SDG 17

PARTNERSHIPS FOR THE GOALS

THE IMPACT RANKINGS EVIDENCE REPORT

Indicator 17.4.1

Education for SDGs commitment to meaningful education

University of Bahrain

2024-2025

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Executive Summary

The University of Bahrain (UOB) demonstrates a strong institutional commitment to meaningful education for the Sustainable Development Goals (SDGs), ensuring that sustainability knowledge, competencies, and real-world applications are accessible to students through mandatory education, curriculum integration, experiential learning, and optional SDG-related offerings.

Mandatory Education for All

UOB delivers a university-wide compulsory course, HRLC107 Principles of Human Rights, to undergraduate students across colleges. In 2024–2025, 4,251 students completed the course, which integrates SDG-related principles including human rights, environmental rights, social justice, equality, and global citizenship. Learning materials are accessible through Blackboard and supported by an official textbook and recorded lectures.

Performance Data for 2024–2025:

Level One Courses

- First Semester: 1,882 students, of whom 976 achieved ≥70%
- Second Semester: 1,990 students, of whom 1,549 achieved ≥70%

Level Two Courses

- Second Semester: 1,081 students, of whom 604 achieved ≥70%
- These results demonstrate the scale of student participation and measurable achievement in UOB's mandatory SDG-related education.

Integrated Across the Full Curriculum

SDG themes are systematically embedded across academic programs, enabling students to connect disciplinary knowledge with real-world sustainability challenges. Examples include Sustainability Accounting & Reporting, Environmental Economics & Sustainable Development, Teaching Environmental & Earth Sciences, and STEAM Education for Primary Teachers. Together, these courses develop sustainability knowledge and competencies relevant to SDG 4.7 and other SDGs.

UOB also integrates SDG 3: Good Health and Well-Being into nursing education through its Clinical Simulation Laboratory for Nursing Sciences. The laboratory bridges theoretical and practical learning through high-fidelity simulations of real healthcare scenarios, enabling nursing students to develop clinical reasoning, decision-making, psychomotor skills, patient-safety competencies, and readiness for real-world clinical environments. The University of Bahrain's new clinical simulation laboratory: a leap forward for nursing education

This educational approach also responds to broader sustainable-development needs by strengthening Bahrain's healthcare workforce. The laboratory was designed to increase nursing education capacity and support the preparation of qualified nursing professionals, while the developing simulation-based nursing curriculum incorporates emerging technologies, including artificial intelligence and advanced digital platforms. UOB benchmarked simulation-based education against practices in the United States and engaged healthcare institutions, simulation-technology providers, and accrediting bodies to align learning with national and international standards.

Importantly, the Simulation Center extends SDG education beyond degree programs. It is designed to serve as a continuous professional development hub for healthcare providers, extending SDG 3-related education and skills development to the wider healthcare workforce.

Optional Education for All

Students also have access to SDG-related electives and broader learning opportunities, including Renewable Energy Systems, Social Entrepreneurship, and credit-bearing Chinese language courses through the Confucius Institute partnership. These offerings broaden sustainability literacy, intercultural understanding, and students' capacity to engage with global challenges.

Impact Highlights

1. University-wide mandatory SDG-related education through Principles of Human Rights.
2. 4,251 students completed the mandatory course in 2024–2025.
3. 100+ SDG-aligned courses integrated across disciplines.
4. SDG themes embedded into disciplinary curricula, including business, economics, engineering, education, architecture, and health.

5. Experiential SDG education through the Clinical Simulation Laboratory, linking SDG 3 to patient safety, healthcare workforce development, emerging technology, and real-world clinical practice.
6. Optional SDG-related learning opportunities supporting sustainability literacy and global citizenship.

Conclusion

Through mandatory, curriculum-integrated, experiential, and optional SDG education, UOB provides students with multiple pathways to develop the knowledge, competencies, and practical experience needed to address sustainable-development challenges. The Clinical Simulation Laboratory further demonstrates that SDG education moves beyond classroom theory into discipline-specific, real-world application, connecting SDG 3 with healthcare education, patient safety, professional capacity, and continuing development. Together, these institutional mechanisms provide strong evidence that UOB systematically embeds education for the SDGs across its educational provision, directly supporting Indicator 17.4.1.

1. Mandatory University-Wide Human Rights Courses

The University of Bahrain (UOB) demonstrates its institutional commitment to the Sustainable Development Goals (SDGs) through the integration of human rights and sustainable development education across all academic disciplines. During the academic year 2024-2025, the University offered a mandatory course for all students—HRLC107: Principles of Human Rights—taught in both Arabic and English, reaching 4,251 students from all colleges. The course introduces the foundations of human rights, linking them to key SDG themes such as environmental rights, the right to development, and the rights of future generations.

Evidence of Activity:

Course materials, including pre-recorded lectures and an official university-published textbook, are made available through the Blackboard e-learning platform, ensuring continuous, equitable access to quality education. In addition, the College of Law delivers a dedicated Human Rights course (LAW307) for Bachelor of Law students, offering in-depth analysis of international conventions, sustainable governance, and social justice principles.

Impact and Outcome:

By embedding human rights and sustainability into its core curriculum, UOB advances education for sustainable development, cultivates global citizenship, and prepares graduates to support evidence-based policymaking aligned with SDG 4 (Quality Education) and SDG 17 (Partnerships for the Goals). This initiative ensures that every student gains the knowledge and values needed to promote inclusive, just, and sustainable societies.

Key Highlights:

- Mandatory university-wide Human Rights course (HRLC107) reaching 4,251 students.
- Additional Human Rights course (LAW307) for Bachelor of Law students.

- Covers environmental rights, development, sustainability, and future generations.
- Accessible through Blackboard e-learning for continuous learning.
- Advances education for the SDGs and supports national and global SDG policy goals.

2. University of Bahrain and Shanghai University Promote Inclusive, Global, and Sustainable Education

The University of Bahrain (UoB) is promoting meaningful, inclusive, and globally relevant education through its strategic collaboration with Shanghai University (SHU) and the Confucius Institute. This partnership strengthens curriculum development, pedagogical innovation, capacity building, knowledge sharing, intercultural learning, and lifelong education, while fostering global partnerships, institutional internationalization, and community engagement.

Since October 2024, UoB and SHU have organized joint academic meetings, faculty workshops, co-supervised research projects, and cultural exchange programs, promoting cross-sector collaboration and sustainable education practices. The Confucius Institute provides credit-bearing Chinese language courses, outreach to local schools, teacher training, HSK/YCT testing, and community workshops, expanding equitable access to quality education, global citizenship awareness, and SDG literacy.

