



School of Dental Care Professionals Dow University of Health Sciences Karachi (Ojha Campus)

Integration of institutional sustainability with the United Nations's Sustainable Development Goals

Institutional Commitment to SDGs:

The School of Dental Care Professionals (SDCP) of Dow University of Health Sciences (DUHS) is committed to advancing the United Nations' (UN) Sustainable Development Goals (SDGs) through its academic programs, clinical and community – based care, and engagement programs. The two programs in Dental Care Professionals (DCPs), namely Bachelor of Sciences in Dental Hygiene (BS DH) and Bachelor of Science in Dental Technology (BS DT) have been purposefully designed to align education, paraclinical practice, and community – based preventive care with the principles of sustainability, equity and global health.

Our programs integrate with the SDGs not only through individual course content but also through overall program learning outcomes (PLOs) that emphasize community engagement, sustainable health systems, ethical leadership and evidence-based practice.

Integration of BS DH Program with UN's SDGs:

The Bachelor of Science in Dental Hygiene (BS DH) program explicitly embeds sustainability and SDGs principles in its design, focusing on improving population health, reducing inequities and promoting resilient systems.

The curriculum of BS DH program primarily aligns with the SDG 3 (Good Health and Well-being) but also reinforces SDG 10 (Reduced Inequalities), SDG 11 (Sustainable Cities and Communities) and SDG 12 – 13 (Responsible Consumption and Climate Change). Moreover, this curriculum also corresponds to SDG 16 (Peace, Justice and Strong Institutions) and SDG 17 (Partnership for the Goals).

Below are our program learning outcomes (PLOs) of BS DH program aligned with specific SDGs:

1. **Demonstrate professional competence** in oral health assessment, prevention, and care using evidence-based clinical practices.
→ *Aligned SDGs: 3 – Good Health and Well-Being; 4 – Quality Education.*
2. **Engage in interprofessional collaboration** with healthcare providers, educators, and policymakers to strengthen oral health systems and advance sustainable public health solutions.

→ *Aligned SDGs: 3 – Good Health and Well-Being; 17 – Partnerships for the Goals.*

3. **Promote oral health equity** by addressing the needs of diverse and underserved populations through culturally sensitive and community-based approaches.

→ *Aligned SDGs: 3 – Good Health and Well-Being; 10 – Reduced Inequalities.*

4. **Integrate oral health within general health systems**, recognizing the connection between oral conditions and systemic diseases, and contributing to holistic patient care.

→ *Aligned SDGs: 3 – Good Health and Well-Being.*

5. **Design and implement health education and promotion programs** that advance lifelong oral hygiene and healthy behaviors in communities.

→ *Aligned SDGs: 3 – Good Health and Well-Being; 11 – Sustainable Cities and Communities.*

6. **Demonstrate ethical leadership and professionalism** by adhering to national and global standards of practice, patient confidentiality, and public accountability.

→ *Aligned SDGs: 16 – Peace, Justice and Strong Institutions.*

7. **Apply principles of environmental sustainability** in dental hygiene practice by minimizing waste, managing materials responsibly, and promoting eco-conscious clinical practices.

→ *Aligned SDGs: 12 – Responsible Consumption and Production; 13 – Climate Action.*

8. **Critically appraise and conduct research** relevant to dental hygiene, public health, and oral-systemic linkages, contributing to knowledge generation and innovation.

→ *Aligned SDGs: 4 – Quality Education; 9 – Industry, Innovation and Infrastructure.*

9. **Advocate for policies and systems** that strengthen oral health inclusion within universal health coverage frameworks and public health agendas.

→ *Aligned SDGs: 3 – Good Health and Well-Being; 17 – Partnerships for the Goals.*

10. **Commit to lifelong learning and reflective practice**, staying responsive to technological, scientific, and societal changes in oral health care delivery.

