SDG 17
PARTNERSHIP
FOR THE GOALS







17 PARTNERSHIPS FOR THE GOALS













LUMHS has commitment to meaningful Education around SDGs

Liaquat University of Medical and Health Sciences (LUMHS) is committed to integrating the United Nations Sustainable Development Goals (SDGs) into its **Academic Framework** to ensure that higher education contributes meaningfully to sustainable development and the achievement of the 2030 Agenda. The University recognizes that educational institutions have a vital role in preparing future professionals who are not only academically competent but also socially responsible, environmentally conscious, and committed to addressing global and local challenges.

In this regard, LUMHS has progressively aligned its academic programmes, curricula, learning outcomes, teaching methodologies, and co-curricular activities with the principles and priorities of the SDGs. This integration encourages students to understand the interconnectedness of health, quality education, gender equality, reduced inequalities, environmental sustainability, responsible consumption, and global partnerships. Particular emphasis is placed on health-related SDGs, including SDG 3 (Good Health and Well-being), while promoting the relevance of SDGs 4 (Quality Education), 5 (Gender Equality), 6 (Clean Water and Sanitation), 10 (Reduced Inequalities), 11 (Sustainable Cities and Communities), 13 (Climate Action), and 17 (Partnerships for the Goals). Through classroom instruction, research assignments, practical learning, clinical training, fieldwork, community engagement, and awareness initiatives, students are encouraged to translate theoretical knowledge into practical solutions that address societal needs.

Furthermore, LUMHS has introduced a **Three-Day Certificate Course** on the Sustainable Development Goals, designed to provide students from all academic programmes and disciplines with a comprehensive understanding of the SDGs and their significance in contemporary professional practice. The course is open to students across the University and aims to develop awareness of the 17 SDGs, their targets, implementation strategies, and relevance to local, national, and international development priorities. It introduces participants to key themes such as sustainable healthcare, public health promotion, social inclusion, gender equality, environmental protection, climate resilience, responsible resource utilization, and institutional partnerships.

The certificate course also emphasizes the practical responsibilities of future healthcare professionals, researchers, educators, and other graduates in contributing to sustainable development. Through interactive learning, discussions, awareness activities, and practical examples, students are encouraged to identify sustainability challenges within their communities and explore ways to address them through their respective professional fields. The course further promotes critical thinking, responsible citizenship, interdisciplinary collaboration, and community-oriented approaches to development.

By combining SDG integration into academic programmes with a dedicated certificate course accessible to students across disciplines, LUMHS demonstrates a comprehensive institutional approach to sustainability education. This initiative ensures that the SDGs are not treated merely as theoretical concepts but are incorporated into the University's broader educational philosophy, fostering a generation of graduates equipped with the knowledge, skills, values, and sense of responsibility required to contribute to a healthier, more equitable, inclusive, and sustainable society in line with the United Nations 2030 Agenda.

LUMHS Academic Program and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of biomedical, clinical and behavioral sciences to patient care.	SDG 4	SDG 3	4.3, 4.4
PLO-2	Perform history taking, physical examination, diagnosis and management of common conditions.	SDG 3	-	3.4, 3.8
PLO-3	Demonstrate ethical, professional and compassionate practice.	SDG 16	SDG 3, SDG 5, SDG 10	16.6, 10.2
PLO-4	Communicate effectively with patients, families and colleagues.	SDG 3	SDG 5, SDG 10	3.8, 5.5
PLO-5	Promote preventive and community health and address social determinants of health.	SDG 3	SDG 1, SDG 2, SDG 6, SDG 10	3.3, 3.d
PLO-6	Apply research methods and evidence-based practice.	SDG 9	SDG 3, SDG 4	9.5
PLO-7	Work in teams and contribute to health system leadership, quality and patient safety.	SDG 17	SDG 3, SDG 16	17.17, 3.8
PLO-8	Engage in lifelong learning and global health perspectives.	SDG 4	SDG 17	4.4, 4.b