Institutionalization of Educational Cooperation

Chinese language education has been formally embedded in UoB's undergraduate curriculum through two credit courses: CHL 101 and CHL 102, open to students from multiple colleges. Results of this partnership are evaluated in UoB's Internationalization Policy and Annual SDG Progress Report. Joint faculty development sessions and training workshops have been institutionalized, enabling UoB and SHU instructors to share pedagogical innovation, curriculum design expertise, and teaching best practices.

The collaboration also advances SDG 9 – Innovation, Research, and Industry Collaboration through joint symposiums, applied research, faculty mobility, and innovation-driven projects, aligning with Bahrain's strategic development goals. Measurable outcomes include co-authored publications, training programs, student participation, and community outreach, reflecting UoB's sustained commitment to education for sustainable development, evidence-based policy alignment, and international partnership excellence.

Evidence Link: https://www.uob.edu.bh/our-centers/confucius-institute/

3. Embedding Sustainable Health Education in the Nursing Curriculum through Academic Learning, Clinical Simulation and Professional Practice



The University of Bahrain strengthens education for the Sustainable Development Goals through its Clinical Simulation Laboratory for Nursing Sciences, which integrates SDG 3: Good Health and Well-Being into practical nursing education. The laboratory bridges theoretical learning and real-world healthcare practice by providing a safe, immersive, high-fidelity environment in which nursing students develop clinical reasoning, decision-making, psychomotor skills, and patient-safety competencies before entering clinical settings.

The initiative embeds real-world SDG-related healthcare challenges into teaching and learning. Through carefully designed simulations, students practice patient-care scenarios ranging from routine assessment to emergency and high-risk interventions. Immediate debriefing and feedback allow students to identify and correct clinical errors in a controlled

environment, strengthening competence and preparedness for safe, effective, and patient-centered healthcare practice.

The laboratory also supports the development of a sustainable and competent healthcare workforce. UOB reported that the facility would significantly increase its annual intake of nursing students, helping address demand for qualified nursing professionals in Bahrain and the wider region. Its educational direction also addresses emerging healthcare technologies, including artificial intelligence and advanced digital platforms, preparing students for changing professional and societal healthcare needs.

The educational initiative is informed by international benchmarking and multi-stakeholder engagement. UOB benchmarked simulation-based education and practice against approaches in the United States and engaged regional simulation-technology providers, healthcare institutions, and relevant accrediting bodies to align the center with national and international standards. The University was also developing a simulation-based nursing curriculum aligned with advanced technology and changing healthcare-service requirements.

Importantly, the center extends SDG-related education beyond undergraduate learning. It is designed to serve as a continuous professional development hub for healthcare providers, extending advanced clinical education to the wider health workforce and contributing to a more resilient and responsive healthcare system.

Through the Clinical Simulation Laboratory for Nursing Sciences, UOB embeds SDG 3-related healthcare challenges, competencies, technologies, and practical learning into education and professional development. By combining simulation-based learning, patient safety, healthcare workforce development, emerging technologies, international benchmarking, curriculum development, and continuing professional education, the initiative demonstrates a concrete institutional approach to education for the SDGs, directly supporting Indicator 17.4.1.

Evidence source: The University of Bahrain's new clinical simulation laboratory: a leap forward for nursing education

Clinical and Practicum Courses Using Simulation-Based Learning to Support SDG 3

UOB embeds SDG 3: Good Health and Well-Being across undergraduate and postgraduate nursing curricula through clinical and practicum courses addressing maternal and newborn health, cardiovascular care, nephrology, critical care, emergency nursing, advanced health assessment, and integrated nursing practice. These courses translate theoretical knowledge into clinical competencies, evidence-based practice, patient safety, advanced technology use, clinical decision-making, and interdisciplinary teamwork, directly connecting disciplinary learning with real-world healthcare needs.

The Clinical Simulation Laboratory for Nursing Sciences strengthens this curriculum-integrated approach by providing a safe, immersive, high-fidelity learning environment in which students can practice realistic patient-care scenarios before entering real clinical settings. Simulation-based learning develops clinical reasoning, decision-making, psychomotor skills, and patient-safety competencies while bridging the gap between theoretical instruction and practical healthcare delivery.

The following table demonstrates the breadth of SDG 3-aligned clinical and practicum education across UOB's nursing programs and the competencies that can be reinforced through simulation-based education, including advanced assessment, evidence-based care, patient safety, healthcare technology, emergency response, clinical judgment, and interdisciplinary collaboration.

Table 1 SDG 3-aligned clinical and practicum courses supported by UOB's simulation-based nursing education approach

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
Postgraduate Diploma in Nephrology Nursing	**NEPH502**	**Nephrology Nursing Practicum I**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Develops specialized clinical skills in assessing and managing patients with kidney diseases. Students provide evidence-based care for patients undergoing hemodialysis, peritoneal dialysis, and kidney transplantation while strengthening critical thinking, therapeutic communication, and patient-safety competencies.
Postgraduate Diploma in	**NEPH504**	**Nephrology Nursing Practicum II**	Postgraduate Diploma	**SDG 3: Good**	Applies advanced theoretical knowledge, evidence-based practice, current clinical

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
Nephrology Nursing				**Health and Well-Being**	guidelines, contemporary soft skills, and advanced technology to the delivery of specialized nursing care in complex nephrology settings.
Postgraduate Diploma in Nephrology Nursing	**NEPH505**	**Consolidated Practicum in Nephrology Nursing**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Consolidates advanced knowledge and clinical competence in caring for patients with kidney diseases. Students perform advanced health assessments, interpret diagnostic findings, implement evidence-based care using advanced technology, and develop clinical judgment, leadership, and interdisciplinary collaboration.
Postgraduate Diploma in Midwifery	**MWF507**	**Postpartum and Neonatal Care – Practicum**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Develops competencies in postpartum and neonatal assessment, family planning, maternal nutrition, postnatal care, and the early identification and referral of maternal or neonatal complications. It directly supports maternal and newborn health.
Postgraduate Diploma in Midwifery	**MWF509**	**Advanced Midwifery Practicum**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Develops independent clinical competence in labor and maternity care through critical thinking, clinical reasoning, clinical judgment, advanced technology, ethical practice, and defined clinical pathways.

