



8624

INTRODUCTION TO DENTAL
TECHNOLOGY AND REMOVABLE
PROSTHESES (11A)

30S/30E/30M

A Dental Technology Course

8624: INTRODUCTION TO DENTAL TECHNOLOGY AND REMOVABLE PROSTHESES (11A) 30S/30E/30M

Course Description

This course introduces students to the topics of safety, anatomy, physiology, model preparation, the mechanics and movements of the jaw, and the preparation of waxing for denture construction.

Goal 1: Describe and apply appropriate **health and safety** practices as they relate to dental technology.

GLO 1.1: Create and maintain a **safe working environment** in a dental laboratory.

- SLO 11A.1.1.1: Demonstrate safe work procedures related to equipment, tools, and materials associated with dental technology and removable prostheses.
- SLO 11A.1.1.2: Demonstrate the ability to identify and report potential hazards associated with removable prostheses.
- SLO 11A.1.1.3: Demonstrate the appropriate use of personal protective equipment (PPE), such as goggles, face masks, vinyl gloves, and laboratory coats.
- SLO 11A.1.1.4: Demonstrate the ability to identify worn, defective, and expired PPE and safety equipment.
- SLO 11A.1.1.5: Demonstrate knowledge of safety equipment, such as a fire extinguisher, a first aid kit, and an eyewash station.
- SLO 11A.1.1.6: Demonstrate the safe use of rotary tools and dental lathes.
- SLO 11A.1.1.7: Demonstrate the safe use of sharp tools, such as scalpels and carving instruments.
- SLO 11A.1.1.8: Demonstrate and use infection-control techniques and apply universal safety precautions to prevent cross-contamination.
- SLO 11A.1.1.9: Demonstrate the safe use of Bunsen burners and alcohol torches.
- SLO 11A.1.1.10: Discuss the role of workplace health and safety and the procedures to follow in case of an incident (e.g., slips and falls, improper lifting).
- SLO 11A.1.1.11: Describe how *The Workers Compensation Act* relates to the workplace.

SLO 11A.1.1.12: Demonstrate knowledge of safety regulations and of the Workplace Hazardous Materials Information System (WHMIS), and demonstrate the ability to access WHMIS information.

SLO 11A.1.1.13: Describe the purpose of material safety data sheets (MSDS).

SLO 11A.1.1.14: Describe the importance of emergency-planning procedures.

Goal 2: Demonstrate the safe and appropriate **operation, cleaning, maintenance, management, handling, and storage** of **equipment, tools, and materials**.

GLO 2.1: Demonstrate the safe and appropriate **operation** of **equipment and tools**.

SLO 11A.2.1.1: Demonstrate safe work procedures and the appropriate operation of equipment and tools associated with dental technology and removable prostheses.

GLO 2.2: Demonstrate the safe and appropriate **cleaning, maintenance, and management** of **equipment and tools**.

SLO 11A.2.2.1: Demonstrate the appropriate cleaning, maintenance, and management of equipment and tools associated with dental technology and removable prostheses.

GLO 2.3: Demonstrate the safe and appropriate **handling and storage** of restorative dental **materials**.

SLO 11A.2.3.1: Demonstrate the appropriate handling and storage of restorative dental materials associated with dental technology and removable prostheses.

Goal 3: Demonstrate an understanding of the **science and characteristics** of various **restorative dental materials**.

GLO 3.1: Demonstrate an understanding of the **science and characteristics** of various **restorative dental materials**.

SLO 11A.3.1.1: Demonstrate an understanding of the physical characteristics and appropriate use of various restorative dental materials associated with dental technology and removable prostheses.

SLO 11A.3.1.2: Demonstrate an understanding of the chemical characteristics and appropriate use of various restorative dental materials associated with dental technology and removable prostheses.

SLO 11A.3.1.3: Demonstrate an understanding of the mechanical characteristics and appropriate use of various restorative dental materials associated with dental technology and removable prostheses.

GLO 3.2: Demonstrate an understanding of **metallurgy and the characteristics of acrylics** used in dental appliances.

SLO 11A.3.2.1: Demonstrate an understanding of and the manipulation of acrylics and alloys used in the design and fabrication of removable and partial removable prostheses.

SLO 11A.3.2.2: Demonstrate an understanding of heat treatment, annealing, deformation, the molecular and crystalline behaviour of metals, melting points, and the specific gravity of various alloys associated with removable prosthetic dentistry.

SLO 11A.3.2.3: Demonstrate an understanding of organic and inorganic compounds, chemical change, and chemical reaction.

SLO 11A.3.2.4: Demonstrate an understanding of tension and tensile strength, shear strength, yield strength, and chemical and mechanical cohesion.

SLO 11A.3.2.5: Demonstrate and describe galvanic action and corrosion as they apply to removable prostheses.

Goal 4: Demonstrate the **functional design** of dental appliances.

GLO 4.1: Demonstrate the **functional design** of dental appliances.

SLO 11A.4.1.1: Demonstrate an understanding of the importance of proper functional design and set-ups in the fabrication of removable prostheses.

SLO 11A.4.1.2: Demonstrate an understanding of properly designed occlusal rims and stabilizing rims.

Goal 5: Demonstrate the **fabrication** of dental appliances.

GLO 5.1: Demonstrate the **fabrication of the components** used in dental appliances.

