



**SUBJECT BENCHMARK STATEMENT
IN
DENTISTRY**

**Quality Assurance and Accreditation Council
University Grants Commission
Sri Lanka**

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FOREWORD

The work in connection with the development of Subject Benchmark Statements was begun in August 2003 as a part of the overall quality assurance framework that supports academic standards and the furtherance and dissemination of good practice in Universities in Sri Lanka.

Subject Benchmark Statements will support and promote quality and standards by:

- Providing universities with a common and explicit reference point for internal and external programme approval and review;
- Guiding and promoting curriculum development, especially in new departments and new universities, and in other institutions of higher education;
- Evolving over time to take account of changes and innovations that reflect subject development and new expectations;
- Providing an authoritative and widely recognized statement of expectations of what is expected of a graduate in a specific (or designated) subject area in a form readily accessible to students, employers and others with a stake in higher education;
- Providing a clear and transparent reference point for External Examiners;
- Assisting international comparison and competitiveness of higher education awards and student achievement.

SUBJECT BENCHMARK STATEMENT

DENTISTRY

1. INTRODUCTION

1.1 Scope of the Subject Benchmark Statement in Dentistry:

Subject benchmark statements describe the nature and characteristics of programs of study. The Quality Assurance and Accreditation Council seeks to set standards for academic programmes in various disciplines in Sri Lanka, through the process of formulating Subject Benchmark Statements. The subject benchmark statement in Dentistry is being drafted as another addition to those already established. Comparing the benchmark statements of different disciplines so far completed, one can see variation among them regarding the levels described. Some describe the minimum standard, others a higher, desirable level which is not found in all cases, and some even several different levels.

The subject benchmark in Dentistry set out here describes the characteristics of a program of study required for training a dental graduate possessing the minimum acceptable attributes and capabilities to be able to work effectively in the professional role.

1.2 The Role of the Professional:

A high percentage of newly qualified dental graduates take up private general dental practice, either as locum, in established practices or independently, soon after graduation. While an extremely small percentage takes exclusively to private practice, almost all graduates opt for employment with the dental health services of the government Department of Health as well, which currently takes them 2-3 years after graduation to secure. The department of health deploys the majority of them in hospital practice while a few take up community oriented service as RDS. A small but increasing percentage of those qualifying, progresses towards specialization in a branch discipline of Dentistry.

1.3 Role of the SLMC:

It is a requirement to be registered with the Sri Lanka Medical Council, to practice dentistry in Sri Lanka. Currently the Bachelor of Dental Surgery (BDS) awarded by the Faculty of Dental Sciences, is the only degree accepted by the Sri Lanka Medical Council for this purpose. The SLMC sets out standards of practice and ethical guidance binding a dentist.

1.4 Internship:

Currently, a graduate holding the degree of Bachelor of Dental Surgery (BDS) from the Faculty of Dental Sciences qualifies to register with the SLMC, with no compulsory internship period.

Clinical work under the supervision of a consultant after obtaining the degree, prior to undertaking independent practice, is indeed more desirable. This would enable them to gain experience in a wide range of clinical procedures. Such experience without the pressure of examinations would enable new dentists to achieve a level of clinical competence compatible with independent practice. Therefore introducing a compulsory internship period of one year

after graduation as a pre-requisite for full registration, is considered useful and necessary, and is expected to be set in place in due course.

2. AIMS OF THE ACADEMIC PROGRAM

The goal of an academic degree program in dentistry is to produce graduates who can function effectively in their chosen professional roles. Key attributes of a professional role are professionalism and the competence. A dentist must have the competence to improve and promote acceptable oral health and function, as an integral part of general health in individuals and communities. Primary and secondary prevention of oral diseased and conditions as well as treatment including rehabilitation of oral tissue constitute the main components of this competence.

The program should provide opportunities for students to gain the knowledge, skills and attitudes necessary for:

- carrying out activities that promote oral health,
- prevent oral diseases,
- diagnose common conditions and diseases in the oro-facial region,
- plan and provide or arrange to provide, all basic and some advanced forms of currently accepted treatment,

The dentist should do this as an individual and as a member of a multi-skilled health care team, where s/he should work harmoniously and effectively as a member or leader as appropriate.

2.1 Professionalism

Dentistry is a profession held in high esteem in Sri Lanka. In keeping with this, the academic program should promote and inculcate in graduating dentists a high level of professionalism in behaviour. This would include the following:

Attitudes and values:

- Appreciating the multi-cultural and diverse nature of the Sri Lankan society, be culturally sensitive and respect all cultures,
- Providing empathetic care for all patients, including the economically less privileged and the differently-abled.

Upholding the ethical, legal and moral values of the country

2.1.1 Behaviour towards the profession, colleagues and patients:

- Acting reasonably and responsibly, putting patients' welfare before one's own at all times,
- Maintaining confidentiality of information obtained in a professional capacity,
- Respecting patients' rights including the right to information,
- Being unbiased and impartial towards all patients, regardless of their socio-economic or other characteristics,
- Working within their own limitations, involving other medical, dental and other professionals for referral or consultation as appropriate,
- Acting with and extending empathic care towards those seeking treatment,
- Assisting the professional body to identify and guide incompetent, impaired or unethical colleagues towards an acceptable standard of practice,

2.1.2 Commitment to professional development and maintaining professional standards:

- Being dedicated to the principle of continued professional development, based on feedback from others and self-assessment,
- Recognizing and fulfilling the responsibility to share scientific information and knowledge pertaining to dentistry and relevant medicine verbally and in writing.