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
Postgraduate Diploma in Midwifery	**MWF510**	**Consolidated Nurse Midwifery**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Consolidates independent clinical skills in labor-ward settings. Students apply critical thinking, clinical reasoning, advanced technology, teamwork, and ethical decision-making to deliver holistic care throughout the childbearing journey.
Postgraduate Diploma in Midwifery	**MWF511**	**Leadership and Management in Midwifery**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Develops leadership, management, clinical decision-making, mentoring, coaching, autonomy, and empowerment competencies needed to improve midwifery practice, service quality, and maternal-health outcomes.
Bachelor of Science in Nursing (Completion)	**NUR422**	**Integrated Nursing Practicum II**	Undergraduate	**SDG 3: Good Health and Well-Being**	Integrates theoretical knowledge and clinical competencies from different nursing fields. Students provide holistic, evidence-based nursing care under supervision and apply critical thinking and clinical decision-making across healthcare settings.
Master of Science in Adult Health Advanced Practice Nursing	**NUR602**	**Advanced Health Assessment**	Master's	**SDG 3: Good Health and Well-Being**	Develops advanced competencies in comprehensive health assessment, patient communication, diagnostic reasoning, physical examination, interpretation of clinical findings, nursing diagnosis, and effective care planning.
M.Sc. in Adult Health	**CRN602**	**Advanced Critical Care Nursing – Practicum I**	Master's	**SDG 3: Good**	Integrates theory with evidence-based care for critically ill patients in technologically advanced

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
Advanced Practice Nursing – Critical Care Nursing				**Health and Well-Being**	environments. It strengthens assessment, nursing-process application, patient safety, clinical competency, and ethical critical-care practice.
M.Sc. in Adult Health Advanced Practice Nursing – Cardiovascular Care Nursing	**CCN602**	**Cardiovascular Care Nursing Practicum I**	Master's	**SDG 3: Good Health and Well-Being**	Develops proficiency in cardiac assessment, electrocardiography interpretation, clinical decision-making, and evidence-based cardiovascular care in accordance with clinical guidelines, ethical principles, and legal requirements.
M.Sc. in Adult Health Advanced Practice Nursing – Critical Care Nursing	**CRN605**	**Consolidated Critical Care Nursing Practicum**	Master's	**SDG 3: Good Health and Well-Being**	Consolidates advanced assessment, diagnostic interpretation, clinical judgment, leadership, collaborative practice, and independent evidence-based care for patients with complex and critical conditions.
M.Sc. in Adult Health Advanced Practice Nursing – Cardiovascular Care Nursing	**CCN604**	**Cardiovascular Care Nursing Practicum II**	Master's	**SDG 3: Good Health and Well-Being**	Consolidates specialized competence in managing complex cardiovascular conditions through advanced assessment, interpretation of diagnostic findings, clinical judgment, leadership, collaboration, and independent evidence-based nursing care.

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
M.Sc. in Adult Health Advanced Practice Nursing – Nephrology Nursing	**NEPH604**	**Nephrology Nursing Practicum II**	Master's	**SDG 3: Good Health and Well-Being**	Develops specialized care for complex kidney conditions using evidence-based practice, current clinical guidelines, advanced technology, professional standards, and the nursing-process approach.
M.Sc. in Adult Health Advanced Practice Nursing – Nephrology Nursing	**NEPH605**	**Consolidated Practicum in Nephrology Nursing**	Master's	**SDG 3: Good Health and Well-Being**	Consolidates advanced kidney-care competencies, health assessment, interpretation of diagnostic findings, individualized care planning, leadership, clinical judgment, and collaboration with interdisciplinary healthcare teams.
M.Sc. in Adult Health Advanced Practice Nursing – Emergency Nursing	**EMRN602**	**Emergency Nursing Care Practicum I**	Master's	**SDG 3: Good Health and Well-Being**	Develops specialized competencies in triage, emergency assessment, patient prioritization, resuscitation, evidence-based intervention, and clinical decision-making for patients with life-threatening conditions.
M.Sc. in Adult Health Advanced Practice Nursing	**EMRN605**	**Emergency Nursing Care Practicum II**	Master's	**SDG 3: Good Health and Well-Being**	Integrates advanced knowledge and clinical skills in managing complex emergency conditions using high-technology equipment, critical thinking, independent decision-making, effective team dynamics, and interdisciplinary collaboration.

Program Title	Course Code	Course Title	Level	Aligned SDG	Rationale
– Emergency Nursing					
Postgraduate Diploma in Cardiovascular Care Nursing	**NUR504**	**Advanced Health Assessment**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Develops comprehensive health-assessment, communication, diagnostic interpretation, physical-examination, critical-thinking, nursing-diagnosis, and evidence-based care-planning skills.
Postgraduate Diploma in Cardiovascular Care Nursing	**CCN502**	**Cardiovascular Care Nursing Practicum I**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Integrates theoretical learning with cardiovascular clinical practice, including cardiac assessment, electrocardiography interpretation, evidence-based treatment, clinical guidelines, and patient-centered decision-making.
Postgraduate Diploma in Cardiovascular Care Nursing	**CCN504**	**Cardiovascular Care Nursing Practicum II**	Postgraduate Diploma	**SDG 3: Good Health and Well-Being**	Consolidates specialized cardiovascular competencies and independent evidence-based nursing through advanced assessment, diagnostic interpretation, clinical judgment, leadership, and interdisciplinary collaboration.

Courses Directly Related to SDGs

Table 2 Courses Directly Related to the Sustainable Development Goals (SDGs)

Course Code	Course Title	Level	Aligned SDGs	Rationale
ACC485	Sustainability Accounting & Reporting	Undergraduate	SDG 12 SDG 13	Focus on sustainability reporting, ESG disclosure, and accountability in business impact.
ECON351	Environmental Economics & Sustainable Development	Undergraduate	SDG 8 SDG 13 SDG 15	Links environmental sustainability with economic policy for sustainable development.
FIN330	Sustainable Finance	Undergraduate	SDG 7 SDG 13	Addresses green investment, ESG financing, and climate-related financial risk.
ENTR476	Entrepreneurship and Sustainability	Undergraduate	SDG 8 SDG 9 SDG 12	Integrates sustainable business models and environmental/social entrepreneurship.
ENTR474	Social Entrepreneurship	Undergraduate	SDG 1 SDG 10 SDG 11	Focuses on ventures addressing social and environmental challenges.
MGT437	Business Ethics	Undergraduate	SDG 16 SDG 12	Embeds ethical business behavior and accountability in governance.
FIN634	Sustainable and Green Finance	Postgraduate	SDG 13	Explores green bonds, ESG investing, and environmental responsibility in finance.
ACC630	Sustainability Accounting & Reporting	Postgraduate	SDG 12 SDG 13	Focuses on sustainability disclosure frameworks and corporate environmental accountability.
TC2SCT413	Teaching Environmental & Earth Sciences 2	Undergraduate	SDG 6 SDG 7 SDG 11 SDG 12 SDG 15	The course integrates multiple Sustainable Development Goals (SDGs) by connecting scientific concepts to real-world sustainability practices. It addresses SDG 6 through lessons on water conservation and pollution control; SDG 7 via discussions on renewable energy and

