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## **DIPLOMA IN DENTAL SURGERY ASSISTING SYLLABUS**

### **BACKGROUND: ZIMBABWE ACADEMY OF DENTAL NURSING (ZADENU) PROGRAMME**

There is a global trend and need to professionalize the Dental Surgery Assistants (DSAs). Unfortunately, there was no formal, structured training for dental surgery assistants in Zimbabwe until this programme was conceptualized. Dentists in Zimbabwe and in many of the Sub-Saharan African countries (with the exception of South African which now has formal training and statutory requirements for registration of DSAs), train their DSAs on the job in their individual surgeries. This created a big challenge when it comes to professionalism and efficiency because a dental surgery is actual a place of work not training, unless accompanied by a proper syllabus. Besides, many dentists do not have the time and sometimes not even the scope and skills to offer a structured training programme in their own surgery at the same time under pressure to attend to their patients.

The Zimbabwe Academy of Dental Nursing (ZADENU) is a private initiative by a group of private dentists and dental therapists in Zimbabwe, pushed by the need to fill a gap created by absence of organized and formal training of dental surgery assistants in the country. It is endorsed and supported by the Zimbabwe Dental Association (ZIDA) and the Research Council of Zimbabwe. The Government of Zimbabwe, through the Ministries of Health and of Higher and Tertiary Education-Science and Technology Development (Quality Assurance and Standards Department), have been notified of the programme. The Medical and Dental Practitioners Council of Zimbabwe (MDPCZ) have also been officially informed of the existence of the programme. The first group enrolled for training on 4th March 2018 and graduated on 14th

*SYLLABUS for the DIPLOMA IN DENTAL SURGERY ASSISTING  
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September 2019 in Harare. A vibrant professional association for practicing dental surgery assistants is now operational (The Zimbabwe Dental Surgery Assistants Association, ZIDESAA).

## **WHAT IS A DENTAL SURGERY ASSISTANT?**

While Dental Surgery Assistants (DSAs) are not and should not be confused with being dentists nor assistant dentists, they are very valued and important healthcare professionals that work alongside dental specialists, dentists, dental therapists and oral hygienists in the treatment of patients, allowing for safe and effective oral healthcare delivery. In order to render safe oral healthcare, there is a global trend and need to professionalize Dental Surgery Assistants (DSAs), Dental Nurses or Chairside Dental Assistants (CDAs). They not only assist the dentist or other dental professionals during dental procedures, but also make note of any specific instructions or procedures to be communicated to the patient during or after the treatment. In many dental clinics or surgeries, the dental surgery assistant performs key duties related to working with patients. The job of a dental surgery assistant includes receiving patients, viewing charts, and beginning patient preparation. Often the assistant will make notes about performed procedures, progress, recommendations, and other subjects in the patient's charts. Dental Surgery assistants must ensure that surgical and dental instruments are properly cleaned and sterilized before procedures begin. Working with x-rays is common, as is processing items such as removable dental appliances, taking patient pre-and post-treatment photos and casts or impressions. While dental surgery assistants do not perform any actual surgery upon patients, they may be responsible for tasks such as checking vital signs or maintaining IV fluid flows during procedures.

**ENTRY REQUIREMENTS:** Minimum Entry Requirements: At least 18 years of age, 5 'O' level passes in English language, Mathematics or Statistics or Science and any other 3 other passes (Or equivalent). Proven on the job experience, A level passes or other tertiary qualifications are an added advantage.

**PROGRAMME DURATION:** 16 to 18 months

### **COMPULSORY:**

- i) International Computer Driver's License (ICDL) Level 4 or equivalent and Basic First Aid training (of at least 3 days' duration) or Equivalent (Student to provide proof of accomplishment of these by the time of final examination).
- ii) A minimum of 10 months on the job training/attachment under the direct supervision or tutorial from a dentist or delegated authority. Proven prior equivalent work experience can be accepted in place of attachment. Proven concurrent full-time or part-time employment as a Dental Surgery Assistant can also be accepted in place of attachment. In the case of the normal attachment, the supervising dentist is required to submit written reports, every two months, indicating the hours attended, procedures that the student is able to assist independently as well as materials that can be dispensed or mixed independently.
- iii) Face to face residential attendance (or equivalent) for at least 3 days at the beginning of each of the 4 modules. Each module is at least 4 months long.

