the general outline, shape, dimensions of the pulp chamber as well as the numbers and dimensions of the pulp canals. j. given a mixed dentition to evaluate, will be able to classify and identify the teeth present by dentition and class. k. Identify extracted deciduous teeth and determine the class of the given tooth and the arch location. <p>9. Lesson 9: Occlusion</p> <ul style="list-style-type: none"> a. Discuss the importance of observing occlusal relationships while performing professional duties. b. Define the terms occlusion, static occlusion, functional occlusion, centric occlusion, and central relation. c. Discuss 8 anatomical aspects which are considered in the study of occlusion. <ul style="list-style-type: none"> 1. dental arch formation (alignment of teeth) 2. compensating curvatures of the dental arches. (Curve of Spee, Curve of Wilson, Curve of

Course Objective	Competencies
	<p>Monson.)</p> <ol style="list-style-type: none"> 3. compensating curvatures of the individual teeth (curved axes). 4. functional form of the teeth at their incisal and occlusal thirds. 5. angulation of individual teeth in relation to various planes (including root form). 6. facial relations of each tooth in one arch to its antagonist or antagonists in the opposing arch in centric occlusion. 7. occlusal contact and intercusp relations of all the teeth of one arch with those in the opposing arch in centric occlusion. 8. occlusal contact and intercusp relations of all the teeth during the various functional mandibular movements. <ol style="list-style-type: none"> d. Describe tooth/jaw relationships in normal occlusion and mal-occlusion relations for primary and permanent dentitions. e. Identify and describe mal-relations of groups of teeth: <ol style="list-style-type: none"> 1. crossbite 2. edge-to-edge bites 3. openbites 4. overject 5. underjet 6. overbite f. Identify and describe mal-relations of individual teeth:

Course Objective	Competencies
	<ul style="list-style-type: none"> 1. labioversion 2. linguoversion 3. buccoversion 4. supraversion 5. torsoversion 6. infraversion g. Describe and give examples of functional and nonfunctional occlusal contacts. h. Differentiate between primary occlusal trauma and secondary occlusal trauma. i. Describe clinical and radiographic signs of occlusal trauma. j. Given a model or clinic patient to be able to classify the occlusal relationship. k. Given a clinic patient to analyze the causative factors results in mal-occlusion and determine the effects on the periodontium.

Course Objective	Competencies

Course Objective	Competencies
1.	