				air quality; and SDG 11 through projects on waste management and community engagement. Students also explore SDG 12 by examining sustainable resource use and circular economy principles, SDG 13 through understanding ecosystem roles in climate regulation, and SDG 15 by studying biodiversity and conservation. Collectively, these elements equip students to design and lead educational initiatives that foster environmental awareness, sustainable behaviour, and climate responsibility.
TC1SC348	Teaching Environmental & Earth Sciences1	Undergraduate	SDG 6 SDG 7 SDG 11 SDG 12 SDG 13 SDG14 SDG 15 SDG 17	The course integrates multiple Sustainable Development Goals (SDGs) through a holistic approach that links scientific understanding with practical sustainability action. Students explore SDG 6 by studying water conservation, pollution control, and sustainable water management; SDG 7 through lessons on renewable energy and air quality; and SDG 11 by connecting classroom learning to community initiatives on waste reduction and sustainable living. They address SDG 12 by examining consumption patterns and promoting responsible resource use, and SDG 13 by understanding the relationship between ecosystems and climate regulation, developing strategies for climate literacy and action. Elements of SDG 14 and SDG 15 are covered through discussions on biodiversity, aquatic systems, and land conservation, emphasizing the interdependence of natural ecosystems. Finally, SDG 17 is reinforced through collaborative projects using international environmental resources, highlighting the role of

				partnerships and knowledge exchange in achieving sustainability goals.
TCHL418	**Health, Safety, and Nutrition for Children**	Undergraduate	SDG 2 SDG 3 SDG 4 SDG 5 SDG 6 SDG 10 SDG 12 SDG 13 SDG 16 SDG 17	The course aligns with multiple Sustainable Development Goals (SDGs) by promoting holistic child health, inclusive education, and sustainable practices. It advances SDG 3 through training in physical, mental, and emotional well-being, preventive care, and first aid; and supports SDG 2 by teaching balanced nutrition and food security awareness. In line with SDG 4, it prepares future teachers to create safe, health-conscious learning environments, while SDG 5 and SDG 10 are addressed through gender-sensitive and inclusive approaches to child care and health education. The course integrates SDG 6 and SDG 12 by emphasizing hygiene, sanitation, and responsible food consumption, and connects to SDG 13 through lessons on climate impacts on health and sustainable school environments. It contributes to SDG 16 by promoting child protection and safeguarding, and reinforces SDG 17 by fostering partnerships between educators, health institutions, and communities to strengthen collective action toward sustainable well-being.
TCSC118	**General Science**	Undergraduate	SDG 12 SDG 13 SDG 14 SDG 15	The course integrates environmental sustainability themes across several SDGs. It addresses SDG 13 by examining the environmental impact of human activities and promoting sustainable responses to climate change. SDG 14 is reflected in lessons on marine and freshwater ecosystems, emphasising control of pollution and the sustainable use of resources. Through topics on biodiversity and

				conservation, the course advances SDG 15, while SDG 12 is reinforced through discussions on energy efficiency, resource management, waste reduction, and recycling practices.
TC2SC213	**Fundamentals of Biology**	Undergraduate	SDG 13 SDG 14 SDG 15	The course integrates key environmental sustainability concepts across SDG 15, SDG 14, and SDG 13. It emphasizes the protection and sustainable management of terrestrial and aquatic ecosystems, biodiversity conservation, and the prevention of desertification. By exploring how living and non-living components interact within ecosystems, students gain insight into their role in regulating the Earth's climate and supporting sustainable use of natural resources, reinforcing the importance of ecosystem preservation for planetary stability.
TCSC228	**Teaching Environmental Literacy and 21st Century Learning Skills in Science**	Undergraduate	SDG 6 SDG 7 SDG 13 SDG 14 SDG 15	The course integrates SDGs 6, 7, 13, 14, and 15 by engaging students in developing lesson plans and projects on water conservation, clean energy, climate action, and ecosystem protection. Through hands-on assignments, students design educational materials that promote sustainable water use, renewable energy awareness, climate change mitigation, and the conservation of marine and terrestrial biodiversity, fostering environmental literacy and responsibility among future educators.
TCST418	**STEAM Education for Primary Teachers**	Undergraduate	SDG 3 SDG 4	The course aligns with SDG 3 by integrating the UNESCO STEM framework, using global and environmental issues to design lessons that foster global citizenship and sustainability awareness. It directly supports SDG 4 (Target 4.7) by preparing teachers to embed education for sustainable development into their teaching

				practice. Additionally, it enables flexible integration of other SDGs (e.g., 6, 7, 13, 14, 15) through a pedagogical framework that connects science education with real-world sustainability challenges.

Course Title	Level	Rationale
Engineering Management	Undergraduate	There are no explicit references to the United Nations Sustainable Development Goals (SDGs) or the 2030 Agenda within the syllabus. The following topics align with a couple of SDGs (possibly not explicitly). Chapters/Topics – Design of Products & Quality Management. The topic Product Design covers subjects like Design for Environment, which theoretically explains the importance of sustainable practices (SDG9 and SDG12). Additionally, topics such as Six Sigma and Quality Management Systems in the course focus on continuous improvement, reducing rework and defects, and thereby decreasing waste, which again aligns with SDG12.
Manufacturing Processes	Undergraduate	The course includes a chapter on the economics of machining (a manufacturing technique). Process conditions best suited to minimise cost and maximise production rate are determined and applied in real-life production. Both aspects are closely associated with sustainability and thus sustainable development
Social and Cultural Factors in Design	Undergraduate	The course INTD 414 Social and Cultural Factors in Design directly supports SDG 5 – Gender Equality by engaging students in a critical investigation of how built environments influence and reflect women lived experiences. Through assignments and case-based analyses, students explore spatial needs, safety, privacy, accessibility, and empowerment as essential design determinants for women in domestic, educational, and public contexts. The course encourages learners to assess social norms and cultural frameworks that shape women's participation in space, leading to design proposals that promote inclusivity, dignity, and equal opportunities. By translating theoretical understanding into spatial strategies—such as designing women-centric workspaces, educational facilities, or community hubs—students cultivate design literacy that advances gender-responsive and equitable environments in alignment with the United Nations Sustainable Development Goals.
MENG 300	Undergraduate	It includes engineering financial assessment related to environmental and sustainable projects
Building Service Systems	Undergraduate	One of the topic contents show the harvesting of rainwater for irrigation.

