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Sustainability Courses

Total No. of courses related to sustainability in the university = 380

Medicine & Surgery Program

Total No. of courses: 55 **No. of sustainability courses: 28 (50.9%)**

No.	Course Name	Note
1	Orientation & Preparation to Medical School	Promotes sustainable learning environment and responsible professional behavior.
2	Presentation Skills	Enhances effective communication – part of social sustainability and human development.
3	Introduction to Quality & Accreditation in Higher Education	Supports institutional sustainability and continuous quality improvement.
4	Communication Skills and Medical Professionalism	Encourages ethical, responsible, and sustainable medical practice.
5	Social Issues	Addresses community health and social sustainability themes.
6	Basic Clinical Skills 1	Develops safe, patient-centered, and socially responsible clinical practice.
7	Artificial Intelligence in Medicine 1	Promotes innovation and efficiency for sustainable healthcare systems.
8	Psychology	Covers mental health and well-being – key aspects of sustainable health.
9	Basic Clinical Skills 2	Continuation of sustainable clinical skill development.
10	Basic Life Support	Promotes community safety and emergency preparedness.
11	Community Medicine	Focuses on preventive health, environment, and community well-being.
12	Basic Clinical Skills 3	Integrates ethical and patient-centered care into sustainable practice.

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13	Evidence-Based Medicine, Research and Biostatistics	Encourages responsible, evidence-driven, and sustainable medical research.
14	Forensic & Toxicology	Addresses environmental pollution, toxins, and safety.
15	German Language 1	Enhances intercultural communication and social sustainability.
16	German Language 2	Same as above – supports global collaboration and understanding.
17	Patient Safety & Infection Control	Reduces infection risk and improves health system sustainability.
18	Artificial Intelligence in Medicine 2	Expands use of AI in improving health outcomes and sustainability.
19	Ethical & Legal Issues in Medical Practice	Reinforces justice, ethics, and social sustainability in healthcare.
20	Integrated Clinical Module I	Combines clinical and community-based approaches for sustainable health.
21	Pediatrics & Neonatology	Focuses on child health – ensuring well-being of future generations.
22	Child Health	Promotes preventive care and lifelong health sustainability.
23	Integrated Clinical Module II	Applies sustainable and holistic healthcare practices.
24	Obstetrics & Gynecology	Addresses women's health and gender equality – SDG 3 & SDG 5.
25	Women Health	Promotes empowerment and sustainable family health.
26	Field Training	Encourages community engagement and public health awareness.
27	Clinical Nutrition	Connects nutrition, environment, and public health sustainability.
28	Research Project	Fosters innovation and evidence-based solutions for sustainable development.

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Pharm D Clinical Program (Faculty of Pharmacy)

Total No. of courses: 84 **No. of sustainability courses: 40 (47.6%)**

No.	Course Name	Note
1	Pharmacy Orientation	Introduces responsible pharmacy practice and professional ethics aligned with social sustainability.
2	Medicinal Plants	Promotes the sustainable use and conservation of medicinal plant resources.
3	Human Rights and Fighting Corruption	Supports social sustainability, ethics, and institutional integrity (SDG 16).
4	Quality Orientation	Enhances awareness of quality systems and continuous improvement for sustainable operations.
5	General Microbiology and Immunology	Builds understanding of infection control, community health, and sustainable public health.
6	Physiology and Pathophysiology	Links health, disease prevention, and sustainable healthcare outcomes.
7	Pharmaceutical Microbiology and Antimicrobials	Focuses on infection control, antimicrobial resistance, and health system sustainability.
8	Drug Quality Control	Ensures safe, effective, and high-quality medicines, supporting sustainable health systems.
9	Drug Information	Promotes evidence-based practice and rational use of medicines.
10	Hospital Pharmacy	Involves rational resource management and patient safety in healthcare settings.
11	First Aid and Basic Life Support	Improves community health resilience and emergency preparedness (SDG 3).
12	Community Pharmacy Practice	Connects pharmacists with community well-being and public health sustainability.