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Anatomy	Describe the structure of major body systems and relate it to clinical conditions.	PLO-1	SDG 4, SDG 3
Physiology	Explain normal physiological mechanisms and interpret deviations in disease.	PLO-1	SDG 4, SDG 3
Biochemistry	Relate metabolic pathways and molecular processes to disease and diagnostics.	PLO-1	SDG 4, SDG 3
Pharmacology	Select and prescribe essential medicines rationally, considering safety and cost.	PLO-2	SDG 3 (3.8)
Pathology and Microbiology	Interpret laboratory findings and explain mechanisms of infectious and non-communicable disease.	PLO-1, PLO-2	SDG 3 (3.3)
Community Medicine and Public Health	Apply epidemiological tools to plan preventive and health promotion measures.	PLO-5	SDG 3, SDG 1, SDG 6
Research Methodology and Biostatistics	Design a basic study and critically appraise published evidence.	PLO-6	SDG 9, SDG 4
Behavioral Sciences and Medical Ethics	Demonstrate ethical decision-making, empathy and respect for patient rights and diversity.	PLO-3, PLO-4	SDG 16, SDG 10, SDG 5
Forensic Medicine	Apply medico-legal principles and document findings in accordance with law.	PLO-3	SDG 16

Medicine and Allied	Formulate diagnosis and management plans for common medical conditions.	PLO-2	SDG 3
Surgery and Allied	Recognize surgical conditions, perform basic procedures and provide safe perioperative care.	PLO-2, PLO-7	SDG 3
Gynaecology and Obstetrics	Provide antenatal, intrapartum and postnatal care and recognize obstetric emergencies.	PLO-2, PLO-5	SDG 3 (3.1), SDG 5
Paediatrics	Assess growth and development and manage common childhood illnesses, including immunization.	PLO-2, PLO-5	SDG 3 (3.2), SDG 2
Clinical Rotations / Electives (incl. Global Connect)	Function as a team member in clinical settings and reflect on international healthcare practices.	PLO-7, PLO-8	SDG 17, SDG 4, SDG 3

BDS

BDS Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of biomedical, dental and behavioral sciences to oral health care.	SDG 4	SDG 3	4.3, 4.4
PLO-2	Diagnose, plan and manage common oral and dental conditions, including restorative, surgical and prosthetic care.	SDG 3	-	3.4, 3.8
PLO-3	Demonstrate ethical, professional and patient-centered practice.	SDG 16	SDG 3, SDG 5, SDG 10	16.6, 10.2
PLO-4	Communicate effectively with patients, families and healthcare teams.	SDG 3	SDG 5, SDG 10	3.8, 5.5
PLO-5	Promote preventive dentistry, oral health education and community oral health.	SDG 3	SDG 1, SDG 6, SDG 10	3.8, 3.d
PLO-6	Apply infection control, sterilization and patient safety standards.	SDG 3	SDG 12	3.3, 12.4
PLO-7	Apply research methods and evidence-based practice in dentistry.	SDG 9	SDG 3, SDG 4	9.5
PLO-8	Engage in lifelong learning, teamwork and practice management.	SDG 4	SDG 8, SDG 17	4.4, 8.5

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Dental Anatomy and Histology	Identify tooth morphology and oral tissue structure and relate them to clinical findings.	PLO-1	SDG 4, SDG 3
General Anatomy, Physiology and Biochemistry	Explain normal body function and its relevance to oral health and disease.	PLO-1	SDG 4, SDG 3
Dental Materials	Select and handle dental materials appropriately for restorative and prosthetic use.	PLO-2, PLO-6	SDG 3, SDG 12