ARCG 216	Undergraduate	The course is an introduction to sustainable design. Students are briefly introduced to sustainable development and SDGs. The course then focuses on environmental design to reduce energy use and adopt passive solutions.
ARCH712: CONTEMPORARY ISSUES	Postgraduate	SDG 1: No Poverty through and SDG 2: Sustainable cities and communities by bridging the gap of students' knowledge to globalization, migration, sustainability, deforestation, climate change, poverty, natural and man-made disasters, wars, heritage conservation, and preservation
Urban Design (ARCG317)	Undergraduate	This course integrates the principles of Sustainable Development Goal 11 (Sustainable Cities and Communities) and Goal 7 (Affordable and Clean Energy) through evidence-based urban design projects. Students explore the spatial, social, and environmental dimensions of sustainable urban form, focusing on walkability, housing, renewable energy integration, and public space design. The course involves collaboration with governmental institutions related to urban planning and housing in Bahrain, fostering real-world engagement with national sustainability strategies.
Design V (with Eskan Bank Award)	Undergraduate	The Design Studio V course advances SDG 11 (Sustainable Cities and Communities) and SDG 17 (Partnerships for the Goals) through the Eskan Bank Award housing project, where students design adaptable low-rise housing and collaborate with governmental housing institutions to promote inclusive and sustainable urban development.

ARCH712: CONTEMPORARY ISSUES, ARCG 621– Comprehensive Design Project, ARCH 631– Professional Practice, ARCH731 - Research & Design , ARCG 510 - Architectural Design VII, ARCG522 - PROJECT MANAGEMENT , LNDA 313 Working Drawings	Postgraduate	ARCH712: CONTEMPORARY ISSUES, SDG 1: No Poverty through and SDG 2: Sustainable cities and communities by bridging the gap of students' knowledge to globalization, migration, sustainability, deforestation, climate change, poverty, natural and man-made disasters, wars, heritage conservation, and preservation ARCG 621– Comprehensive Design Project SDG 1: No Poverty through, SDG 3 Good Health and well-being and SDG 11: Sustainable cities and communities that this course guides the students to conceptualize a real design project based on consideration of the SDG 1: No Poverty through, SDG 3 Good Health and well-being and SDG 11: Sustainable cities and communities. ARCH 631– Professional Practice SDG 11: Sustainable cities and communities, and SDG 8: Decent Work and Economic Growth, by bridging the gap between students' knowledge and professional practice. ARCH731 - Research & Design SDG 17 Partnership for the Goals bridges the gap between students' knowledge and contributes to enhancing design via the Partnership. ARCG 510 - Architectural Design VII SDG 11: Sustainable cities and communities, where students are expected to demonstrate their knowledge and architectural design skills, with equal emphasis on cultural, environmental, social, and technical issues. ARCG522 - PROJECT MANAGEMENT SDG 8: Decent Work and Economic Growth through introducing project management, project delivery, and project life cycle, resource planning, and Cost estimating, budgeting, and control. LNDA 313 Working Drawings SDG 8: Decent Work and Economic Growth and SDG 11: Sustainable cities and communities, where students use sustainable concepts in selecting building construction and materials
ARCG310, ARCG320	Undergraduate	ARCG310 is an architectural design course that focuses on the Environmental aspect of the design and construction of projects. ARCG320 is an architectural design course that focuses on preserving and expressing cultural identities. Therefore, it enriches students' understanding of culture and the importance of preserving it.
INTA 321 Furniture Design & Production	Undergraduate	The course contains a design project that focuses on the use of CNC machining, which helps in local manufacturing and reduces waste. It promotes using one material when making a furniture piece. This is aligned with SDG 11. Sustainable Cities and Communities and SDG 12. Responsible Consumption and Production.

ARCH 511, Graduation Project I	Undergraduate	ARCG 511 prepares students to develop a comprehensive architectural program that integrates functional, human, technical, and environmental considerations. Through this course, students engage in research, site analysis, and the application of sustainable design principles, directly linking to several SDGs: SDG 3 – Good Health and Well-Being. By assessing user needs and activities, students design spaces that promote physical, mental, and social well-being. SDG 4 – Quality Education: The course enhances students' specialist knowledge, research skills, and critical thinking, fostering high-quality learning outcomes. SDG 9 – Industry, Innovation, and Infrastructure: Students apply advanced architectural theories, design methodologies, and technical skills to create innovative and resilient infrastructure solutions. SDG 11 – Sustainable Cities and Communities: Emphasis on site analysis, functional design, and sustainable environmental strategies ensures that proposed architectural solutions contribute to safe, inclusive, resilient, and sustainable urban environments. SDG 12 – Responsible Consumption and Production: By incorporating passive environmental controls, sustainable energy systems, and relevant building codes, students learn to design resource-efficient and environmentally responsible buildings. SDG 13 – Climate Action: The integration of renewable energy systems and passive environmental controls aligns student projects with climate-responsive and energy-efficient design practices. Overall, ARCG 511 equips students to create architectural solutions that balance human needs, environmental sustainability, and social responsibility, reflecting the holistic objectives of the SDGs.

ARCG 520, Graduation Project II – Design Stage	Undergraduate	ARCG 520 focuses on the design stage of the graduation project, enabling students to express creativity, architectural identity, and critical problem-solving skills while addressing complex design challenges. The course's emphasis on integrating environmental, technical, and social considerations connects to several SDGs: SDG 3 – Good Health and Well-Being: Students design spaces that consider user safety, accessibility, and comfort, promoting overall well-being. SDG 4 – Quality Education: The course develops advanced analytical, research, and design skills, fostering lifelong learning and professional competency. SDG 9 – Industry, Innovation, and Infrastructure: Students apply innovative architectural solutions and technical expertise in developing resilient, functional, and creative designs. SDG 11 – Sustainable Cities and Communities: By integrating site characteristics, environmental considerations, and sustainable systems, students contribute to the creation of sustainable and inclusive built environments. SDG 12 – Responsible Consumption and Production: Designs incorporate sustainable materials, energy efficiency, and environmental responsiveness. SDG 13 – Climate Action: Environmental and technical integrations, such as passive design strategies and site-specific responses, address energy efficiency and climate resilience. Overall, ARCG 520 fosters the development of innovative, sustainable, and socially responsible architectural designs that reflect global SDG principles.
Design, Culture and Environment	Undergraduate	INTD 326 will focus on 3- Good Health and Well Being;9- Industry, Innovation and Infrastructure;11- Sustainable Cities and Communities;13- Climate Action. Lectures with sustainability-focused content; Case studies on sustainable practices; Hands-on projects and design challenges; Research-based assignments. the course will include Fieldwork or real-world case studies, Group projects with sustainability themes.

