Student should successfully complete 60 Credits courses for specialty diploma and additional 6 Credits Thesis to fulfill the Master’s Degree in Prosthodontics

General Courses

**ANAT 651- General Anatomy and Embryology**
(1Cr: 1Lec, 2Prac)

**Anatomy:** Cardiovascular system, Respiratory system; Skull, mandible & cervical vertebrae; Scalp and face; Cranial cavity (fossae, folds, venous sinuses & pituitary gland); Orbit; Parotid Region; Temporal & Infratemporal Region; Pterygo-palatine fossa; T.M.J.; Nasal cavity; Mouth cavity (lips & cheeks, gum & teeth, tongue and palate); Ear and facial nerve; Posterior triangle of the neck; Anterior triangle subdivisions; Submandibular Region; Thyroid gland; Blood vessels of the neck; Cranial nerves in the neck; Fasciae of the neck; Pharynx; Larynx; Pathway of exteroceptive sensations from the face & teeth to the cerebral cortex; Pathway of taste sensation to the cerebral cortex.

**Embryology:** Fertilization; Cleavage; Implantation; Formation of the 3 germ layers & their derivatives; Pharyngeal arches & derivatives; Pharyngeal pouches & fate; Branchial sinus, cyst & fistula; Development of face; Development of palate; Development of tongue; Development of thyroid gland; Development of pituitary gland; Development of salivary glands.

**BIOM 602- Basic Biomaterials Science**
(1Cr: 1Lec, 0Prac)


**BIOM 613- Advanced Biomaterials VI**
(1Cr: 1Lec, 0Prac)

Impression materials, model and die materials, dental casting alloys, post and core materials, dental cements, dental investment materials, investing and casting techniques, metallic and non-metallic denture base materials, tissue conditioners and soft liners.

**COMD 602- Biostatistics & Research Methodology**
(1Cr: 1Lec, 0Prac)

Introduction to the course, definitions, Characteristics of data and Collection of data, Sampling (Types of sample, Methods of sample), Essentials for research design (Types of research study, Components of research protocol), Tabular and graphical Presentation of data (Frequency distribution tables, Contingency tables, Bar-chart, Histogram, Frequency polygon and pie-chart), Mathematical presentation of data: Measures of central tendency: Mean, Median, Mode; Measures of variation: Range, Standard deviation, Standard of error, CO-variance, Normal distribution Curve, Hypotheses Formulation, Tests of Hypotheses and significance (Parametric tests): Z test, “t” tests, Correlation test r-test, Analysis of variance F-test, Chi- square test. Non-Parametric tests.
**MICR 651-Microbiology, Immunology & Molecular Biology**  
(1Cr: 1Lec, 2Prac)

**Microbiology:** Prokaryotes and eukaryotes; Structure of bacterial cell; Biological requirements for bacterial growth; Bacterial growth: growth curve, kinetic of growth, continuous growth and synchronous growth; Bacterial products: pigments, toxins and enzymes; Genetic elements: Chromosomal and non-chromosomal elements; Mode of transferring genetic elements; Mutation; General properties, structure, classification, replication, cultivation and detection.

**Immunology:** Types of immunity; Immune response; Antigen and antibody; Surface markers on cells of immune system; Immune deficiency diseases; Hypersensitivity and autoimmunity; Serological techniques.

**OPTH 603-Advanced Oral Pathology**  
(2Cr: 2Lec, 2Prac)

Introduction to oral pathology; Developmental anomalies of teeth; Dental caries; Pulp diseases; Periodontal pathologic conditions; Osteomyelitis; Cysts of oral and para oral region; Bone diseases; Salivary gland diseases; Developmental abnormalities of oral and para oral tissues; Viral, bacterial and mycotic diseases. Classification, etiology and pathogenesis, microbiologic factors, clinical features and differential diagnosis. Microscopic features and management. Oral ulceration and vesiculo bollous lesions; Oral manifestations of AIDs; Metabolic and endocrinual disturbances; White lesions; Precancerous conditions and lesions; Etiology of oral cancer and Oncogenes; Salivary gland tumors; Odontogenic tumors; Non-Neoplastic inflammatory overgrowth of the oral mucosa; Non-Odontogenic epithelial tumors; Non-Odontogenic Mesenchymal tumors; Pigmented oral lesions; Muscle tumors; Malignant lymphomas and leukemia; Nerve tissue tumors, classification, clinical and microscopic features; Undifferentiated head and neck tumors; Oro-facial pain; Arterio-Venous Malformations; Diseases of TMJ; Forensic problems and oral pathology.