General Pathology and Microbiology	Explain mechanisms of oral and systemic disease and infection control principles.	PLO-1, PLO-6	SDG 3 (3.3)
Pharmacology and Therapeutics	Prescribe drugs and anesthetic agents rationally and safely in dental practice.	PLO-2	SDG 3 (3.8)
Oral Pathology and Oral Medicine	Diagnose oral lesions and recognize oral manifestations of systemic disease.	PLO-2	SDG 3
Operative Dentistry and Endodontics	Perform restorative and root canal procedures to appropriate clinical standards.	PLO-2	SDG 3
Prosthodontics	Design and fabricate removable and fixed prostheses to restore function and esthetics.	PLO-2	SDG 3, SDG 10
Periodontology	Assess periodontal health and provide preventive and therapeutic care.	PLO-2, PLO-5	SDG 3
Orthodontics and Pedodontics	Manage developing dentition and provide preventive and interceptive care for children.	PLO-2, PLO-5	SDG 3 (3.2)
Oral and Maxillofacial Surgery	Perform extractions and minor oral surgery and manage related emergencies.	PLO-2	SDG 3
Community and Preventive Dentistry	Plan and deliver community oral health programs and apply epidemiological tools.	PLO-5	SDG 3, SDG 1, SDG 10
Research Methodology and Biostatistics	Design a basic study and critically appraise dental literature.	PLO-7	SDG 9, SDG 4
Behavioral Sciences, Ethics and Professionalism	Demonstrate ethical practice, empathy and respect for patient rights and diversity.	PLO-3, PLO-4	SDG 16, SDG 10, SDG 5
Clinical Rotations / Electives (incl. Global Connect)	Work as a team member in clinical settings and reflect on international dental practice.	PLO-8	SDG 17, SDG 4, SDG 3

Doctor of Pharmacy (Pharm-D) Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of pharmaceutical, biomedical and clinical sciences to patient care.	SDG 4	SDG 3	4.3, 4.4
PLO-2	Ensure safe, effective and rational use of medicines through dispensing, counseling and medication therapy management.	SDG 3	-	3.8, 3.b
PLO-3	Apply clinical pharmacy skills, including drug information, pharmacovigilance and monitoring of adverse drug reactions.	SDG 3	SDG 16	3.8, 3.d
PLO-4	Demonstrate ethical, legal and professional practice in accordance with pharmacy regulations.	SDG 16	SDG 3, SDG 10	16.6, 16.b
PLO-5	Communicate effectively with patients, caregivers and healthcare professionals.	SDG 3	SDG 5, SDG 10	3.8, 5.5

PLO-6	Apply quality assurance, good manufacturing practice and sustainable pharmaceutical practices.	SDG 9	SDG 12, SDG 3	9.5, 12.4
PLO-7	Promote public health, disease prevention and awareness on antimicrobial resistance and responsible medicine use.	SDG 3	SDG 1, SDG 17	3.3, 3.d
PLO-8	Apply research methods and evidence-based practice, and engage in lifelong learning and interprofessional teamwork.	SDG 9	SDG 4, SDG 17	9.5, 4.4

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Pharmaceutics and Physical Pharmacy	Formulate and evaluate dosage forms using physicochemical principles.	PLO-1, PLO-6	SDG 9, SDG 3
Pharmaceutical Chemistry	Relate chemical structure to drug activity, stability and quality.	PLO-1	SDG 4, SDG 9
Pharmacognosy	Identify and evaluate natural drug sources and assess their quality and safety.	PLO-1, PLO-6	SDG 3, SDG 15
Human Anatomy and Physiology	Explain normal body function and its relevance to drug action.	PLO-1	SDG 4, SDG 3
Biochemistry and Microbiology	Explain metabolic and microbial processes relevant to disease and drug therapy.	PLO-1, PLO-7	SDG 3 (3.3)
Pharmacology and Toxicology	Explain mechanisms of drug action, adverse effects and toxicity, and apply them to therapy.	PLO-2, PLO-3	SDG 3
Pharmacy Practice and Dispensing	Dispense medicines accurately and counsel patients on correct use.	PLO-2, PLO-5	SDG 3 (3.8)
Clinical Pharmacy and Therapeutics	Develop evidence-based medication plans and monitor therapeutic outcomes.	PLO-2, PLO-3	SDG 3
Hospital and Community Pharmacy	Provide pharmaceutical care services in hospital and community settings.	PLO-2, PLO-7	SDG 3, SDG 10
Pharmaceutical Quality Assurance and Industrial Pharmacy	Apply GMP, quality control and regulatory standards in pharmaceutical production.	PLO-6	SDG 9, SDG 12
Pharmacoepidemiology and Pharmacovigilance	Detect, assess and report adverse drug events and analyze drug utilization patterns.	PLO-3, PLO-7	SDG 3 (3.d), SDG 16
Pharmacy Law and Ethics	Apply drug laws and ethical principles to professional practice.	PLO-4	SDG 16, SDG 3
Pharmacoeconomics and Health Systems	Evaluate cost-effectiveness and access to essential medicines.	PLO-2, PLO-7	SDG 3 (3.8), SDG 1
Research Methodology and Biostatistics	Design a basic study and critically appraise pharmaceutical literature.	PLO-8	SDG 9, SDG 4