ARCG 410: Architectural Design V	Undergraduate	ARCG 410 develops students' architectural design skills with a focus on housing, integrating technical knowledge, social awareness, and environmental considerations. Through site-responsive housing design, material selection, and building systems integration, students create functional, sustainable, and inclusive residential solutions that address diverse user needs. The course aligns with several SDGs: SDG 3 – Good Health and Well-Being: Students design residential spaces considering safety, accessibility, and human comfort to promote physical and mental well-being. SDG 4 – Quality Education: The course fosters critical thinking, research, and design communication skills, contributing to high-quality professional learning. SDG 9 – Industry, Innovation, and Infrastructure: Students apply knowledge of building systems, materials, and structural solutions to develop innovative and resilient housing designs. SDG 11 – Sustainable Cities and Communities: Site analysis, context-sensitive planning, and sustainable design strategies support the creation of safe, inclusive, and environmentally responsible housing within communities. SDG 12 – Responsible Consumption and Production: Consideration of material performance, environmental impact, and reuse promotes sustainable construction practices in residential buildings. SDG 13 – Climate Action: Integration of site orientation, climate responsiveness, and environmental systems encourages energy-efficient and climate-sensitive housing solutions. Overall, ARCG 410 equips students with the skills to produce architecturally creative, socially inclusive, and environmentally sustainable housing designs, reflecting the principles of the SDGs.

ARCH 611, Design and Community	Postgraduate	ARCH 611 explores the intersection of architecture with social, cultural, and environmental contexts, emphasizing inclusive and sustainable design that positively impacts communities. Through research, case studies, and collaborative design, students develop skills in empathy, social innovation, and stakeholder engagement, directly connecting to several SDGs: 1. SDG 3; Good Health and Well-Being: By focusing on community needs and inclusive spaces, the course promotes social, mental, and physical well-being. 2. SDG 4; Quality Education: Students engage in critical research, reflection, and knowledge synthesis, fostering advanced learning and professional competencies. 3. SDG 10; Reduced Inequalities: The course emphasizes social justice, equity, and design strategies that address disparities within communities. 4. SDG 11; Sustainable Cities and Communities: By examining environmental, cultural, and social contexts, students contribute to creating resilient, inclusive, and sustainable urban environments. 5. SDG 16; Peace, Justice, and Strong Institutions: The focus on participatory design and collaborative processes nurtures community empowerment, ethical engagement, and inclusive decision-making. 6. SDG 17; Partnerships for the Goals: Multidisciplinary collaboration and stakeholder engagement foster partnerships to advance sustainable community development. Overall, ARCH 611 equips students to design thoughtfully, integrating social, environmental, and cultural considerations to create equitable, sustainable, and community-focused built environments, reflecting the core principles of the SDGs.
CENG322: Water Supply & Sewerage	Undergraduate	SDG 6: Clean Water and Sanitation // The course directly addresses the requirement for safe water access and sanitation by providing students with the essential design and maintenance skills for robust water distribution networks and effective sewerage systems, which are foundational to Goal 6. // This course teaches students the engineering principles for managing water resources from source to disposal. The content covers the fundamentals of groundwater flow, the design of conduits and water distribution systems, and the operation of reservoirs and pumping stations for clean water supply. For sanitation, it focuses on the design of sanitary sewers, the hydraulics of wastewater flow, and the construction and maintenance of sewer systems.

CENG427: Treatment of Wastewater	Undergraduate	SDG 6: Clean Water and Sanitation // This course is a direct effort towards SDG 6, which aims to improve water quality by reducing pollution and increasing the safe treatment of wastewater. By focusing on tertiary treatment and the environmental impact of contaminants, the course trains engineers to safeguard water ecosystems and public health. // This course focuses entirely on the principles for the design and operation of wastewater treatment facilities. It is designed to give students a strong understanding of the main contaminants in Municipal Wastewater and their impacts on human health and the environment. Key topics include the design principles for various treatment stages: preliminary, primary, secondary, tertiary treatment units, and sludge treatment processes.
ARCG 522: Project Management	Undergraduate	Describe the best practices of Project Management - Related to 9- Industry, Innovation and Infrastructure
ARCG 413: Contracts & Implementations of Documents	Undergraduate	All about interrelationships and contracts - 9- Industry, Innovation and Infrastructure
CENG209: Introduction to Engineering Profession	Undergraduate	SDG 16:The focus on Ethics and Corporate Responsibility supports the principles of transparent and just practice (SDG 16). This foundational course explicitly addresses non-technical, professional competencies vital for sustainable development. Key topics include Sustainability, Corporate Responsibility, Ethics (including professional ethics), and the interaction between technology and society. It also includes project management and teamwork.

CENG328: Civil Engineering Projects and Seminar	Undergraduate	SDG 9: Industry, Innovation, and Infrastructure & SDG 11: Sustainable Cities and Communities. This directly links academic knowledge to practical, sustainable design solutions, aligning with SDG 9's call for innovation and SDG 11's goal of resilient infrastructure. The focus on real-world problems ensures the projects address contemporary challenges of sustainable development. The course is a core mechanism for developing "creative design and critical thinking skills" by challenging students to use "problem-based learning to find solutions to real engineering problems". Students are exposed to "ongoing important projects in the country and in the world" and must organize a seminar to present their proposed design components. The course emphasizes the role of civil engineers as designers and decision makers.
CENG580: Advanced Construction Project Management	Postgraduate	SDG 9: Industry, Innovation, and Infrastructure & SDG 12: Responsible Consumption and Production. This course applies advanced management techniques to construction projects. It focuses on the strategic planning and control necessary to execute large-scale, resilient infrastructure projects effectively (SDG 9). By emphasizing efficient resource allocation, risk management, and schedule optimization, the course contributes to minimizing waste and maximizing value throughout the project life cycle, aligning with SDG 12 (responsible consumption and production).
ARCU 624 - Sustainable Urban Design	Postgraduate	This course focuses on the sustainability of urban environments through an integrated exploration of urban design, planning, and development economics. Students will analyse the environmental, social, and economic dimensions of urban growth, with an emphasis on sustainable development agendas and the reduction of environmental impacts from urbanisation. By studying real-world urban systems and planning frameworks, learners will gain the tools to design cities that are resilient, inclusive, and resource efficient. This Course aligns with SDG (11), (9) & (13)