→ *Aligned SDGs: 4 – Quality Education.*



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Key Courses and SDGs Linkages in BS DH Program

Course Titles	Aligned PLO(s)	Relevant SDGs	Rationale for Alignment
Physiology, Biochemistry, Anatomy, Pharmacology, General Pathology	PLOs 1 and 3	SDG 3	Supports biomedical competence in clinical hygiene and prevention
English Foundation, Expository Writing	PLO 10	SDG 4	Builds communication skills, lifelong learning capability and academic literacy.
Chemistry, Dental Materials- I and II	PLOs 1 and 7	SDGs 3, 4 and 12	Builds foundational science knowledge supporting intelligent use of chemicals and materials in practice.
Islamiat / Ethics	PLO 5	SDG 16	Reinforces ethical conduct and social responsibility.
Computer skills, Research & Evidence-Based Learning	PLOs 8 and 10	SDGs 4 and 9	Develops digital literacy and lifelong critical thinking and learning capacity essential for modern hygiene practice.
Mathematics, Biostatistics	PLO 8	SDGs 4 and 9	Supports research, statistics, and data interpretation.
History, Pakistan Studies	PLO 9	SDG 16 and 17	Builds contextual understanding of civic, systems, advocacy and policy orientation.
Microbiology & Infection Control, Dental Pharmacology, Infection Control & Biohazard Management in Dentistry, Dental Radiology	PLOs 1, 4 and 7	SDG 3, 12 and 13	Ensure sustainable and eco-conscious pharmacologically safe and aseptic dental practice.

Oral Anatomy & Tooth Morphology, Oral Pathology, Oral Screening & Diagnosis	PLOs 1 and 3	SDG 3	Enhances understanding of oral structures for preventive care.
Civic and Community Engagement, Entrepreneurial Strategy, Community Dentistry- I and II	PLOs 2, 3, 5 and 9	SDGs 3, 8, 10, 11 and 17	Strengthens public health work and practices, promotion and community-based care.
Preventive Dentistry- I, Preventive & Interceptive Orthodontics	PLOs 1, 4, 5 and 10	SDGs 3, 4 and 10	Builds capacity in early intervention and preventive practice.
Preventive Dentistry-II, Periodontology- I, II	PLOs 1 and 3	SDG 3	Links and strengthen treatment of periodontal and systemic health.
Introduction to Prosthodontics, Basics of Health Care Management, Auxiliary Management in Orthodontics, Auxiliary Management in Maxillofacial Surgery, Auxiliary Management in Prosthodontics, Auxiliary Management in Operative Dentistry	PLOs 1, 6, 9 and 10	SDGs 3, 4 and 17	Prepares for leadership and sustainability in healthcare delivery, teamwork, collaborative and interdisciplinary coordination

Integration of BS DT Program with UN's SDGs:

The Bachelor of Science in Dental Hygiene (BS DTH) program explicitly embeds sustainability and SDGs principles in its design, focusing on improving population health, reducing inequities and promoting resilient systems.

The curriculum of BS DT program primarily aligns with the SDG 3 (Good Health and Well-being) – core of all laboratory work, but also reinforces SDG 9 (Industry, Innovation and Infrastructure), SDG 12 – 13 (Responsible Consumption and Climate Change). Moreover, this curriculum also corresponds to SDG 10 (Reduced Inequalities), 16 (Peace, Justice and Strong Institutions) and SDG 17 (Partnership for the Goals).

Below are our program learning outcomes (PLOs) of BS DT program aligned with specific SDGs:

1. **Demonstrate technical mastery** in designing, fabricating, and evaluating dental prostheses and appliances using evidence-based methods and advanced laboratory technologies.
→ *Aligned SDGs: 3 – Good Health and Well-Being; 9 – Industry, Innovation and Infrastructure.*
2. **Apply scientific and biomedical knowledge** in dental materials, oral anatomy, and biomechanics to ensure precision, safety, and quality in prosthodontic and orthodontic procedures.
→ *Aligned SDGs: 3 – Good Health and Well-Being; 4 – Quality Education.*
3. **Integrate oral health technology within comprehensive patient care**, collaborating effectively with dental and medical teams for improved functional and aesthetic outcomes.
→ *Aligned SDGs: 3 – Good Health and Well-Being; 17 – Partnerships for the Goals.*
4. **Promote innovation and sustainable practice** through responsible use of dental materials, waste reduction, and eco-friendly laboratory management.
→ *Aligned SDGs: 9 – Industry, Innovation and Infrastructure; 12 – Responsible Consumption and Production; 13 – Climate Action.*
5. **Ensure infection prevention and occupational safety** by implementing standardized protocols for biosafety, sterilization, and environmental protection.
→ *Aligned SDGs: 3 – Good Health and Well-Being; 12 – Responsible Consumption and Production.*

6. **Uphold professional ethics, accountability, and patient confidentiality** in all laboratory and collaborative clinical activities.