### **EVALUATION OF TEACHING/LEARNING:**

- i) **Formative/continuous evaluation:** The teaching-learning themes or topics are grouped into 4 modules or blocks of 4 months' duration each. Each teaching-learning module/block starts off with a 3 to 5 day residential/ face to face seminar or workshop.
- a) After the face to face seminar participants return to their work stations and continue to work through the modules with faculty on-line support and supervising dentist assistance.
- b) There is 2-hour mid-block postal test.
- c) Each module has a summative 4-hour examination under examination conditions, comprising a 3-hour theory paper and 60-minute power point Objective Structured Clinical Examination (OSCE) or table/poster display. The final Module mark is an average of the two written evaluations. Any failed module has to be repeated.
- ii) **Summative evaluation/Final examination:** 5 hours' duration comprising a 3 hour written theory paper covering all the 4 modules and 120-minute power point Objective Structured Clinical Examination (OSCE) or table/poster display. An oral may be organized for borderline passes and borderline distinction candidates.

**MAJOR PROGRAMME FOCUS:** Knowledge, Attitude and Practice/Skills (**KAP**) to accomplish Infection control, Radiology, digital skills, Dental surgery reception and administration skills, Office communication technologies and General Dental Assisting.

**THEME CODE**  
**DSA 18001**

### **TEACHING & LEARNING THEMES/TOPICS**

#### **A) Introduction to the Dental Profession**

- Review dental disease and dentistry from ancient times
- Name the individuals who had a great impact on the profession of dentistry and their contributions.
- Identify and explain the specialities of dentistry
- Name explain the functions and training of members of the dental team.

**KAP focus:** To raise the awareness and arouse interest in the profession

#### **B) Introduction to Psychology, Communication, and Multi-cultural dimensions**

#### **C) Human Anatomy, Physiology and pathology**

- Body structure and functions
- Systems of the body: Osteology

**KAP focus:** To raise understanding of how the body is organized and function in anatomical and physiological terms, as a prelude to the teaching of health and disease, disease identification and prevention, health education, medical history

taking and charting, drug allergies, the infection cycle and cross infection control.

**DSA 18002**

**Oral Anatomy & Pathology**

- i. Tooth anatomy (parts of a tooth)
- ii. Tooth numbering (FDI system and others)
- iii. Name and identify the location of each tooth surface
- iv. Distinguish between primary, mixed and permanent dentitions.
- v. Briefly explain the cause, process and consequences of: Dental caries, Gingivitis, periodontitis, Jaw pathologies, oral lesions

**KAP focus:** To raise understanding of how the mouth, teeth and surrounding organs are organized and function in anatomical and physiological terms, as a prelude to the teaching of dental health and disease, disease identification and prevention, dental health education, dental history taking and charting, drug allergies, the infection cycle and cross infection control.

**Skills to be attained:** Tooth numbering nomenclature, tooth type identification, dental charting, identify tooth parts and layers, identify tooth supporting structures, name nerves of dental importance, name para-oral structures including vessels, glands etc

**DSA 18003**

**DENTAL ASSISTING: PRACTICE MANAGEMENT**

- I. Demonstrate how to do Dental charting
- II. Demonstrate how to do Dental Tray set up (fillings, extractions, rct, etc)
- III. Demonstrate how to do Taking dictation from the dentist
- IV. Demonstrate how to do History taking
- V. Demonstrate how to do Vital signs (pulse, temperature, blood pressure)
- VI. Demonstrate ability to complete a medical aid claim form
- VII. Demonstrate understanding and application of the Health insurance tariffs  
e.g. Health263 software, ICD coding, online claiming and membership validation, digital marketing etc

**Dental Hand Instruments**

- I. List the examination, cutting and restorative instruments and their uses
- II. Describe the use of preset trays and tubs in dentistry