2.2 Competencies

The academic program must also aim to develop in the graduates, the knowledge, skills and attitudes necessary to be effective and competent in the following:

The scientific approach:

- Using sound ethical, moral and scientific grounds for analyzing and resolving problems,
- Applying an evidenced based approach in dealing with clinical problems.

Information management and Communication:

- Adequate level of proficiency in the English language,
- Being competent at handling information in printed and electronic media for self-directed learning, and information dissemination,
- Communicating effectively at all levels in clinical, scientific and professional contexts.

2.2.1 Scientific foundation:

The graduate should possess sufficient integrated knowledge and understanding including relevant modern developments in the following areas, which enables the graduate to base the clinical aspects of dentistry on sound scientific and technical principles.

2.2.2 Basic medical sciences:

- Oral biology, to include detailed knowledge of the form and function, and the processes of normal growth and ageing of teeth and associated structures, in health and disease,
- Understanding of human body systems, bio-chemical processes and normal homeostasis.

2.2.3 Clinical sciences:

- Integrated and applied knowledge of the aetiology and processes of oral diseases and the principles of their prevention, diagnosis and management,
- Pathogenic processes and manifestations of diseases which are particularly relevant to the practice of dentistry, including sources of infection and the principles of infection control.

2.2.4 Behavioural sciences:

- The role of psychological and social factors in the delivery and acceptance of dental care by patients,
- The role of psychological development in the management and treatment of the child patient,
- Dental anxiety management,
- The principles of occupational stress and its management.

2.2.5 Basic research skills:

- The broad principles of scientific research,
- Basic research methods and skills in collection, evaluation, analysis, and presentation of evidence,

- Evaluation of published evidence as is necessary for an evidence-based approach to dentistry.

2.2.6 Clinical competencies:

The dental graduate should possess a high level of communication skills and competence in the clinical and technical aspects of dentistry. She/he should be aware of the range of treatments available, but is not expected to be able to provide them all.

Clinical competencies are here described in two broad areas as Management of Emergencies and clinical dental competencies. Clinical dental competencies are executed in relation to the dental clinic and community.

2.2.6.1 Medical and dental emergencies and medical conditions:

- Carrying out interventions for oral health problems without compromising a patient's general medical condition, in those already diagnosed and under a physician's care, and in those who are yet undiagnosed,
- Taking adequate precautionary measures to prevent medical emergencies occurring as a result of routine dental care,
- Identifying and providing emergency basic management, including basic life support and resuscitation, for medical emergencies that may occur in the dental surgery,
- Identifying and managing dental emergencies and appropriately referring those that are beyond the scope of management by a general dentist.

2.2.6.2 Clinical dental competencies:

- The academic programme must provide for the graduating dentists to acquire sufficient integrated knowledge and clinical skills in all specific disciplines of clinical dentistry which are necessary for the satisfactory execution of the following,
- In the delivery of dental care adhering to national standards for safety and providing a safe environment for both patients and staff, with regard to infection control, radiation protection, and the use of substances hazardous to health,
- Carrying out efficient and adequate data collection from patients including history taking, clinical examination, and ordering or carrying out necessary laboratory and radiological investigations and interpreting them,
- Arriving at diagnoses in relation to oral health related problems, taking all relevant data into consideration,
- Assessing patients' risk for oral diseases and counsel, instructing and motivating them in proper care and maintenance of acceptable levels of oral hygiene, including dietary counseling,
- Assessing patients' risk for oral cancer and pre-cancer and counseling patients on prevention including habit intervention in relation to substances such as alcohol and tobacco and betel,
- Making management plans based on sound evidence, taking all relevant clinical factors, the availability of services including specialists, availability of modern dental equipment and materials and patient expectations into consideration,
- Restoring teeth to form, function and appearance with appropriate materials, using techniques that preserve the health of the pulp with minimum loss of tooth tissue
- Managing diseases and conditions involving the pulpal and peri-radicular tissues in both primary and permanent teeth,

- Managing and integrating the procedures necessary to provide biocompatible, functional and aesthetic dental prostheses (fixed and removable) in accordance with patient requirements or needs,
- Managing patients with facial pain, diseases and disorders of the oral cavity and associated structures, including a recognition of when it is appropriate to refer for specialist help and advice,
- Managing basic dento-alveolar surgical procedures, including intra- and post-operative complications and recognise when it is appropriate to refer for specialist help and advice;
- Being aware of the importance of and the procedures for submitting specimens for laboratory diagnosis and interpreting diagnostic reports and being able to carry out or arrange to carry them out when indicated,
- Recognizing abnormalities and variations of dento-alveolar arches and teeth including those caused by growth and development of the jaws, and arranging appropriate management either within the dental practice or by referral to the relevant specialist,
- Managing the oral health of children and adolescents and perform treatment for them in a manner that incorporates consideration for their expected growth and development, involving parents or guardians as required,
- Managing periodontal diseases and the health and care of the supporting structures of the teeth,
- Being able to recommend and prescribe pharmaco-therapeutic agents, effectively in the treatment of oro-facial and other diseases relevant to dentistry.