Clinical Clerkships / Electives (incl. Global Connect)	Work as part of a healthcare team and reflect on international pharmacy practice.	PLO-5, PLO-8	SDG 17, SDG 4, SDG 3

Doctor of Physical Therapy (DPT) Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of biomedical, movement and rehabilitation sciences to physical therapy practice.	SDG 4	SDG 3	4.3, 4.4
PLO-2	Conduct patient assessment, clinical reasoning and diagnosis of musculoskeletal, neurological, cardiopulmonary and other conditions.	SDG 3	-	3.4, 3.8
PLO-3	Plan and deliver safe, evidence-based therapeutic interventions and rehabilitation programs.	SDG 3	SDG 10	3.8, 10.2
PLO-4	Promote inclusion, accessibility and participation of persons with disabilities and older adults.	SDG 10	SDG 3, SDG 11	10.2, 11.2
PLO-5	Demonstrate ethical, professional and patient-centered practice.	SDG 16	SDG 3, SDG 5	16.6, 5.5
PLO-6	Communicate effectively with patients, caregivers and the interprofessional team.	SDG 3	SDG 5, SDG 17	3.8, 17.17
PLO-7	Promote health, prevention of disability, ergonomics and community-based rehabilitation.	SDG 3	SDG 1, SDG 8	3.4, 8.5
PLO-8	Apply research methods and evidence-based practice, and engage in lifelong learning.	SDG 9	SDG 4, SDG 17	9.5, 4.4

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Anatomy and Histology	Describe musculoskeletal and neurovascular structures relevant to movement and rehabilitation.	PLO-1	SDG 4, SDG 3
Physiology and Biochemistry	Explain normal physiological responses to exercise and physical agents.	PLO-1	SDG 4, SDG 3
Kinesiology and Biomechanics	Analyze normal and abnormal human movement and posture.	PLO-1, PLO-2	SDG 3, SDG 4
Pathology and Pharmacology	Relate disease processes and common medications to physical therapy management.	PLO-1, PLO-2	SDG 3
Electrotherapy and Physical Agents	Apply electrotherapeutic and physical modalities safely and appropriately.	PLO-3	SDG 3
Therapeutic Exercise and Manual Therapy	Prescribe and perform exercise and manual techniques for restoring function.	PLO-3	SDG 3
Musculoskeletal and Sports Physical Therapy	Assess and manage musculoskeletal injuries and sports-related conditions.	PLO-2, PLO-3	SDG 3

Neurological Physical Therapy	Assess and rehabilitate patients with stroke, spinal cord and other neurological conditions.	PLO-2, PLO-3, PLO-4	SDG 3, SDG 10
Cardiopulmonary Physical Therapy	Assess and manage cardiac and respiratory conditions through rehabilitation.	PLO-2, PLO-3	SDG 3 (3.4)
Pediatric and Geriatric Physical Therapy	Provide age-appropriate care for children and older adults.	PLO-3, PLO-4	SDG 3, SDG 10
Community-Based Rehabilitation and Public Health	Plan prevention and community rehabilitation programs and address barriers to access.	PLO-4, PLO-7	SDG 10, SDG 3, SDG 1
Professional Ethics and Behavioral Sciences	Demonstrate ethical practice, empathy and respect for patient rights and diversity.	PLO-5, PLO-6	SDG 16, SDG 5
Research Methodology and Biostatistics	Design a basic study and critically appraise physical therapy literature.	PLO-8	SDG 9, SDG 4
Clinical Internships / Electives (incl. Global Connect)	Work as part of an interprofessional team and reflect on international rehabilitation practice.	PLO-6, PLO-8	SDG 17, SDG 4, SDG 3