13	Complementary and Alternative Therapy	Encourages safe and sustainable use of natural and traditional medicines.
14	Clinical Nutrition	Links nutrition to prevention, sustainability, and public health.
15	Public Health and Preventive Medicine	Focuses on disease prevention, population health, and sustainable healthcare delivery.
16	Pharmacy Legislation and Practice Ethics	Strengthens ethical, fair, and sustainable governance in pharmacy practice.
17	Biotechnology	Supports innovation and sustainable drug production (SDG 9).
18	Entrepreneurship and Communication Skills	Promotes sustainable economic growth and professional development.
19	Marketing & Pharmacoeconomics	Encourages efficient resource use and cost-effective sustainable healthcare.
20	Clinical Research and Pharmacovigilance	Enhances patient safety and responsible research practices.
21	Food Analysis	Relates to food safety, quality assurance, and sustainable nutrition.
22	Analysis of Cosmetic Products	Promotes safe, environmentally friendly, and sustainable cosmetic formulations.
23	Forensic Chemistry	Covers toxic substances, environmental contamination, and safety regulations.
24	Drug Synthesis	Supports green chemistry and sustainable pharmaceutical manufacturing.
25	Computational Chemistry & Drug Design	Reduces experimental waste through simulation and eco-efficient design.
26	Sports Nutrition	Promotes healthy lifestyles and sustainable human performance.
27	Applied Industrial Pharmacy	Addresses waste reduction, efficiency, and sustainability in pharmaceutical production.
28	Nanotechnology-based Drug Design	Encourages innovative, efficient drug delivery systems for sustainable healthcare.

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29	Cosmetics Technology	Focuses on environmentally safe and sustainable cosmetic formulations.
30	Drug Discovery from Marine Origins	Promotes biodiversity conservation and sustainable marine resource use.
31	Chromatography & Separation Techniques	Supports precise and waste-minimized analytical practices.
32	Processing, Production & Manufacture of Medicinal Plants	Encourages sustainable cultivation and processing of herbal medicines.
33	Aromatherapy & Natural Cosmetics	Promotes eco-friendly and sustainable product development.
34	Antimicrobial Stewardship / Infection Control	Addresses antimicrobial resistance and sustainable healthcare.
35	Microbiological Quality Control	Ensures sustainable pharmaceutical quality and safety.
36	Biological Standardization	Promotes quality, safety, and ethical use of biological products.
37	Veterinary Pharmacology	Supports One Health principles linking human, animal, and environmental health.
38	Advanced Pharmacology	Enhances understanding of therapeutic safety and sustainability in drug use.
39	Geriatric Pharmacotherapy	Addresses sustainable elderly care and rational drug use in aging populations.
40	Pharmacogenomics & Precision Pharmacy	Promotes personalized, efficient, and sustainable medical treatments.

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Veterinary Medicine Program

Total No. of courses: 124 **No. of sustainability courses: 46 (37%)**

No.	Course Name	Note
1	Social Issues	Promotes community awareness, ethics, and social responsibility.
2	Quality Assurance	Focuses on continuous improvement, institutional sustainability, and quality systems.
3	Economy and Project Management	Encourages efficient resource use, entrepreneurship, and sustainable business models.
4	Animal and Poultry Production (A & B)	Teaches sustainable livestock and poultry production techniques.
5	Animal and Poultry Behavior and Management (A & B)	Promotes animal welfare, ethical management, and sustainable productivity.
6	Veterinary Genetic and Genetic Engineering (A & B)	Supports sustainable animal breeding and biotechnology innovation.
7	Nutrition and Clinical Nutrition (A & B)	Promotes animal health, food safety, and sustainable feeding practices.
8	Animal, Poultry and Environment Hygiene (A & B)	Addresses disease prevention and environmental health (One Health concept).
9	Milk Hygiene and Control (A & B)	Ensures food safety, quality assurance, and sustainable dairy systems.
10	Forensic Medicine, Toxicology and Veterinary Regulations (A & B)	Covers environmental toxins, regulations, and safe chemical management.
11	Veterinary Epidemiology	Key for zoonotic disease control and sustainable One Health systems.
12	Fish Diseases and Management (A & B)	Focuses on sustainable aquaculture and biodiversity protection.

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13	General & Special Surgery, Anesthesiology & Radiology	Includes responsible clinical practice and animal welfare.
14	Zoonosis (A & B)	Connects animal, human, and environmental health — core to One Health.
15	Meat and Fish Hygiene and Control (A & B)	Ensures sustainable food systems and public health safety.
16	Infectious Diseases (A & B)	Teaches disease prevention, biosecurity, and sustainable livestock health.
17	Artificial Insemination and Embryo Transfer	Improves breeding efficiency with minimal resource waste.
18	Poultry and Rabbit Diseases (A & B)	Promotes sustainable small-animal production systems.
19	Clinical Pathology (A & B)	Enables disease diagnosis for preventive medicine and sustainable health.
20	Clinical Nutrition	Part of sustainable resource management and welfare.
21	Veterinary Medicine History & Job Ethics	Promotes professional ethics and sustainability in veterinary careers.
22	Veterinary Media in Extension	Community outreach and public education for sustainable animal health.
23	German Language	Enhances international collaboration and social sustainability.
24	Food & Public Health Education	Promotes One Health awareness and sustainable food systems.
25	Science of Food Lab	Ensures safe, high-quality food production and sustainability.
26	Food Residues	Monitors drug/chemical residues in food for safe consumption.
27	Hygiene in Food Premises	Ensures food safety and environmental hygiene.
28	Food Legislations & Standards	Promotes sustainable food governance and consumer protection.