- III. Discuss the theory of placing an instrument in a specific sequence
- IV. Maintenance and sterilization techniques of rotary instruments
  - Dental Hand pieces and Accessories
  - I. Describe rotary instruments (high-speed and low-speed hand pieces) and how they are used
  - II. List the parts of a bur, composition, shape, and uses (cutting, finishing and polishing accessories)
  - Moisture Control
    - I. List isolation techniques to decrease moisture during a dental procedure
    - II. Describe types of oral evacuation systems used in dentistry (high-volume and low-volume suction)
    - III. Describe the dental (rubber) dam, equipment and its role in moisture control

**DSA 18004**

**INFECTION CONTROL**

- a) Microbiology
  - i. Discuss pathogens of importance in the dental practice, e.g hepatitis, TB, herpes, HIV/AIDS etc
  - ii. Discuss types of pathogens that are relevant to dentists or in the dental practice
- b) Disease transmission and infection control
  - i. Demonstrate understanding of chain of infection control measures in the dental practice
  - ii. List standard precautions for diseases transition
  - iii. Name the categories of risk for occupational exposure, occupational health and safety
  - iv. Explain the pre-and post-exposure protocols for an exposure incident
  - v. Describe proper hand hygiene for oral health care workers
  - vi. Advantages of alcohol-based hand rubs
  - vii. Discuss the types of PPE needed for Dental Assistants
  - viii. Explain the importance of various types of personal protective equipment
  - ix. Describe the various types of gloves used in an oral health care facility and the in the theatre
  - x. Name and describe the proper handling and disposal methods for each type of waste generated in dentistry
  - xi. Explain the precautions necessary when treating an active tuberculosis patient
  - xii. Explain Spaulding's classification of instruments surface as it relates to sterilization and
- c) Fundamentals and procedures for Disinfection



- i. Explain why dental treatment-room surfaces need barriers or disinfection
  - ii. List the types of surfaces in the oral health care facility typically covered with barriers
  - iii. Describe the two methods to deal with surface contamination
  - iv. What is the difference between disinfection and sterilization?
  - v. What is the difference between a disinfectant and an antiseptic ?
  - vi. List chemical products used for intermediate-level and low-level surface
  - vii. disinfection, and explain the advantages and disadvantages of each
  - viii. Illustrate the process of cleaning and disinfecting all surfaces in a treatment room
  - ix. Explain the processes of pre-cleaning contaminated dental instruments
  - x. Discuss the precautions when using chemical sterilants/disinfectants
- d) Instrument Processing and Sterilization
- i. List and explain steps in processing dental instruments
  - ii. List and explain the three most common methods of heat sterilization and the advantages and disadvantages of each
  - iii. what are the precautions necessary when packaging materials for sterilization
  - iv. What are the steps in cleaning and sterilization of the high-speed dental hand piece.
  - v. Explain the safety precautions necessary when operating an ultrasonic cleaner
  - vi. Describe the different types of sterilizers
- e) Chemical and Waste Management
- i. Identify types of regulated waste generated in an oral health care facility
  - ii. Identify types of toxic waste generated in an oral health care facility
  - iii. Describe how to package regulated waste for transport

**KAP focus:** Demonstrate skills in instrument scrubbing, sterilization, storage of sterile packs or instruments. Demonstrate knowledge on how to check the reliability of a sterilization machine.

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**DSA 18005**  
**1**
**DENTAL PRACTICE CLINICAL MANAGEMENT PART**

- I. Identify the purpose of a patient's record
- II. Discuss the importance of the patient's medical/dental health history and its relevance to dental treatment and medication
- III. Discuss the role of the Dental Assistant in the clinical examination
- IV. Differentiate between an anatomic and a geometric diagram (box chart) for charting
- V. Discuss the importance of a treatment plan