BS Molecular Biology & Genetics (BSMBG) Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of molecular biology, genetics, biochemistry and cell biology to biomedical problems.	SDG 4	SDG 3, SDG 9	4.3, 4.4
PLO-2	Perform molecular and genetic laboratory techniques, including PCR, electrophoresis, cloning and sequencing, with accuracy and safety.	SDG 9	SDG 3	9.5, 3.b
PLO-3	Analyze and interpret genetic and genomic data using bioinformatics and statistical tools.	SDG 9	SDG 4	9.5, 9.b
PLO-4	Apply molecular and genetic knowledge to disease diagnosis, screening, genetic counseling and personalized medicine.	SDG 3	SDG 9, SDG 10	3.4, 3.8
PLO-5	Address inherited disorders, infectious disease and genetic risk within the local population.	SDG 3	SDG 1, SDG 10	3.2, 3.3
PLO-6	Demonstrate ethical, legal and biosafety practice in genetic research and testing.	SDG 16	SDG 3, SDG 12	16.6, 12.4
PLO-7	Design and conduct research, communicate findings and contribute to scientific innovation.	SDG 9	SDG 4, SDG 17	9.5, 17.6
PLO-8	Work effectively in teams and engage in lifelong learning and interdisciplinary collaboration.	SDG 17	SDG 4, SDG 8	17.17, 4.4

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
General and Cell Biology	Describe cell structure, function and division and relate them to disease.	PLO-1	SDG 4, SDG 3
Biochemistry	Explain metabolic pathways and biomolecular processes relevant to health and disease.	PLO-1	SDG 4, SDG 3
Molecular Biology	Explain DNA replication, transcription, translation and gene regulation.	PLO-1, PLO-2	SDG 4, SDG 9
Genetics and Human Genetics	Apply Mendelian and population genetics principles to inherited disorders.	PLO-1, PLO-5	SDG 3, SDG 4
Microbiology and Immunology	Explain microbial pathogenesis and immune responses and their diagnostic applications.	PLO-1, PLO-5	SDG 3 (3.3)
Molecular Diagnostic Techniques	Perform and interpret PCR, electrophoresis and related assays for disease detection.	PLO-2, PLO-4	SDG 3, SDG 9
Genomics and Bioinformatics	Analyze sequence and genomic data using computational tools and databases.	PLO-3	SDG 9, SDG 4
Biotechnology and Genetic Engineering	Explain recombinant DNA technology and its applications in medicine and industry.	PLO-2, PLO-7	SDG 9, SDG 3
Cytogenetics and Genetic Counseling	Describe chromosomal disorders and support counseling and risk assessment.	PLO-4, PLO-5	SDG 3, SDG 10
Cancer Biology and Pharmacogenomics	Relate molecular alterations to cancer and individualized drug response.	PLO-4	SDG 3, SDG 9
Bioethics and Biosafety	Apply ethical, legal and biosafety standards in genetic research and testing.	PLO-6	SDG 16, SDG 12
Biostatistics and Research Methodology	Design a basic study, analyze data and critically appraise scientific literature.	PLO-3, PLO-7	SDG 9, SDG 4
Final Year Research Project / Internship (incl. Global Connect where applicable)	Conduct supervised research and work in a team within laboratory or institutional collaborations.	PLO-7, PLO-8	SDG 9, SDG 17, SDG 4

BS Nursing (Generic) Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply knowledge of biomedical, behavioral and nursing sciences to patient care.	SDG 4	SDG 3	4.3, 4.4