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29	Management of Veterinary Farms & Establishments	Sustainable farm management and resource efficiency.
30	Animal Welfare & Rights	Central to ethical and sustainable veterinary practice.
31	Pharmaceutical Marketing	Encourages ethical, sustainable access to medicines.
32	Business Management	Supports sustainable enterprise and economic sustainability.
33	Intellectual Property Rights	Supports innovation and fair access to veterinary technologies.
34	Industrial Projects	Involves sustainable industrial production and waste reduction.
35	Herd Hygiene	Prevents disease spread and reduces environmental impact.
36	Food Marketing	Promotes responsible production and sustainable consumption.
37	Vaccinology	Preventive health measure reducing antibiotic reliance and disease burden.
38	Applied Biotechnology	Advances efficient, low-waste biotechnological solutions.
39	Lab Animals	Teaches ethical, humane, and sustainable research practices.
40	Wild Animals	Supports biodiversity conservation and ecosystem sustainability.
41	Improvement of Fertility in Farm Animals (ART)	Enhances reproductive efficiency and herd sustainability.
42	Diseases of Ornamental, Zoo & Wild Birds	Protects wildlife health and biodiversity.
43	Poultry Diseases affecting Egg Production & Hatchability	Ensures sustainable food supply and animal welfare.
44	Infectious Diseases of Newborn Animals	Improves survival rates and herd sustainability.
45	Infectious Diseases of Camel	Enhances animal health and livelihoods in arid ecosystems.

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46	Infectious Diseases of Wild Animals	Monitors zoonoses and ecosystem health.

Sustainability-Related Courses:

Faculty of Physical Therapy (84 core + 9 electives = 93)

Total No. of courses: 93 No. of sustainability courses: 30 (32.3%)

No.	Course Name	Note
1	Public Health	Promotes population health, disease prevention, and community sustainability.
2	Human Rights	Strengthens social justice and equality — part of social sustainability.
3	Profession Ethics and Laws	Encourages ethical practice and integrity in healthcare.
5	Sociology	Addresses social determinants of health and inclusion.
6	Biostatistics	Supports evidence-based, data-driven sustainable healthcare.
7	Community Medicine	Enhances awareness of community health and preventive medicine.
9	Hospitals Management	Develops leadership and sustainable healthcare management skills.
10	Research and Evidence-Based Practice	Encourages innovation and efficient use of health resources.
11	Ergonomics	Focuses on occupational health, injury prevention, and sustainable work environments.
12	Woman Health Physical Therapy	Addresses gender-specific health and social sustainability.
13	Obesity Management	Preventive health and sustainable lifestyle management.
14	Nutrition	Supports sustainable health and well-being.
15	Physical Therapy for Burn and Plastic Surgery	Improves rehabilitation and social reintegration.

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16	Internal Medicine & Intensive Care	Contributes to sustainable health systems and life-saving care.
17	Geriatric	Promotes healthy aging and social sustainability.
18	Geriatric Rehabilitation	Improves quality of life and long-term well-being of elderly populations.
19	Differential Diagnosis in Physical Therapy	Enables precise care and reduces wasteful or harmful interventions.
20	Scientific Writing and Capstone Project	Encourages dissemination of sustainable health research.
21	Alternative and Complementary Medicine	Promotes holistic and often nature-based sustainable treatments.
22	Infection Control	Prevents disease spread and supports safe, sustainable healthcare environments.
23	Quality Control of Herbal Medicines	Ensures safety, efficacy, and sustainability of natural therapies.
24	Pharmaceutical Design of Natural Products	Encourages sustainable use of natural resources for health.
25	Care of Newborn Babies	Supports maternal and neonatal health (SDG 3).
26	Ultrasound to Diagnose Musculoskeletal Disorders	Improves diagnostic accuracy, reducing unnecessary procedures.
27	Genetics	Advances understanding of inherited diseases and precision healthcare.
28	Principles of Speech Science	Supports rehabilitation and inclusion of communication-impaired individuals.
29	Study of Microorganisms and Immunity	Builds foundation for disease prevention and infection control.
30	Medical Tests (Clinical Pathology)	Ensures accurate diagnostics for sustainable medical care.
31	Quality Principles	Promotes healthcare quality and institutional sustainability.