LNDA 311 - Urban Studies	Undergraduate	This course introduces the foundational principles of urban design and explores its interconnections with urban landscapes. It examines the city as both a landscape and a system of places, highlighting how spatial design shapes human experience and environmental quality. Students will study the concept of the landscape as a series of "outdoor rooms," focusing on how design enables a sense of place, identity, and community. Through lectures, case studies, and design exercises, the course integrates urban design theory, landscape design practices, and sustainability principles to foster a holistic understanding of urban environments. This course aligns with SDG (11), (13), (3) & (9)
Conservation of Buildings	Undergraduate	The course content is primarily aligned through its direct contribution to SDG 11.4, which focuses on protecting cultural heritage. It also contributes to broader impact on other goals such as sustainable cities (SDG 11) by enhancing adaptive reuse of heritage sites and local communities (SDGs 1, 8, 11) through intangible cultural activities documentation and awareness.
Architecture Design III - ARCG 310	Undergraduate	The course Architecture Design III (ARCG 310) aligns with SDG 4 – Quality Education and SDG 11 – Sustainable Cities and Communities by fostering critical thinking, creativity, and environmental responsibility among students. It provides students with a comprehensive understanding of how environmental factors influence architectural design, encouraging sustainable development to develop context-responsive solutions. Through analytical research and and practical design project, students develop essential skills to integrate traditional environmental control techniques with modern practices. By emphasizing the design of sustainable urban environments, the course promotes learning and innovation in architecture that supports the development of sustainable cities and communities.

Architecture Design IV (ARCG 320)	Undergraduate	Architectural Design IV supports SDG 4 – Quality Education and SDG 11 – Sustainable Cities and Communities by providing students with an integrated learning experience that connects theory, history, culture, and environmental awareness through design practice. The course encourages students to apply their accumulated knowledge to real-world contexts: historical, urban, and natural, enhancing their critical thinking and design problem-solving abilities. By emphasizing the relationship between architecture, culture, and the environment, it promotes a holistic and inclusive approach to education that cultivates creativity, cultural sensitivity, and sustainable design thinking.
Highway Engineering	Undergraduate	SDG 3: Good Health and Well-being: The course contributes to safer mobility and public health by teaching students how to design highways and road networks that minimize accident risk, improve traffic safety, and ensure comfortable travel conditions. Through topics such as geometric design, pavement evaluation, and traffic control, students learn how engineering decisions directly influence road safety and users' well-being. SDG 9: Industry, Innovation, and Infrastructure: Highway Engineering builds students' capacity to design, construct, and maintain sustainable and resilient transportation infrastructure. The course emphasizes innovative materials, modern construction techniques, and efficient design standards that support economic growth and technological advancement within the transportation sector. SDG 11: Sustainable Cities and Communities: By addressing the planning and design of road systems that integrate with urban development, the course supports the creation of inclusive, safe, and accessible transport networks. Students learn to develop highway solutions that enhance mobility, reduce congestion, and support sustainable urbanisation, thereby contributing to more liveable and connected communities.
INTD 324: Furniture Design	Undergraduate	The course contains a design project that focuses on the use of CNC machining, which helps in local manufacturing and reducing waste. It promotes using one material when making a furniture piece. This is aligned with SDG 11. Sustainable Cities and Communities and SDG 12. Responsible Consumption and Production.

ARCG 314 / ARCG 326/ ARC 211/ ARCG 210/ ARC 210/ LNDA 411/ LNDA 420	Undergraduate	ARCG 314 / ARCG 326/ ARC 211: Theory of architecture, talks about people, communities, and places, strongly linked to SDG 11 SDG 11 "Sustainable Cities and Communities". ARCG 210/ ARC 210: Design 1, same focus on housing, also SDG 11, LNDA 411/ LNDA 420, GRADUATION 1 & 2 FOR LANDSCAPE, relates to SDG 14 – Life Below Water & SDG 15 – Life on Land
Vernacular Heritage (ARCG 318)	Undergraduate	Vernacular architecture, defined by its reliance on local resources, cultural context, and passive climate strategies, offers a powerful, time-tested model for sustainability. Studying this tradition moves beyond simple historical analysis; it serves as a foundation for designing modern, resilient, and equitable built environments, directly contributing to the achievement of the UN Sustainable Development Goals (SDGs). The course particularly aligns with the following SDGs: SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption, SDG 13: Production and Climate Action, SDG 9: Industry, Innovation, and Infrastructure and SDG 4: Quality Education.
Graduation Project I	Undergraduate	The course includes research on passive and active environmental solutions for the students' projects. this aligns with SDG 11: Sustainable Cities and Communities, SDG 7: Affordable and Clean Energy, SDG 13: Climate Action.
Graduation Project II (ARCG 520)	Undergraduate	The course includes applying passive and active environmental solutions to the students' projects. This aligns with SDG 11: Sustainable Cities and Communities, SDG 7: Affordable and Clean Energy, and SDG 13: Climate Action.
Environmental Systems III	Undergraduate	The course covers topics related to Illumination, Lighting Efficiency and Initial vs Operational costs for installations. the project also encourages the students to come up with an efficient lighting design by combining various concepts.

ARCG 412 and ARCG 423	Undergraduate	The course ARCG 412 (Working Drawing-I) develops the technical literacy students need to deliver safe, resource-efficient buildings through working drawings (plans, elevations, sections and details) and coordinated building services. The course covers water supply and drainage layouts (supporting SDG 6), selection of materials, finishes, and building envelope systems (responsible sourcing and durability under SDG 12 and innovation under SDG 9), and integrated documentation that links design to construction for more sustainable urban outcomes (SDG 11). A construction site-visit report reinforces real-world practice and reflective learning (SDG 4). Building on ARCG 423 (Working Drawing-II), this course expands integrative coordination of MEP systems (Electrical layout, lighting, HVAC, firefighting/alarm) and coordinated reflected ceiling plans, which support energy efficiency and safety (SDG 7, SDG 3). Students produce advanced details for facades/cladding, vertical circulation (stairs/elevators), openings, and green/roof-garden assemblies (drainage, waterproofing, expansion joints), promoting durable, low-impact assemblies (SDG 12), infrastructure innovation (SDG 9), and liveable community buildings (SDG 11). The technical model + final submission consolidates professional competencies (SDG 4).
ARCG310	Undergraduate	The course focuses on environmental solutions that are linked to environment-related Sustainable Development Goals (SDGs).
ARCG 520	Undergraduate	The Graduation Design course is a comprehensive project encompassing architectural, sustainable, structural, social, and cultural aspects, all of which are closely aligned with the Sustainable Development Goals (SDGs).
INTA 223	Undergraduate	INTA 223 has one project that aligns with SDG 9 (Industry, Innovation, and Infrastructure) by integrating technology and creativity into the design process. Using digital fabrication tools such as CNC machines and laser cutters, students learn to transform digital designs into precise physical models, promoting innovation and technological advancement.