PLO-2	Provide safe, competent and evidence-based nursing care across the lifespan in hospital and community settings.	SDG 3	-	3.4, 3.8
PLO-3	Deliver maternal, newborn and child health care and promote reproductive health.	SDG 3	SDG 5	3.1, 3.2
PLO-4	Promote health education, disease prevention and community health, addressing social determinants of health.	SDG 3	SDG 1, SDG 6, SDG 10	3.3, 3.d
PLO-5	Apply infection prevention, patient safety and quality improvement standards.	SDG 3	SDG 12	3.8, 12.4
PLO-6	Demonstrate ethical, professional and culturally sensitive practice.	SDG 16	SDG 3, SDG 5, SDG 10	16.6, 10.2
PLO-7	Communicate effectively and work collaboratively within the interprofessional team.	SDG 17	SDG 3, SDG 5	17.17, 5.5
PLO-8	Demonstrate leadership, management, research and evidence-based practice, and engage in lifelong learning.	SDG 4	SDG 9, SDG 8	4.4, 9.5

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Anatomy and Physiology	Explain normal body structure and function and relate them to nursing care.	PLO-1	SDG 4, SDG 3
Biochemistry and Microbiology	Explain biochemical and microbial processes relevant to health, disease and infection control.	PLO-1, PLO-5	SDG 3 (3.3)
Pharmacology	Administer medications safely and monitor therapeutic effects and adverse reactions.	PLO-2, PLO-5	SDG 3 (3.8)
Fundamentals of Nursing	Perform basic nursing procedures with attention to safety, hygiene and patient dignity.	PLO-2, PLO-5	SDG 3
Adult Health Nursing (Medical-Surgical)	Plan and deliver nursing care for adults with acute and chronic conditions.	PLO-2	SDG 3 (3.4)
Maternal and Newborn Health Nursing	Provide antenatal, intrapartum, postnatal and newborn care and recognize obstetric emergencies.	PLO-3	SDG 3 (3.1, 3.2), SDG 5
Child Health Nursing	Assess growth and development and provide care for common childhood illnesses, including immunization.	PLO-3, PLO-4	SDG 3 (3.2), SDG 2
Mental Health Nursing	Provide supportive care and promote mental well-being of patients and families.	PLO-2, PLO-6	SDG 3 (3.4)
Community Health Nursing	Plan and implement community health promotion and preventive programs.	PLO-4	SDG 3, SDG 1, SDG 6
Infection Control and Patient Safety	Apply standard precautions and quality and safety protocols in clinical settings.	PLO-5	SDG 3, SDG 12

Professional Ethics, Law and Communication	Demonstrate ethical decision-making, patient advocacy and respectful communication.	PLO-6, PLO-7	SDG 16, SDG 10, SDG 5
Nursing Leadership and Management	Apply principles of leadership, delegation and teamwork in nursing units.	PLO-7, PLO-8	SDG 17, SDG 8
Research Methodology and Biostatistics	Design a basic study and critically appraise nursing literature.	PLO-8	SDG 9, SDG 4
Clinical Practicum / Internship (incl. Global Connect where applicable)	Provide supervised patient care as part of an interprofessional team and reflect on international nursing practice.	PLO-2, PLO-7, PLO-8	SDG 3, SDG 17, SDG 4

BS Biomedical Engineering (BSBME) Program: PLOs, CLOs and SDG Alignment

Table 1: Program Learning Outcomes (PLOs) and SDG Alignment

PLO	Statement: graduates will be able to:	Primary SDG	Supporting SDGs	Target
PLO-1	Apply mathematics, engineering and biomedical sciences to solve healthcare problems.	SDG 4	SDG 3, SDG 9	4.3, 4.4
PLO-2	Design, develop and evaluate medical devices and systems that meet safety, performance and regulatory requirements.	SDG 9	SDG 3	9.5, 3.8
PLO-3	Install, calibrate, maintain and manage biomedical equipment in healthcare facilities.	SDG 9	SDG 3, SDG 12	9.1, 3.8
PLO-4	Apply instrumentation, signal and image processing, medical imaging and digital health technologies.	SDG 9	SDG 3	9.5, 9.b
PLO-5	Apply risk management, clinical safety and regulatory standards to medical technology.	SDG 3	SDG 9, SDG 16	3.8, 16.6
PLO-6	Develop affordable and sustainable technology solutions for low-resource settings and manage equipment waste responsibly.	SDG 12	SDG 3, SDG 10	12.5, 3.8
PLO-7	Demonstrate ethical, professional and collaborative practice with clinicians and engineers.	SDG 17	SDG 3, SDG 16	17.17, 16.6
PLO-8	Apply research and innovation skills and engage in lifelong learning.	SDG 9	SDG 4, SDG 8	9.5, 4.4