32	Communication Skills	Builds social inclusion and effective community interaction.

Sustainability-Related Courses:

Faculty of Languages (English Language & Translation Program)

Total No. of courses: 80 No. of sustainability courses: 20 (25%)

No.	Course Name	Sustainability Relevance
1	Quality	Promotes awareness of quality assurance, continuous improvement, and institutional sustainability.
2	Social Issues	Addresses social inclusion, equality, and community awareness — part of social sustainability (SDG 10, SDG 16).
3	Communication Skills (1)	Builds effective, inclusive communication — essential for sustainable development and cooperation.
4	Communication Skills (2)	Enhances intercultural and global communication toward peace and sustainability.
5	Environmental Translation	Directly promotes environmental awareness and dissemination of sustainability-related content (SDG 13, 15).
6	Human Development	Focuses on self-development, lifelong learning, and social sustainability.
7	Crisis Management	Builds resilience, problem-solving, and response skills — supporting SDG 11 (Sustainable Cities) and SDG 16 (Peace, Justice).
8	Arabic Language (1)	Supports preservation of linguistic and cultural heritage — SDG 4.
9	Arabic Language (2)	Reinforces cultural sustainability and diversity.
10	Computer	Enhances digital literacy and sustainable technology use in education.
11	Media Translation (1): Newspapers and Magazines	Spreads awareness on public, political, and sustainability issues through media.
12	Media Translation (2): Digital Media	Promotes responsible communication and dissemination of sustainable digital content.
13	Tourism Translation	Promotes cultural exchange and sustainable tourism (SDG 8, SDG 11).
14	Sports Translation (Individual Sports)	Encourages healthy lifestyles and inclusion through sports (SDG 3).
15	Sports Translation (Team Sports)	Supports teamwork, inclusion, and community well-being.
16	Legislative Translation	Enhances understanding of legal frameworks, justice, and strong institutions (SDG 16).

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17	Legal Translation (Contracts and Companies)	Relates to responsible institutions, ethics, and fair governance.
18	Economic Translation (2): Agricultural and Industrial	Spreads knowledge about sustainable economic and industrial development (SDG 8, SDG 9).

Faculty of Applied Health Sciences

Total No. of courses: 207 No. of sustainability courses: 65 (31.4%)

Laboratory Technology Program

No.	Course Name	Sustainability Relevance
1	Introduction to Quality	Introduces principles of quality assurance and laboratory sustainability — SDG 3, SDG 9.
2	Effective Communication and Presentation Skills	Promotes teamwork, ethics, and community engagement (SDG 4, SDG 17).
3	Basics of Scientific Research	Encourages evidence-based practice, innovation, and lifelong learning (SDG 4, SDG 9).
4	Infection Control and Occupational Safety	Ensures health, safety, and prevention of disease transmission — key to SDG 3 (Good Health).
5	Laboratory Quality Management (1)	Teaches sustainable laboratory management and resource optimization (SDG 9).
6	Laboratory Quality Management (2)	Builds on sustainable quality systems and accreditation standards (SDG 3, SDG 12).
7	Hospital Management	Introduces efficient, ethical, and sustainable healthcare administration (SDG 3, SDG 16).
8	Forensic Chemistry & Toxicology	Supports justice, safety, and environmental protection (SDG 16, SDG 15).
9	Infection Control and Occupational Safety	Reinforces biosafety and sustainability in laboratory practice.
10	Molecular Biology for Technologists	Supports biomedical innovation and sustainability in research.

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Radiologic Technology / Medical Imaging Program

No.	Course Name	Note (Sustainability Relevance)
1	Radiobiology & Radiation Protection	Focuses on minimizing radiation exposure, protecting workers and patients, and promoting sustainable healthcare safety — SDG 3 (Good Health) & SDG 12 (Responsible Consumption).

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2	Basic Nuclear Medicine Technology and Protection	Teaches safe and responsible use of radioactive materials in diagnostics — environmental and occupational protection (SDG 3, SDG 15).
3	General Radiotherapy Physics & Equipment	Involves safe medical use of radiation and energy efficiency in radiotherapy equipment — SDG 3, SDG 9.
4	Systemic Radiotherapy Technology	Addresses patient safety, radiation control, and sustainable clinical operations — SDG 3.
5	Patient Care in Radiography	Promotes ethical, safe, and compassionate healthcare practice (SDG 3, SDG 16).
6	PACS & RIS in Radiology	Encourages digital transformation and reduced paper/film use — sustainable digital management (SDG 9, SDG 12).
7	Radiographic Pathology for Technologists	Supports preventive and diagnostic aspects of disease management for community well-being (SDG 3).
8	Dark Room Techniques	Involves chemical waste handling and safe disposal — environmental health relevance (SDG 12, SDG 13).