**ORBL 601-Oral Biology**  
(2Cr: 2Lec, 2Prac)

Development and growth of the teeth; Enamel; Dentin; Pulp; Cementum; Periodontal ligament; Embryology; Maxilla and mandible; Oral Mucosa; Salivary Glands; Bone and alveolar process; Eruption and shedding; Temporo-mandibular joint; Maxillary sinus & lymph drainage; Wound healing, repair & regeneration; Physiologic tooth forms protecting the periodontium; Dental and Para dental Tissues; Advanced Oral Biology.

**PHYL 651- Advanced General Physiology**  
(1Cr: 1Lec, 0Prac)

Blood; Digestive system; Autonomic Nervous System; Excitable Tissues; Endocrine System; Renal system; Cardiovascular system; Central nervous system; Renal system; Respiratory System.
Specialty Courses

**PROS 609-Fixed Prosthodontics FR I**
(2Cr: 1Lec, 3Prac)

Infection control procedures; Diagnosis and Treatment planning for replacement of partial loss of teeth; History taking, Clinical examination, Diagnostic casts, Radiographs and Diagnostic waxing up; Factors affecting the selection of type of restorations; Effects of loss of teeth; Decision to remove a tooth, Consequences of tooth loss replacement; Types of preparations.

**PROS 610-Fixed Prosthodontics FR II**
(3Cr: 1Lec, 6Prac)

Indications and contraindications for fixed partial dentures, Provisional restorations; Types of conventional bridges; Bridge design; Basic principles of tooth preparation: Biologic, mechanical and esthetic considerations, Principles of parallelism, Retention and resistance, Structural durability, Marginal integrity; Post-insertion Care and Follow up, Periodic recall.

**PROS 611-Removable Prosthodontics FR I**
(2Cr: 1Lec, 3Prac)

Introduction to removable Prosthodontics; Objectives of complete denture treatment; Limitations of complete denture; Objectives and mechanism of denture wearing; Patient’s responsibility; Patient’s education and complete denture maintenance; Oral and denture hygiene; Continuous wearing versus interrupted use of dentures; Success in complete denture prosthesis; Anatomic considerations of the denture bearing area; Ideal denture bearing area; Nutrition and the denture-bearing tissues; Essential anatomy and physiology of the masticatory system; Muscles producing mandibular movements; Muscles of expression; Temporo-mandibular joint; Mandibular movements; Diagnosis and treatment planning of the edentulous patient; Pre-prosthetic mouth preparation.

**PROS 612-Removable Prosthodontics FR II**
(3Cr: 1Lec, 6Prac)

Biologic considerations for impressions; Impressions (theories, concepts and techniques); Objectives of a complete denture impression; Basic principles of impression making; Philosophy and techniques of impression making; Concepts of impression; Classification of impression materials; Errors in final impressions; Gagging during impression making; Causes and management; Factors involved in retention, stability and support; Principles of registering maxillo-mandibular relationships; Jaw relation records; Clinical procedures for recording maxillo-mandibular relations; Methods of assisting patient to retract the mandible; Face bow; Indications; Types of face bow; Arbitrary (Ear bow transfer procedure); Kinematic (hinge axis face bow transfer); Selection of artificial teeth for edentulous patient; Selection of anterior teeth; Dentogenic concept in selecting artificial teeth; Selection of posterior teeth; Articulators and interocclusal recording devices; Complete denture try-in and insertion; Post-insertion changes and problems; Relining and rebasing.
PROS 613-Fixed Prosthodontics FR III
(3Cr: 1Lec, 6Prac)

Causes of Failures of Fixed Partial Dentures: Biologic causes, Mechanical causes, Esthetic causes; Treatment options of partial loss of teeth; Prosthodontics index; Removal of Fixed Partial Dentures: Causes and Techniques; Fixed Partial Dentures Repairs.

PROS 614-Fixed Prosthodontics FR IV
(3Cr: 1Lec, 6Prac)

Provisional crowns and bridges; Impression making and tissue management; Interocclusal records and bite registration; Working casts - Systems of removable dies; Waxing procedures: Pontics; Edentulous ridge and tissue contact area; pontic designs; and techniques of pontic fabrication; Casting techniques; Alloys for fixed restorations; Try-in procedure; Fixed partial denture Connectors techniques; Solders and soldering procedures.