Table 2: Course Learning Outcomes (CLOs), PLO Mapping and SDG Alignment

Course / Module	CLO (illustrative)	PLO	SDG
Human Anatomy and Physiology for Engineers	Explain physiological systems and the biological signals they generate.	PLO-1	SDG 4, SDG 3
Engineering Mathematics and Physics	Apply calculus, linear algebra and physics principles to biomedical problems.	PLO-1	SDG 4
Electric Circuits and Electronics	Analyze and design analog and digital circuits for biomedical applications.	PLO-1, PLO-2	SDG 9, SDG 4

Biomaterials and Biomechanics	Evaluate materials and the mechanical behavior of tissues and implants.	PLO-2	SDG 9, SDG 3
Biomedical Instrumentation and Measurements	Design sensing and instrumentation systems for physiological measurement.	PLO-2, PLO-4	SDG 9, SDG 3
Biomedical Signal and Image Processing	Process and interpret physiological signals (e.g., ECG, EEG) and medical images.	PLO-4	SDG 9, SDG 3
Medical Imaging Systems	Explain the principles of X-ray, ultrasound, CT and MRI and support their safe operation.	PLO-3, PLO-4	SDG 3, SDG 9
Medical Equipment Maintenance and Management	Install, calibrate, troubleshoot and schedule preventive maintenance of medical equipment.	PLO-3	SDG 3, SDG 9, SDG 12
Medical Device Regulation, Safety and Quality	Apply risk management, safety testing and regulatory standards to medical devices.	PLO-5	SDG 3, SDG 16
Embedded Systems, AI and Digital Health	Apply embedded systems, telemedicine and machine learning to healthcare solutions.	PLO-4, PLO-6	SDG 9, SDG 3
Rehabilitation and Assistive Engineering	Design assistive and rehabilitation devices for persons with disabilities.	PLO-6	SDG 10, SDG 3
Equipment Lifecycle and E-Waste Management	Apply sustainable procurement, reuse and disposal practices for medical equipment.	PLO-6	SDG 12, SDG 3
Professional Ethics and Communication	Demonstrate ethical practice and effective communication with clinical and technical teams.	PLO-7	SDG 16, SDG 17
Research Methodology and Biostatistics	Design a basic study and analyze and appraise engineering and clinical data.	PLO-8	SDG 9, SDG 4
Final Year Design Project / Hospital Internship (incl. Global Connect where applicable)	Develop a supervised biomedical engineering solution within a clinical or institutional team.	PLO-2, PLO-7, PLO-8	SDG 9, SDG 17, SDG 4

Three-Day Course on Sustainable Development Goals (SDGs)

Liaquat University of Medical and Health Sciences (LUMHS) organized a three-day training course on the **United Nations Sustainable Development Goals (SDGs)** to enhance students' understanding of global sustainability challenges and their role in achieving them. Being Medical students have can learn to integrate SDGs throughout their academic and professional learning through this course.

The course included interactive lectures, group discussions, and practical activities focusing on key SDGs related to health, education, gender equality, and environmental sustainability. Students actively participated throughout the sessions, demonstrating great enthusiasm and commitment to learning.

At the conclusion of the program, participants were awarded **certificates of successful completion**, recognizing their engagement and dedication to promoting sustainable development. The initiative reflects LUMHS's ongoing commitment to fostering sustainability literacy and preparing students to contribute effectively toward achieving the SDGs.