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Dental Prosthesis Manufacture Technology Program

No.	Course Name	Sustainability Relevance / Note
1	Dental Biomaterials (1)	Introduces eco-friendly and biocompatible dental materials, aligning with sustainable healthcare practices (SDG 3, SDG 12).
2	Dental Biomaterials (2)	Focuses on safe handling, waste minimization, and sustainable material use in dental labs (SDG 3, SDG 12).
3	Dental Lab Equipment	Addresses equipment efficiency, maintenance, and sustainable resource utilization (SDG 9, SDG 12).
4	Nanotechnology in Dental Lab	Promotes innovation in dental material science, enhancing safety, durability, and environmental sustainability (SDG 9, SDG 12).
5	Technology of Dental Prosthesis Manufacture	Emphasizes advanced and efficient production methods, minimizing material waste and environmental impact (SDG 3, SDG 12).
6	Digital Prosthodontics Technology	Encourages digital workflows that reduce physical materials and energy use, supporting paperless, low-waste processes (SDG 9, SDG 12).

Faculty of Applied Health Sciences

Technology of Respiratory Therapy Program

No.	Course Name	Sustainability Relevance / Note

1	Environmental Hygiene and Safety	Directly supports environmental and occupational safety in healthcare; aligns with SDG 3 (Good Health) and SDG 12 (Responsible Consumption).
2	Patient Safety	Promotes sustainable healthcare systems and quality care; essential for health system sustainability (SDG 3, SDG 16).
3	Basic Nutrition and Metabolism	Supports human health, well-being, and sustainable nutrition awareness (SDG 2, SDG 3).
4	Nutrition in Intensive Care	Emphasizes evidence-based nutrition for critically ill patients, promoting sustainable health outcomes (SDG 3).
5	Maintenance of Medical Equipment	Ensures the longevity and efficient use of medical devices, reducing waste and promoting sustainability (SDG 9, SDG 12).
6	Ethics and Legal Issues	Encourages responsible, equitable, and sustainable clinical practice (SDG 3, SDG 16).
7	Pulmonary Rehabilitation and Physiotherapy	Improves long-term respiratory health and quality of life — key to sustainable healthcare (SDG 3).
8	First Aid and Emergency Care	Builds community resilience and safety capacity (SDG 3, SDG 11).

Other Courses – Faculty of Applied Health Sciences

No.	Course Name	Notes / Relation to Sustainability
1	Drawing and Painting	Promotes creativity and cultural sustainability
2	Biomedical Genetics	Supports health innovation and medical research
3	Music	Enhances cultural and mental wellbeing
4	Computer and Programming Languages	Develops digital literacy and technological skills
5	Fashion Design	Relates to creative industries and sustainable production
6	Trainer of Trainers (TOT)	Strengthens education and capacity building
7	Financial Management	Enhances economic planning and sustainability awareness
8	E-Marketing	Encourages sustainable digital business practices
9	English Language (Advanced Level)	Improves communication for global collaboration

10	German Language	Promotes intercultural understanding
11	French Language	Promotes intercultural understanding
12	Translation	Supports linguistic diversity and education
13	Creative Writing (Story, Essay)	Encourages self-expression and cultural development
14	Stem Cells	Contributes to regenerative medicine and health research
15	Biomedical Engineering	Advances sustainable medical technology and innovation
16	Tissue Culture	Essential for biological and environmental research
17	Clinical Nutrition	Promotes health and wellbeing
18	Complementary and Alternative Medicine	Encourages holistic and sustainable healthcare
19	Organ Transplantation	Focuses on medical ethics and life-saving practice
20	Ethical and Legal Issues	Reinforces integrity and responsible practice
21	Experimental Animal Model	Develops biomedical research techniques
22	Disaster Management for Health Professionals	Builds resilience and crisis preparedness
23	Quality of Healthcare & Biomedical Informatics	Enhances healthcare systems and data efficiency
24	Artistic Crafts (Glass, Wood burning, Gypsum, etc.)	Preserves cultural heritage and craftsmanship
25	Culinary Arts	Promotes safe and sustainable food practices
26	Acting and Theater	Enriches culture and communication skills
27	Calligraphy Art	Preserves traditional arts and heritage
28	Leadership and Project Management	Builds management and leadership capabilities
29	Time Management	Improves productivity and work efficiency
30	Creativity and Mental Planning	Encourages innovation and problem-solving
31	Human Resource Management	Supports organizational development and sustainability
32	Public Relations	Strengthens social communication and institutional image
33	Ancient Egyptian Civilization	Preserves cultural identity and historical awareness