PROS 615-Removable Prosthodontics FR III
(3Cr: 1Lec, 6Prac)

Introduction to Removable partial denture; Classification; Survey and design; Metallic components; Saddle; Occlusal rests and similar components; Direct retainers; Indirect retainers; Stress breakers; Major and minor connectors; Clinical and laboratory procedures for frame work construction, and master cast preparation.

PROS 616-Removable Prosthodontics FR IV
(3Cr: 1Lec, 6Prac)

Diagnosis and treatment planning; Mechanical principles of designing associated with removable partial dentures; Planning different designs; Mouth preparation; Impressions procedures for RPD; Esthetics in RPD; Fitting frame work; Establishing occlusal relationship; Tooth selection; Try-in and completion of the partial denture; Partial denture delivery; Post-insertion complaints and management; Possible tissue damage resulting from wearing removable partial denture; Relining removable partial denture; Repair and additions.

PROS 617-Fixed Prosthodontics FR V
(3Cr: 1Lec, 6Prac)

Esthetic Consideration in Fixed Prosthodontics, Principles of Esthetics, General components of a Smile, Dental components of Smile Golden Theory; Esthetic restorations and techniques; The porcelain labial margin for esthetic metal ceramic crown; Dental ceramics technique for porcelain build up, Staining, and Glazing; Ceramic-metal restorations preparation of metal framework and porcelain application.

PROS 618-Fixed Prosthodontics FR VI
(3Cr: 1Lec, 6Prac)

Adhesive metal-free restorations; Porcelain inlays and onlays, Advantages and disadvantages, Indications and contra-indications, Inlay preparations; Resin-retained bridges: Types, Indications, Tooth preparation and cementation; Fiber-reinforced restorations; Porcelain laminate veneers; Tooth preparation, Indications and contra-indications and cementation; Advanced Color Science and Shade selection, Light and Color, Dimensions of Color, Color perception, Shade guides and Shade selection; Luting agents and cementation procedures, Bonding mechanisms, Cement selection
**PROS 619 - Removable Prosthodontics FR V**
(3Cr: 1Lec, 6Prac)

Implant versus natural tooth; Phases of implant treatment; Indications and contraindications; Advantages and disadvantages; History and types; Diagnosis and treatment planning; Selection of a suitable implant restoration; Implant overdentures; Removable versus fixed implant prosthetics; Construction procedures; Loading concepts; Success and failure of dental implants; Technical procedures; Pre-prosthetic augmentation of the edentulous ridge; Physiology of osseous integration; Overdentures; Theories of tooth-supported overdentures; Rational of overdenture; Neuromuscular function of masticatory system; Biological advantages of retention of roots; Functional advantages of root retention; Treatment plan; Indications and contraindications; Types of overdentures; Clinical procedures; Abutment selection; Abutment preparation; Design and construction; Post-insertion care; Removable partial overdenture; Immediate overdenture; Advantages and disadvantages, Indications and contraindications; Construction, rationale for use and patient selection; Advanced techniques for different attachments.

**PROS 620 - Removable Prosthodontics FR VI**
(3Cr: 1Lec, 6Prac)

Principles of maxillofacial prosthetics; Acquired and congenital defects; Impression techniques and laboratory procedures; Radiation prostheses; Splints and stents; Management of the fractured mandible; Speech related to removable Prosthodontics; Basic clinical procedures for temporary and permanent prostheses; Treating abused tissues; Tissue conditioners and soft liners, Rebase and reline procedures; Immediate dentures; Single dentures.

**PROS 695 - Seminars in Fixed Prosthodontics FR I**
(1Cr: 1Lec, 0Prac)

Seminars in recent topics in fixed prosthodontics.

**PROS 696 - Seminars in Fixed Prosthodontics FR II**
(1Cr: 1Lec, 0Prac)

Seminars in recent topics in fixed prosthodontics.

**PROS 697 - Seminars in Removable Prosthodontics FR I**
(1Cr: 1Lec, 0Prac)

Seminars in recent topics in removable prosthodontics.

**PROS 698 - Seminars in Removable Prosthodontics FR II**
(1Cr: 1Lec, 0Prac)

Seminars in recent topics in removable prosthodontics.

**Elective Courses**
(10 Cr: 10Lec, 0Prac)

Could be selected from different dental specialties.