Certificate distribution ceremony of three days course on Sustainable development goals

Course Title: "Introduction to Sustainable Development Goals (SDGs): Understanding the Global Agenda"

Duration:
3 days
Course
Objective
:
The primary objective of this course is to educate undergraduate students on the Sustainable Development Goals (SDGs), their interconnectedness, and the role of individuals, communities, and organizations in achieving these global goals. Specifically, the course aims to: integrate SDGs into their overall learning and academic

- Enhance students' understanding of the 17 SDGs and their targets.
- Analyze the global challenges addressed by SDGs and their local implications.
- Develop skills to integrate SDGs into academic and professional pursuits.



- Foster critical thinking, collaboration, and problem-solving for SDG implementation.
- Inspire students to become active contributors to achieving the SDGs.

Scope of the Course:

This course covers the following topics:

- Introduction to SDGs: history, development, and framework.
- Global challenges and SDGs: poverty, inequality, climate change, and more.
- SDG implementation: local, national, and international perspectives.
- SDG-themed workshops: climate action, sustainable cities, quality education, and more.
- Integrating SDGs into academia and professional settings.
- SDG project development and pitching

By the end of this course, students will:

- Understand the SDGs and their interconnectedness.
- Analyze the role of individuals, communities, and organizations in achieving SDGs.
- Develop skills to integrate SDGs into their academic and professional pursuits.

Day 1: Introduction to SDGs and Global Challenges

1. Introduction to SDGs (45 minutes)
   - Overview of the 17 SDGs
   - History and development of SDGs
2. Global Challenges and SDGs (45 minutes)
   - Poverty, inequality, climate change, and other global challenges
   - How SDGs address these challenges
3. Group Discussion (30 minutes)
   - Small group discussions on SDGs and global challenges
4. SDG Framework and Indicators (45 minutes)
   - Understanding SDG targets and indicators
   - Measuring progress toward SDGs
5. Case Study: Successful SDG Implementation (45 minutes)
   - Real-world examples of SDG implementation
   - Lessons learned and best practices

Day 2: SDGs in Action - Local and Global Perspectives

1. Local SDG Implementation (45 minutes)
   - Local government initiatives and SDGs
   - Community-based projects and SDGs
2. Global SDG Partnerships (45 minutes)
   - International organizations and SDGs
   - Public-private partnerships for SDGs
3. Panel Discussion (30 minutes)
   - Local and global experts share experiences and insights
4. SDG-themed Workshop (90 minutes)
   - Choose one SDG (e.g., SDG 13 - Climate Action)

- Develop solutions and projects for local implementation

5. Pitching SDG Ideas (30 minutes)
   - Students pitch their SDG project ideas

Day 3: Integrating SDGs into Academic and Professional Pursuits

1. SDGs in Academia (45 minutes)
   - Integrating SDGs into curriculum and research
   - SDG-focused academic programs
2. SDGs in Professional Settings (45 minutes)
   - SDG implementation in industries and organizations
   - Career opportunities in SDG-related fields
3. Group Discussion (30 minutes)
   - How to integrate SDGs into students' academic and professional goals
4. SDG Project Development (90 minutes)
   - Students work on SDG project proposals
   - Peer feedback and mentorship
5. Closing Ceremony (30 minutes)
   - Certificate distribution
   - Final thoughts and next steps

Assessment:

1. Participation and engagement (20%)
2. Group discussion and presentation (30%)
3. Quiz competition







Annally SDG summit is organized


6 CLEAN WATER AND SANITATION
Saving water
• Saving clean water
• Water is Life, Sanitation is Dignity –
• Leave No One Behind!"
SUPPORT THE MARGINALIZED AND DISADVANTAGED.
SDG SUMMIT


SUSTAINABLE DEVELOPMENT GOALS
SUPPORT THE MARGINALIZED AND DISADVANTAGED.
SDG SUMMIT


Summit 2025
GOALS


10 REDUCED INEQUALITIES
Key message of LUMHS
Affordable and accessible healthcare for all.
Free medical camps for underserved communities.
Inclusive health services for people with disabilities.
Support for elderly people, children and marginalized populations.
Community outreach to reduce health inequalities.


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DEVELOPMENT GOALS