Faculty of Nursing:

Total No. of courses: 113 **No. of sustainability courses: 34 (30.1%)**

No.	Course Title	Notes / Relation to Sustainability
1	Professional Ethics and Legislation	Promotes ethical practice, human rights, and social responsibility
2	Quality and Accreditation in Higher Education Organization	Supports quality assurance and institutional sustainability
3	Social Issues	Addresses social determinants of health and equity
4	Informatics and Educational Technology in Nursing	Encourages digital transformation and sustainable learning

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5	Health Teaching for Patients and Teaching Strategies	Enhances health education and community wellbeing
6	Hospital and Health Organization Management	Develops leadership and sustainable healthcare management
7	Population Studies	Focuses on demographics, community health, and resource planning
8	Applied and Therapeutic Nutrition	Promotes sustainable health and wellbeing through nutrition
9	Community Health Nursing Theory	Improves community-based sustainable health services
10	Geriatric Nursing Theory	Addresses aging population health and social sustainability
11	Patient Safety	Promotes safe and effective healthcare environments
12	Human Relations	Enhances communication, teamwork, and workplace wellbeing
13	Communication Skills in Nursing	Strengthens professional communication and empathy
14	Scientific Research in Nursing	Encourages evidence-based sustainable healthcare practices
15	Nursing Administration Theory	Builds leadership and organizational sustainability in nursing
16	Health Assessment for Midwifery / Neonatal / Emergency Pathways	Ensures early detection and sustainable patient care
17	Woman and Reproductive Health	Promotes maternal health and gender equality (SDG 3 & 5)
18	Applied Pharmacology in Midwifery / Neonatal Pathways	Ensures rational use of medicines and patient safety
19	Critical Cases for Newborn	Improves neonatal outcomes and health sustainability
20	Cell and Stem Cell Therapy	Supports innovation and sustainable healthcare technologies
21	Physical Therapy	Promotes rehabilitation, wellbeing, and sustainable health

22	Infection Control	Ensures safety, hygiene, and infection prevention in healthcare settings
23	Evidence-Based Nursing	Encourages scientific and sustainable nursing practice
24	Critical Thinking	Enhances decision-making and responsible professional behavior
25	Leadership Skills Development	Builds strong leadership for sustainable healthcare management
26	Palliative Care	Promotes compassion and sustainability in end-of-life care
27	Recent Trends in Nursing	Focuses on innovation and sustainable nursing advancements
28	Sustainable Development in Nursing	Directly addresses environmental, social, and economic sustainability in healthcare
29	Anthropology	Enhances cultural awareness and social sustainability in nursing practice
30	Marketing	Improves communication and sustainable promotion in health institutions
31	Productivity in Nursing	Supports efficiency and sustainability in healthcare operations
32	Entrepreneurship	Encourages innovative and sustainable healthcare initiatives
33	Environmental Safety and Disaster Preparedness	Promotes environmental sustainability, risk reduction, and resilience
34	German Language	Enhances communication and cultural exchange in global healthcare contexts

Faculty of Dentistry: Total No. of courses: 53 No. of sustainability courses: 6 (11%)

No.	Course Title	Note (Relation to Sustainability)
1	Quality Control	Promotes laboratory and clinical quality, safety, and responsible resource use.
2	Human Rights 102	Enhances social responsibility, patient rights, and ethical professional behavior.
3	Infection Control 301	Ensures safe clinical practice, prevents disease spread, and promotes responsible use of medical materials.
4	Dental Ethics 302	Focuses on ethical decision-making, professional responsibility, and social sustainability.