SLO 11A.5.1.1: Demonstrate the fabrication of edentulous pouring models required for a full denture set-up.

SLO 11A.5.1.2: Demonstrate an understanding of the design and fabrication of occlusal rims according to measurement.

SLO 11A.5.1.3: Demonstrate the fabrication of pouring models required for a partial denture set-up.

SLO 11A.5.1.4: Demonstrate the articulation of fabricated occlusal rims on plain line articulators.

GLO 5.2: Demonstrate the **fabrication** of dental appliances from their various components.

SLO 11A.5.2.1: Demonstrate the placement of anterior teeth for the maxillary and mandibular occlusal rims.

SLO 11A.5.2.2: Demonstrate the placement of posterior teeth for the maxillary and mandibular occlusal rims.

SLO 11A.5.2.3: Demonstrate a completed functional and balanced set-up of a removable prosthetic.

SLO 11A.5.2.4: Demonstrate anatomical carving and festooning.

Goal 6: Demonstrate the **repair and adjustment** of dental appliances.

GLO 6.1: Demonstrate an awareness of **problems** associated with dental appliances.

SLO 11A.6.1.1: Demonstrate knowledge of limitations associated with dental appliances, including material limitations and durability.

GLO 6.2: Repair dental appliances.

SLO 11A.6.2.1: Demonstrate knowledge of repairing a fractured denture.

GLO 6.3: Adjust dental appliances.

SLO 11A.6.3.1: Demonstrate knowledge of adjusting dentures.

Goal 7: Describe and demonstrate transferable **cross-curricular knowledge and skills** as they relate to dental technology.

GLO 7.1: Read, interpret, and communicate information related to dental technology.

SLO 11A.7.1.1: Read, interpret, and communicate anatomy, physiology, and prescription terminology related to dental technology.

SLO 11A.7.1.2: Read, interpret, and demonstrate the application of information about the science of various dental materials associated with dental technology.

GLO 7.2: Apply knowledge and skills related to dental technology from **mathematics**.

SLO 11A.7.2.1: Convert between imperial and metric systems of measurement.

SLO 11A.7.2.2: Calculate and apply volume, weights, measurements, temperatures, and ratios.

GLO 7.3: Apply knowledge and skills related to dental technology from **anatomy and physiology**.

SLO 11A.7.3.1: Locate, identify, and describe anatomical landmarks of the teeth and associated structures.

SLO 11A.7.3.2: Identify and describe anatomical landmarks and structures of the teeth and the various numbering systems used for identification and communication.

GLO 7.4: Apply knowledge and skills related to dental technology from **physics**.

SLO 11A.7.4.1: Demonstrate an awareness of functional and balanced occlusion related to removable prostheses.

SLO 11A.7.4.2: Demonstrate knowledge of retention, bracing, and fulcrum principles in the fabrication of partial denture designs.

GLO 7.5: Apply knowledge and skills related to dental technology from **other subject areas** (art, physical education/health education, information and communication technology, social studies).

SLO 11A.7.5.1: Demonstrate an understanding of tooth loss due to improper hygiene, disease, nutrition, decay, and accident.

Goal 8: Demonstrate an understanding of **career opportunities** in dental technology.

GLO 8.1: Describe **education and career opportunities** and **professional organizations** in dental technology and associated fields.

SLO 11A.8.1.1: Demonstrate knowledge of and discuss career opportunities within the scope of dental technology.

Goal 9: Demonstrate an awareness of **sustainability** as it pertains to dental technology.

GLO 9.1: Describe the impact of **sustainability** on the **health and well-being** of dental technologists and their clients.

SLO 11A.9.1.1: Discuss the positive influence of dental technology on people's sense of well-being, health, and enjoyment of quality of life.

GLO 9.2: Describe the dental technology industry's **sustainability practices** and their impact on the **environment**.

SLO 11A.9.2.1: Discuss safe practices for handling dental impressions.

GLO 9.3: Describe **sustainable business practices** within dental technology.

SLO 11A.9.3.1: Describe laboratory management and continuing education opportunities available for dental technologists.

Goal 10: Demonstrate an awareness of **ethical and legal standards** as they pertain to dental technology.

GLO 10.1: Practise **ethical and legal standards** as they pertain to dental technology.

SLO 11A.10.1.1: Describe the code of conduct and the scope of practice of various dental technologists' associations.

Goal 11: Demonstrate **employability skills** related to dental technology.

GLO 11.1: Demonstrate **fundamental employability skills**.

SLO 11A.11.1.1: Demonstrate employability skills (e.g., being prepared for work on time, setting up workstations, staying on task, accepting responsibility for own actions).

SLO 11A.11.1.2: Demonstrate the ability to communicate with professionals, co-workers, and suppliers.

GLO 11.2: Demonstrate an understanding of the **business operation** of a dental laboratory.

SLO 11A.11.2.1: Discuss and demonstrate an understanding of the business operation of a dental laboratory.

Goal 12: Demonstrate an understanding of the **evolution** of dental technology, including its **progression** and **emerging trends**.

GLO 12.1: Describe the **evolution** of dental technology, including its **progression** and **emerging trends**.

SLO 11A.12.1.1: Discuss the evolution of removable prostheses, including their technological progression and emerging trends.