**KAP focus:** Demonstrate skills in dental, periodontal, orthodontic and other charting systems.

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**DSA 18006**  
**1I**
**DENTAL PRACTICE CLINICAL MANAGEMENT PART**

- I. Discuss the diseases and conditions of importance in the medical history related to dentistry
- II. Discuss the importance of the patient's medication and its relevance to dental treatment Cardiovascular – myocardial infarction, angina, hypertension, congestive heart failure, rheumatic fever, infective endocarditis (pace maker), Lung conditions – asthma, TB, Neurological conditions – epilepsy, mental retardation, stroke, cerebral palsy, sensory impaired (blind and deaf), Diabetes, Pregnancy, Infectious diseases (hepatitis, HIV/Aids), Young and geriatric patients
- III. Describe the common signs and symptoms of an emergency and how to recognize them List the basic items that must be included in an emergency kit
- IV. Discuss the use of a defibrillator in an emergency
- V. Describe how to respond to specific emergencies

**COMMON DENTAL EMERGENCIES AND THEIR MANAGEMENT**

- I. Obstructive airway
- II. Respiratory problems (hyperventilation/asthmatic patient), Cardiac conditions (hypertension), CVA/stroke,
- III. Epilepsy
- IV. Fainting/syncope
- V. Local and systemic allergic reactions

- VI. Provide proof of having done a First Aid course of at least 3 days duration.

**DSA 18007  
DENTISTRY**

**DENTAL MATERIALS FOR RESTORATIVE**

**Restoration and Aesthetic Dental Materials**

I. List the properties of dental materials and how they affect their application

II. Describe the properties of all restorative materials (amalgam, composite resin, glass ionomers and temporary materials) and its application in restoring teeth

**Dental Liners, Bases, and Bonding Systems**

I. Discuss how the sensitivity of a tooth determines what type of dental material is selected for a procedure

II. Discuss how and why cavity liners, varnishes, dentin sealers, dental bases are used in restoring tooth structure

III. Describe the etching and bonding process of a tooth and related materials

**Dental Cements**

Describe luting cements and differentiate between permanent and temporary cements

**General Dentistry**

I. Discuss the differences in assisting with an amalgam versus a composite restoration

II. Describe the need for placement of an intermediate restoration (temporary)

III. Describe the procedure of composite veneers

**Matrix Systems for Restorative Dentistry**

I. Describe the type of matrices used for anterior and posterior restorations

II. Discuss the purpose and use of a wedge

III. Discuss alternative methods of matrix systems used in restorative dentistry

**KAP focus:** Demonstrate skills in mixing and dispensing of restorative, impression/prosthetic and surgical dental materials.

**DSA 18008**

**COMMUNICATION, MARKETING AND PRACTICE  
MANAGEMENT**



- I. Marketing skills for employment seeking
- II. Social Media Marketing
- III. Dental chairside marketing
- IV. Reception marketing
- V. Telephone manners
- VI. Team building
- VII. Information Technology Management
- VIII. Communicate with patients in respect of reception, appointment scheduling, fees and other enquiries related to activities performed in the dental environment
- IX. Manage patient appointments, patient records and billing
- X. Manage the required registers in the dental environment, which includes, but is not limited to dental imaging, stock control, waste management, patient statistics, patient records and referrals
- XI. Liaise with stakeholders involved in patient care, which includes, but is not limited to third party funders, other oral health practitioners, dental laboratories and dental suppliers

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**DSA 18009  
HEALTH LAW**

**BIOMEDICAL ETHICS, PUBLIC HEALTH AND**

**Ethical Considerations**

- I. Brief history of Bioethics and patient protection
- II. Brief explanation of Ethical principles and moral theories
- III. Define ethical behavior
  - Confidentiality
  - Respect for the profession
  - Respect for fellow staff and dentist
  - Maintain skills and knowledge
  - Refrain from services prohibited by state law

**Basic facts about Health and the LAW**

- Organization of Health services in Zimbabwe
- Health Professions Authority and Health Councils (MDPCZ, Pharmacy Council, Nursing Council etc)
- Definitions of law, civil and criminal law, litigation, types of torts, contract law, fraud, malpractice, advertising
- Demonstrate basic understanding of Health laws and regulations e.g. Public Health Act, Health