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5	Pedodontics & Public Health 501/502	Promotes child health, preventive care, community engagement, and health education.
6	Dental Biomaterials	Introduces eco-friendly and biocompatible dental materials, aligning with sustainable healthcare practices

Engineering Programs – Courses Related to Sustainability

Total No. of courses: 160 **No. of sustainability courses: 45 (28.12%)**

No.	Course Title	Notes (Relation to Sustainability)
1	Energy and the Environment	Core course in environmental sustainability; covers energy efficiency and resource conservation.
2	Urban Sustainability	Directly focuses on sustainable urban development and planning strategies.
3	Environmental Management	Teaches environmental protection, waste reduction, and sustainable resource use.
4	GeoDesign	Integrates GIS and sustainable spatial planning for urban areas.
5	Intelligent Transportation Systems	Promotes sustainable mobility and reduction of urban pollution.
6	Land Use Planning	Addresses sustainable land management and smart growth.
7	Landscape Architecture	Encourages green design, biodiversity, and eco-friendly urban spaces.
8	Energy Technology and Management	Focuses on renewable energy and efficient energy systems.
9	Cultural Heritage and Smart Cities	Links heritage conservation with sustainable urban innovation.
10	Human Interaction with Biodiversity	Promotes environmental awareness and ecosystem sustainability.
11	Ecological Niche Modeling	Supports biodiversity and ecosystem-based planning.
12	Disaster Risk Reduction	Addresses climate resilience and sustainable community planning.
13	Natural Resources and Environmental Economics	Studies sustainable use of natural resources and environmental policy.
14	Smart Cities and Climate Mitigation Strategies	Focuses on sustainable technologies to reduce climate impact.
15	Smart Water and Environmental Engineering	Deals with water conservation and sustainable water systems.
16	Occupational Health and Safety	Supports social sustainability by ensuring safe working environments.
17	Engineering Economy	Promotes economic sustainability through resource-efficient project planning.
18	Economics of Energy Conversion	Explores sustainable energy transformation systems.
19	Engineering Economics and Management	Integrates sustainability in engineering decision-making and management.

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20	Industrial Project Management	Encourages sustainable industrial and infrastructure projects.
21	Innovation and Entrepreneurship	Fosters innovation in green technology and sustainable business.
22	Manufacturing Engineering	When applied with green design principles, supports sustainable production.
23	Modern Manufacturing Processes	Involves cleaner production and energy-efficient industrial methods.
24	Total Quality Management (TQM)	Promotes sustainable quality practices and resource optimization.
25	Corrosion Engineering	Contributes to sustainability by enhancing material durability and reducing waste.
26	Renewable Energy: Systems and Materials	Directly related to renewable energy and sustainable systems.
27	Nanotechnology and Nanocrystalline Materials	Enables sustainable materials innovation with low environmental impact.
28	Modern Industrial Robotics	Supports efficient and sustainable manufacturing automation.
29	Advanced Casting and Welding Processes	When optimized, can reduce waste and improve energy efficiency.
30	Cloud Computing Architectures	Supports sustainable IT infrastructure and energy-efficient data centers.
31	Fog and Edge Computing	Enhances energy-efficient computing and data management.
32	Wireless Sensor Networks	Enables environmental monitoring for sustainability.
33	Big Data & Applications	Supports sustainable decision-making through smart data analytics.
34	Serverless Computing	Promotes sustainable digital resource use and low-carbon IT operations.
35	Blockchain	Enhances sustainability through transparent and traceable systems.
36	Internet of Things (IoT)	Enables smart, sustainable infrastructure and resource management.
37	Cloud Computing Security	Supports resilience and sustainability of digital systems.
38	Parallel and Distributed Computing	Increases energy efficiency in large-scale computing.
39	Scientific Computing and Visualization	Supports modeling of environmental and energy systems.
40	Critical Infrastructure Protection	Ensures sustainable and resilient urban and industrial systems.
41	Disaster Recovery	Enhances social and institutional sustainability.
42	Professional Ethics	Supports social and professional sustainability through ethical engineering.
43	Marketing	Contributes to sustainable business practices and green product promotion.
44	Accounting	Includes sustainability reporting and responsible financial management.
45	Research & Analysis Skills	Essential for advancing sustainable research and innovation.

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Faculty of Computer Science & Artificial intelligence