2.2.6.3 Population Health:

Dental surgeons must recognize the important and responsible role they play in improving the general and oral health of the community, through treatment and education. For effective functioning in this capacity they need to have a thorough knowledge and understanding of basic epidemiological methods, the prevalence of oral disease in adult and child populations and the health care system in Sri Lanka. They should have the ability to evaluate social and economic trends and their impact on oral health care.

Health promotion and Disease prevention:

- Understanding the principles of health promotion, health education and prevention and their application in relation to dental disease and oral cancer,
- Recognizing predisposing and aetiological factors that require intervention to promote oral health,
- Assessing the need for, and providing, preventive procedures in order to preserve oral hard and soft tissues, and to prevent disease.

3. NATURE AND FEATURES OF THE DEGREE PROGRAM

While the educational programme facilitates the acquisition of the above mentioned skills, the educational environment should encourage the development of an analytical approach to both the theory and practice of clinical dentistry, and also inspire the dental undergraduate to maintain high professional and personal standards and to recognise the importance of life-long learning.

3.1 Admissions:

- Admissions to the undergraduate program in dentistry is made by the University Grants Commission. Dentistry enjoys a high position in popularity among aspiring university students, and hence the average “z” score for admission to study dentistry is relatively high in any given year. The admission criteria, should be comparable with other professional degrees in the university system of Sri Lanka.
- At the current time the selection of students for the study of dentistry is based entirely on the results of the General Certificate of Examination (Advanced Level). The practice of Dentistry as a profession requires other attributes some of which are not easily assessed in written examinations, including a high level of manual dexterity. Introduction of additional specific criteria to the selection process may help the most suitable students to be picked.

3.2 Training methods:

In addition to the content of subject matter, the organization and format of a teaching programme has a high impact on learning. An undergraduate programme in dentistry should include the following components.

- Practical and laboratory classes as a means of reinforcing deeper understanding of topics as well as developing skills in scientific methodology and in methods of observation relevant to diagnosis and treatment,
- Training in a clinical skills and clinical procedures in a laboratory or appropriate setting, where they are learnt and practised before they are performed on patients
- Direct clinical treatment of patients under close supervision for the acquisition of practical clinical skills needed,

Teaching and learning in undergraduate programmes in dentistry should use a variety of different approaches and settings such as:

- Lectures;
- Group learning tutorials/seminars/workshops;
- Practical and laboratory classes and skills laboratories,
- Dental clinical settings
- Ward and surgical operation theatre,
- Observation and direct “hands- on” treatment of patients
- Computer and web-based learning
- Problem-oriented learning;
- Projects;
- Directed self-study

3.3 Duration:

- A programme of study leading to a professional degree should ensure that it not only facilitates the acquisition of the necessary attributes, but also conforms to the norms of the profession.
- The duration of professional degree programs in dentistry varies from 4-6 years across the world. The current global and South East Asian regional trend favours a minimum period of 5 years.
- The current revision of the BDS curriculum of the faculty of dental sciences of the University of Peradeniya, taking the demands of the program as well as this trend points towards a five year degree program.

3.4. Academic staff/faculty:

- Academic staff should be appropriately qualified as university teachers, and with sufficient training in the specific fields,
- They should also be competent and effective teachers,
- Since the process of teaching and learning has far-reaching effects on student learning, the academic program should pay as much attention to the process of education as the educational content. A mechanism to ensure that adequate attention is paid to the educational process is a very important component of the academic programme.

3.5 Student Assessments:

Student assessments should be carried out during the programme, as well as at the completion of the course for certification. This involves both formative and summative assessments.

- The processes of assessment should be transparent, with the criteria stated explicitly and allow the participation of external examiners,
- The assessment should ensure that those certified possess the minimum standard of knowledge, skills and attitudes to be able to function effectively in the professional role,
- The content assessed should be relevant to the purposes of undergraduate dental education and reflect the desired competencies and intended learning outcomes of the course,
- Encourage integration of knowledge, understanding, skills and attitudes,
- Use appropriate tools with acceptable levels of validity and reliability to assess the full range of clinical and other abilities.

3.6 Quality Assurance:

- The academic program should have course evaluation mechanisms including teacher and process evaluation, involving wide participation including students, built into the system, which should be carried out regularly as a routine process,
- The program should also take part in internal and external review mechanisms periodically to ensure that acceptable standards are maintained,
- Academic programs and curricula cannot be rigid and static, but must adapt to accommodate the changes in the students, patterns of clinical problems encountered by the dentist, as well as to favorably exploit innovations in the educational and information field,

- To enable this there should be a mechanism for periodic revision of curricula, which would take the results of program evaluation, internal and external review for quality assurance, into consideration.

4. ANNEX1. MEMBERS OF THE BENCHMARK GROUP

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