Professions Council Act, Medical Services Act  
etc

### **Risk Management Considerations**

#### **A. Define risk management**

#### **B. List seven elements of an informed consent as follows:**

- i. Description of treatment
- ii. Alternative of treatment
- iii. Risk of complications
- iv. Prognosis
- v. Cost
- vi. Time needed to complete
- vii. Age and mental capacity of patient

#### **C. Explain three ways to obtain informed consent**

- i. Implied consent
- ii. Verbal consent
- iii. Written consent

#### **D. Describe thirteen ways to manage risk**

- i. Informed consent
- ii. Review medical history
- iii. Emergency preparedness
- iv. Clear/realistic patient expectations
- v. Maintain high level of skills
- vi. Adequate patient safety equipment
- vii. Disclosure of unexpected events
- viii. Comprehensive/accurate treatment record
- ix. Never criticize previous treatment
- x. Protect privacy of patient
- xi. Document privacy of patient
- xii. Identify responsibility/obligations in the dentist/patient relationship
- xiii. How to respond to a threat of malpractice suit

#### **E. List Six Guidelines for Managing Chart Entries as a Legal Record**

- i. Keep a separate chart for each patient
- ii. Correct errors properly
- iii. Make chart entry during patient visit, do not rely on memory
- iv. Write legibly, ink date and initial each entry
- v. The entry should be complete
- vi. Never change or alter the chart after a problem arises

**KAP focus:** Demonstrate an understanding of and skills in administering informed consent forms to patients for various dental procedures.

### **Foundations of Radiography, Radiographic Equipment, and Radiation Safety**

- I. Discovery of x-rays: X-ray production,
- II. Types of radiation
- III. Discuss the effects of radiation exposure on the human body
- IV. X-ray development and image formation
- V. Describe the methods of protecting the public, patient and oral health care workers from excess radiation

### **Dental Film and Processing Radiographs (For historical purposes only)**

- I. Describe the care and maintenance of the processing solutions, equipment, and equipment accessories used in manual and automatic film processing
- II. Describe common film processing (time and temperature) errors
- III. State the types and indications for the three types of dental radiographs
- IV. Identify the five basic sizes of intra-oral dental film
- V. Demonstrate understanding of digital radiology and new imaging systems.
- VI. Demonstrate understanding of Legal issues, Quality assurance, and Infection Control.
- VII. Explain the infection control requirements for handling radiographs

**KAP focus:** Demonstrate skills in positioning the x-ray machine Position Indicating Device, patient and self-protection, positioning of intra-oral x-ray sensors, processing of digital radiographs, cropping, exporting and storage.

- i. Describe how an understanding of nutrition is used in the profession of dental assisting
- ii. Define nutrients found in foods, including carbohydrates, fiber, fats, proteins and amino acids. Explain how they affect oral hygiene, general health and oral health in particular.
- iii. Define calorie and the basic metabolic rate.
- iv. Identify and explain how vitamins, major minerals, and water function in the body.
- v. Explain how to interpret food labeling
- vi. Discuss the implications of eating disorders.

- vii. Identify the food sources, functions, and implications of deficiencies of fat soluble vitamins, water soluble vitamins and the seven major minerals.

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**DSA 18012**
**PALLIATIVE CARE**

Demonstrate an understanding of basic facts about palliative care and illustrate how it can be applied to dentistry.

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**DSA 18013**
**DENTAL SPECIALITIES**

**KAP focus:** Demonstrate an understanding of the team approach to dentistry, how the different dental specialties inter relate with each other as well as with other medical disciplines.

**PROSTHODONTICS**
**Impression Materials**

- I. List the three types of impressions taken in an oral health care facility
- II. Describe the types of impression trays and their characteristics of use
- III. Discuss hydrocolloid impression materials and their uses, mixing techniques, and Application
- IV. Discuss elastomeric impression materials and their uses, mixing techniques, and application
- V. Describe the importance of an occlusal registration and its use in a procedure
- VI. Discuss the safety precautions that should be taken in the dental laboratory
- VII. List the types of equipment found in a dental laboratory and their uses
- VIII. Observations/Assisting of PROSTHODONTIST specialist at work where possible (including Shadowing at the dental laboratory).