Total No. of courses: 132 No. of sustainability courses: 28

No.	Course Name	Notes (Relation to Sustainability)
1	Societal Issues / Human Rights	Directly addresses the Social pillar of sustainability, focusing on ethics, equity, technology impact, and justice, ensuring responsible technology development.
2	Introduction to Quality Assurance / Quality	Promotes economic and environmental sustainability through continuous improvement, efficiency, and resource optimization (reducing waste and improving longevity).
3	Optimization for ML in Smart Cities	Directly applies ML to urban sustainability challenges, such as optimizing traffic, maximizing energy efficiency in smart grids, and managing waste logistics.
4	Introduction to Internet of Things (IoT)	Central to environmental monitoring, smart agriculture, and resource management (energy, water) by deploying and managing efficient sensing networks.
5	Data Science and Analytics / Big Data Analytics	Core methodology for analyzing sustainability indicators (climate, social equity, resource use) and generating evidence-based policies and solutions.
6	Decision Making under Uncertainty	Essential for robust sustainability planning and risk assessment in complex environmental and social systems where future outcomes are hard to predict.
7	Operating Systems	Focuses on resource management and energy efficiency within computing infrastructure, contributing to Green IT and reducing the environmental footprint of data centers.
8	Software Engineering	Teaches design principles for a sustainable software lifecycle, ensuring systems are scalable, maintainable, and low-resource consuming.
9	Cybersecurity / Cybersecurity Fundamentals	Ensures the resilience and security of critical smart infrastructure (like smart grids and water systems) that are vital for sustainable urban operations.
10	Quantitative Reasoning & Statistical Methods for Planner	Provides the analytical skills for evidence-based urban and environmental planning, designing more sustainable and equitable cities.
11	Deep Learning / Machine Learning	Powerful tool for predictive modeling (e.g., climate change, disaster prediction) and advanced resource optimization (e.g., smart energy management).
12	Professional Practice in Intelligent Systems	Discusses the ethics and social responsibility of deploying intelligent systems, directly supporting the ethical framework of sustainability.

13	Graduation Project	A capstone opportunity to apply all learned skills to a real-world sustainability challenge, integrating technology with practical impact.
14	Statistics and Probability	Fundamental for data-driven decision-making and statistical validation of models used in environmental and social studies.
15	Technical Report Writing	Supports transparency and effective communication of sustainability findings, research, and policy recommendations to stakeholders.
16	Introduction to Big Data Technologies	Provides the technical tools needed to handle and process the massive datasets generated by global sustainability challenges (e.g., environmental sensors).
17	Computer Networks	Essential for the connectivity and management of sustainable smart infrastructure (Smart Cities, remote monitoring, and e-services).
18	Data Visualization	Crucial for effectively communicating complex sustainability data (e.g., climate projections, resource consumption maps) to drive public awareness and policy action.
19	Reinforcement Learning	Can be applied to optimize complex dynamic systems autonomously, maximizing efficiency in logistics, energy distribution, and waste routes.
20	Natural Language Processing (NLP)	Used for analyzing large volumes of text such as environmental policies, corporate sustainability reports, and public sentiment regarding social issues.
21	Introduction to Database Systems	Enables the efficient storage, management, and retrieval of structured data essential for tracking sustainability indicators and reporting.
22	Computer Vision / Digital Image Processing	Supports remote sensing and automated monitoring of environmental changes (e.g., deforestation, land-use analysis, waste sorting) via imagery.
23	Logic Design / Computer Architecture	Focuses on the low-level design of energy-efficient hardware and optimized digital systems, which underpins Green Computing efforts.
24	Human-Computer Interaction (HCI)	Promotes the design of inclusive and user-centered technology, supporting the social dimension of sustainability by ensuring accessibility and usability.
25	Professionalisms & Ethics	Essential for Social Sustainability. Ensures that technology development and business practices adhere to high ethical standards, responsibility, and transparency, preventing negative impacts on society and the environment.
26	Innovation & Entrepreneurship	Directly drives Economic and Environmental Sustainability. Focuses on creating new sustainable business models, green technologies, and circular economy solutions to address global challenges.
27	Creative Thinking & Problem Solving	Crucial for generating innovative and novel solutions to complex, multi-faceted sustainability problems (e.g., resource scarcity, climate adaptation) that traditional approaches often fail to address.
28	Fundamental of Economics	Supports Economic Sustainability by providing the theoretical basis for understanding resource allocation, market failures (like

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		pollution), and the design of incentives and policies for sustainable development (e.g., carbon pricing).

	No. of sustainability courses	Total No. of courses	Percentage
Faculty of Dentistry	**53**	**6**	**11%**
Medicine & Surgery Program	**28**	**55**	**50.8%**
Pharm D Clinical	**40**	**84**	**47.6%**
Veterinary	**46**	**124**	**37%**
Faculty of Physical Therapy	**30**	**93**	**32.3%**
English Language & Translation	**20**	**80**	**20%**
Faculty of Applied Health Sciences	**65**	**207**	**31.4%**
Faculty of Nursing	**34**	**113**	**30.1%**
Engineering	**45**	**160**	**28.12%**
Faculty of Computer Science & Artificial intelligence	**28**	**132**	**21.21%**

- **Introduction to Quality Assurance or Quality Course is introduced in all faculties so the total of sustainability course =380**

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