→ *Aligned SDGs: 16 – Peace, Justice and Strong Institutions.*

7. **Advance engagement and inclusivity in all dental technology initiatives**, contributing to collaboration yet equitable oral rehabilitation services across diverse populations.

→ *Aligned SDGs: 9 – Industry, Innovation and Infrastructure; 10 – Reduced Inequalities.*

8. **Apply research principles and data literacy** to evaluate new materials, technologies, and clinical applications in dental technology.

→ *Aligned SDGs: 4 – Quality Education; 9 – Industry, Innovation and Infrastructure.*

9. **Demonstrate leadership and entrepreneurship** in managing dental laboratories and contributing to sustainable growth within the oral health sector.

→ *Aligned SDGs: 8 – Decent Work and Economic Growth; 9 – Industry, Innovation and Infrastructure.*

10. **Commit to lifelong learning and continuous professional development**, remaining responsive to emerging technologies and health system needs.

→ *Aligned SDGs: 4 – Quality Education; 17 – Partnerships for the Goals.*



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Key Courses and SDGs Linkages in BS DT Program

Course Titles	Aligned PLO(s)	Relevant SDGs	Rationale for Alignment
Physiology, Biochemistry, Anatomy, Pharmacology, General Pathology	PLO 2	SDG 3	Develops understanding of body systems relevant to oral rehabilitation.
English Foundation, Expository Writing	PLO 10	SDG 4	Builds communication skills, lifelong learning capability and academic literacy.
Chemistry, Dental Materials- I and II	PLOs 1, 2 and 4	SDGs 3, 9 and 12	Builds foundational science knowledge supporting intelligent use of chemicals and materials in laboratory practice.
Islamiat / Ethics	PLO 6	SDG 16	Reinforces ethical conduct and social responsibility.
Computer skills, Research & Evidence-Based Learning	PLOs 8 and 10	SDGs 4 and 9	Develops digital literacy and lifelong critical thinking and learning capacity essential for modern hygiene practice.
Mathematics, Biostatistics	PLO 8	SDGs 4 and 9	Supports research, statistics, and data interpretation.
History, Pakistan Studies	PLO 9	SDG 16 and 17	Builds contextual understanding of civic, systems, advocacy and policy orientation.
Microbiology & Infection Control, Dental Pharmacology, Infection Control & Biohazard Management in Dentistry, Dental Radiology	PLOs 2, 3, 4 and 5	SDG 3, 12 and 13	Ensure sustainable, eco-conscious and safe dental laboratory practice.

Oral Anatomy & Tooth Morphology, Oral Pathology, Oral Screening & Diagnosis	PLOs 2 and 3	SDG 3	Enables disease-based prosthetic relevance and improves diagnostic collaboration with clinical teams.
Civic and Community Engagement, Entrepreneurial Strategy, Basics of Implant Technology, Crown & Bridge Technology	PLOs 4, 7 and 9	SDGs 8, 9, 10, 16 and 17	Promotes innovation through engagement, collaboration and teamworking in dental laboratory management and services.
Preventive & Interceptive Orthodontics, Orthodontic Technology	PLOs 1, 2 and 3	SDGs 3 and 10	Builds capacity in early intervention and preventive technology in orthodontics.
Partial Denture, Cast Partial Denture, Complete Denture, Fixed Prosthodontics	PLOs 1, 2, 3, 4 and 10	SDGs 3, 4, 8, 9 and 17	Prepares skillful technologists in dental laboratory with responsibility towards sustainable resource use.
Capstone Project	PLOs 8 and 10	SDGs 4 and 9	Integrates research, innovation, and lifelong learning in a final project.