**ENDODONTICS**

- IX. Explain emergency endodontics
- X. Explain emergency routine for endodontics
- XI. Explain stages in endodontics procedures
- XII. Explain materials in endodontics
- XIII. Explain instruments in endodontics

**PERIODONTICS, ORAL MEDICINE AND IMPLANTOLOGY**

- XIV. Distinguish between periodontitis and gingivitis
- XV. Explain plaque and calculus
- XVI. Explain the causes of periodontitis and gingivitis
- XVII. Identify and describe the instruments used in periodontal therapy
- XVIII. Discuss periodontal surgical dressing materials and techniques applied
- XIX. Identify the risk factors that contribute to periodontal disease and dental caries
- XX. Observations/Assisting of PERIODONTIST specialist at work where possible (including implant cases).
- XXI. Describe dental therapies for periodontal diseases

## ORAL AND MAXILLOFACIAL SURGERY

Preparation of surgery

- XXIII. Describe the indications for oral and maxillofacial surgery
- XXIV. Discuss the role of the Dental Assistant during oral surgery
- XXV. Discuss the importance of the chain of asepsis during a surgical procedure
- XXVI. Identify instruments used for surgical procedures including extractions
- XXVII. Describe post-operative care, including possible complications, given to a patient after a surgical procedure
- XXVIII. PRACTICALS: Observations/Assisting of MFOS specialist at work where possible (including theatre cases).
- XXIX. Explain different types of four asepsis

### ORTHODONTICS

- XXX. Identify and give the functions of the basic orthodontic instruments and materials used
- XXXI. How to take intra-oral photos with a cameral or cell phone, cropping, storage and printing
- XXXII. Pre and post treatment instructions.
- XXXIII. Describe the work of an orthodontist and the role of a dental surgery Assistant in an orthodontic practice.

### PAEDODONTICS

- I. Describe basic child management techniques
- II. List indicators of child abuse
- III. Describe caries
- IV. Describe risk factors associated with caries and basic education
- V. Describe preventative techniques in children

### COMMUNITY AND PUBLIC HEALTH DENTISTRY

Demonstrate basic understanding of Community Dentistry as a specialty within dentistry that examines the dental health and disease levels within a community. Dentists and researchers analyze variables associated with these distributions, and plan programs aimed at promoting the oral health of the community. Dental epidemiology is a central tool in the methodology connected to measuring variables associated with community dental health as well as in the promotion of community oral health is preventive dentistry.

<b>DSA 18014 ATTACHMENT</b>	<ul style="list-style-type: none"> <li>I. Dental Practice: Work-Integrated Learning (Extended attachment at a registered and approved dental surgery). If the attachment is at public dental facility, a rotation in private dental setting is required to allow for full exposure to the normal range of modern dental procedures.</li> <li>II. Minimum 10 months for those not formally employed.</li> <li>III. Written testimonial from the dentist as proof of comprehensive chairside assisting and infection control duties, will be needed in order to be admitted to the final examination.</li> </ul>
<b>DSA 18015 EVALUATION</b>	<ul style="list-style-type: none"> <li>I. The teaching-learning themes or topics are grouped into 4 modules or blocks of 4 months' duration each. Each teaching-learning module/block starts off with a 3 to 5 day residential/ face to face seminar or workshop.</li> </ul>

	<p>II. After the face to face seminar participants return to their work stations and continue to work through the modules with faculty on-line support and supervising dentist assistance.</p> <p>III. There is 2-hour mid-block postal test.</p> <p>IV. Each module has a summative 4 HOUR examination under examination conditions, comprising a 3-hour theory paper and 60-minute power point Objective Structured Clinical Examination (OSCE) or table/poster display. The final Module mark is an average of the two written evaluations. Any failed module has to be repeated.</p> <p>V. <b>FINAL EXAMINATION</b> of 5 hours' duration comprising a 3 hour written theory paper covering all the 4 modules and 120-minute power point Objective Structured Clinical Examination (OSCE) or table/poster display. An oral may be organized for borderline passes and borderline distinction candidates.</p>
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