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## **Integration of Sustainable Development Goals (SDGs) into the Pharm. D Curriculum**

The Pharm. D curriculum at Dow College of Pharmacy, Dow University of Health Sciences (DUHS), is comprehensively aligned with the United Nations Sustainable Development Goals (SDGs), particularly those related to health, education, innovation, and sustainability. The program embeds sustainability concepts within its courses, teaching outcomes, and professional competencies, preparing graduates to contribute to public health, ethical practice, and responsible pharmaceutical innovation.

- The program outcomes foster ethical, patient-centered, and environmentally responsible pharmacy practice.
- Students engage in community health and clinical clerkships, contributing to local and national health priorities.
- Research and innovation components (Capstone Project, Biostatistics, AI in Pharmacology) support evidence-based and technology-driven healthcare solutions.
- Courses under Regulatory Science and Quality Management emphasize compliance with international environmental and safety standards.

The Program Learning Outcomes (PLOs) of the Pharm. D program are designed in alignment with the United Nations Sustainable Development Goals (SDGs), ensuring that pharmacy education contributes meaningfully to sustainable health, social, and professional development.

- Promote ethical and patient-centered pharmacy practice that supports SDG 3 (Good Health and Well-being) and SDG 16 (Peace, Justice, and Strong Institutions).
- Foster innovation, research, and critical thinking aligned with SDG 4 (Quality Education) and SDG 9 (Industry, Innovation, and Infrastructure).
- Encourage effective communication, collaboration, and inclusivity in professional settings, advancing SDG 5 (Gender Equality) and SDG 17 (Partnerships for the Goals).
- Support responsible manufacturing, entrepreneurship, and professional leadership contributing to SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production).
- Cultivate lifelong learning and adaptability to address evolving healthcare challenges, promoting SDG 4 (Quality Education) and SDG 3 (Good Health and Well-being).

The following table outlines SDG integration across Pharm. D courses.

### CURRICULUM–SDG ALIGNMENT SUMMARY

SDG	Relevant Courses	Integration & Contribution
<b>SDG 3: Good Health &amp; Well-being</b>	Pharmacology & Therapeutics I–IV, Clinical Pharmacy I–II, Advanced Clinical Pharmacy I–II, Clinical Pharmacology, Hospital & Community Pharmacy, Pathology, Biochemistry, Physiology, Artificial Intelligence in Pharmacology	Promote rational drug use, disease prevention, patient-centered care, and evidence-based therapeutic decisions. Train graduates for safe, effective, and equitable healthcare delivery.
<b>SDG 4: Quality Education</b>	Functional English, Quantitative Reasoning I & II, Expository Writing, Capstone Project, Biostatistics, Applications of ICT, Bioethics	Strengthen analytical, communication, ethical, and digital literacy skills, supporting professional growth and continuous learning in pharmacy and healthcare practice.
<b>SDG 8: Decent Work and Economic Growth</b>	Industrial Pharmacy I–II, Pharmaceutical Technology I–II, Pharmaceutical Management & Marketing, Entrepreneurship, Regulatory Science I–II.	Promotes sustainable economic growth and decent employment by equipping students with skills in safe pharmaceutical manufacturing, innovation, regulatory compliance, management, and entrepreneurship.
<b>SDG 9: Industry, Innovation, and Infrastructure</b>	Industrial Pharmacy I–II, Pharmaceutical Technology I–II, Pharmaceutical Analysis I–II, Pharmaceutical Quality Control, Pharmaceutical Quality Management System, Physical Pharmacy I–II, Biopharmaceutics and Pharmacokinetics I–II, Pharmaceutical Analysis I–II, Drug Delivery Systems and Formulation Science I–II, Applied Pharmaceutical Microbiology and Immunology	Develop competencies in sustainable pharmaceutical manufacturing, innovation, and quality assurance through Good Manufacturing Practices (GMP) and advanced analytical techniques.

<b>SDG 12: Responsible Consumption &amp; Production</b>	Industrial Pharmacy, Quality Control, Regulatory Science I–II, Pharmacognosy & Applied Pharmacognosy, Medicinal Chemistry I–II	Emphasize safe production processes, waste minimization, and responsible sourcing of raw materials, promoting eco-conscious pharmacy operations.
<b>SDG 15: Life on Land</b>	Pharmacognosy I–II, Applied Pharmacognosy, Advanced Pharmacognosy	Highlights the conservation and sustainable use of medicinal plants and natural resources in pharmaceutical research and product development.
<b>SDG 16: Peace, Justice &amp; Strong Institutions</b>	Bioethics, Forensic Pharmacy (content under Regulatory Science), Islamic & Pakistan Studies, Dispensing, Social & Administrative Pharmacy	Promotes ethical decision-making, legal compliance, and professional integrity, strengthening accountability and good governance within healthcare systems.
<b>SDG 17: Partnerships for the Goals</b>	Capstone Project, Clinical Clerkship, Civics & Community Engagement, Entrepreneurship	Encourage interdisciplinary collaboration, community health promotion, and partnerships with hospitals and industry to achieve sustainable health and development outcomes.

In summary, the Pharm. D program at Dow College of Pharmacy integrates sustainability and SDGs throughout its coursework and outcomes, preparing graduates to serve as responsible, innovative, and ethical health professionals aligned with the vision of DUHS and the global sustainability agenda.