Traffic Engineering	Undergraduate	The Traffic Engineering course supports several United Nations Sustainable Development Goals (SDGs) by promoting safer, more efficient, and sustainable transportation systems. It directly contributes to SDG 3 (Good Health and Well-being) through the study of driver and vehicle characteristics and traffic control measures that enhance road safety. By optimizing traffic flow, reducing congestion, and improving travel time and delay, it supports SDG 11 (Sustainable Cities and Communities) through better urban mobility and reduced environmental impact. Additionally, the course's emphasis on capacity analysis and efficient roadway design aligns with SDG 9 (Industry, Innovation, and Infrastructure) by fostering resilient and sustainable transport infrastructure.
Highway Engineering	Undergraduate	The Highway Engineering course aligns with several United Nations Sustainable Development Goals (SDGs) by emphasizing the development of safe, efficient, and sustainable transport infrastructure. It contributes to SDG 9 (Industry, Innovation, and Infrastructure) through the study of highway planning, design, and construction practices that promote resilient and quality infrastructure. By addressing topics such as geometric design, drainage, and pavement materials, the course supports SDG 11 (Sustainable Cities and Communities) through the creation of accessible and reliable road networks that enhance urban and rural connectivity. Furthermore, by incorporating economic and environmental considerations in highway planning and design, the course advances SDG 13 (Climate Action) by encouraging sustainable construction practices and minimizing the environmental impact of transportation systems.

Advanced Traffic Engineering	Postgraduate	The Advanced Traffic Engineering course aligns with several United Nations Sustainable Development Goals (SDGs) by focusing on innovative, data-driven, and sustainable approaches to traffic management and system optimization. It contributes to SDG 9 (Industry, Innovation, and Infrastructure) through the application of advanced traffic flow theories, modelling techniques, and intelligent transportation systems that enhance the efficiency and resilience of transport networks. By emphasizing safety analysis, congestion management, and signal optimization, the course supports SDG 11 (Sustainable Cities and Communities) through the development of smart, safe, and accessible urban mobility solutions. Furthermore, by promoting sustainable traffic operations and reducing vehicular emissions through efficient system design, the course advances SDG 13 (Climate Action) by contributing to the reduction of the environmental footprint of transportation systems.
Transportation Planning and Modelling	Postgraduate	The Transportation Planning and Modelling course aligns with several United Nations Sustainable Development Goals (SDGs) by emphasizing data-driven, equitable, and sustainable approaches to transportation system design and evaluation. It contributes to SDG 9 (Industry, Innovation, and Infrastructure) through the application of analytical and modelling techniques that support the development of efficient and resilient transport systems. By addressing urban transportation planning, travel demand forecasting, and network assignment, the course supports SDG 11 (Sustainable Cities and Communities) through the promotion of integrated, accessible, and environmentally responsible mobility solutions. Moreover, by incorporating evaluation methods that balance social, economic, and environmental factors, the course advances SDG 13 (Climate Action) by fostering sustainable transportation planning practices that mitigate congestion and reduce emissions.

Traffic Flow and Capacity Analysis	Undergraduate	The Advanced Traffic Engineering course aligns with several United Nations Sustainable Development Goals (SDGs) by focusing on innovative, data-driven, and sustainable approaches to traffic management and system optimization. It contributes to SDG 9 (Industry, Innovation, and Infrastructure) through the application of advanced traffic flow theories, modelling techniques, and intelligent transportation systems that enhance the efficiency and resilience of transport networks. By emphasizing safety analysis, congestion management, and signal optimization, the course supports SDG 11 (Sustainable Cities and Communities) through the development of smart, safe, and accessible urban mobility solutions. Furthermore, by promoting sustainable traffic operations and reducing vehicular emissions through efficient system design, the course advances SDG 13 (Climate Action) by contributing to the reduction of the environmental footprint of transportation systems.
Road Safety Analysis	Postgraduate	Safety design and operational practices for streets and highways, including safety improvement programs, design of barrier systems, bicycle and pedestrian consideration, access control, safety evaluation, and measures of effectiveness.
Road Safety Analysis	Postgraduate	The Road Safety Analysis course aligns with several United Nations Sustainable Development Goals (SDGs) by focusing on the development of safe, inclusive, and sustainable transportation systems. It contributes to SDG 3 (Good Health and Well-being) through the study of safety design principles, operational practices, and evaluation methods that reduce traffic crashes and enhance the protection of all road users. By incorporating pedestrian and bicycle safety considerations, the course supports SDG 11 (Sustainable Cities and Communities) through the promotion of inclusive and equitable mobility within urban environments. Additionally, by emphasizing evidence-based safety improvement programs and effective design strategies, the course advances SDG 9 (Industry, Innovation, and Infrastructure) by fostering the creation of resilient, efficient, and safer transport infrastructure.

Public Mass Transportation Systems	Postgraduate	The Public Mass Transportation Systems course aligns with several United Nations Sustainable Development Goals (SDGs) by promoting sustainable, efficient, and inclusive urban mobility. It contributes to SDG 11 (Sustainable Cities and Communities) through the study of public transit systems that enhance accessibility, reduce congestion, and support equitable transportation for all populations. By addressing topics such as planning strategies, management, and financing of transit systems, the course supports SDG 9 (Industry, Innovation, and Infrastructure) through the development of modern, resilient, and efficient mass transport infrastructure. Furthermore, by emphasizing environmentally friendly modes such as rail and bus transit, the course advances SDG 13 (Climate Action) by encouraging a modal shift from private vehicles to sustainable public transportation, thereby reducing emissions and improving urban air quality.
Road Traffic Management	Postgraduate	The Road Traffic Management course aligns with several United Nations Sustainable Development Goals (SDGs) by promoting efficient, safe, and sustainable management of transportation systems. It contributes to SDG 11 (Sustainable Cities and Communities) through the study of integrated urban traffic management, bus priority systems, and non-motorised transport facilities that enhance urban mobility and accessibility. By incorporating Intelligent Transport Systems (ITS), speed management, and road pricing strategies, the course supports SDG 9 (Industry, Innovation, and Infrastructure) through the application of advanced technologies and innovative policies that improve traffic efficiency and infrastructure performance. Furthermore, by encouraging sustainable travel modes and reducing congestion and emissions, the course advances SDG 13 (Climate Action) by fostering environmentally responsible traffic management practices that contribute to cleaner and more liveable cities.

M.Sc. in Sustainable Energy Transition Systems	Postgraduate	The M.Sc. in Sustainable Energy Transition Systems aligns with several United Nations Sustainable Development Goals (SDGs). SDG 13: Climate Action: The focus on reducing carbon emissions and promoting energy transition directly tackles climate change issues. Courses on carbon capture and utilization foster strategies to mitigate climate impacts. . SDG 7: Affordable and Clean Energy: The program focuses on energy transition from fossil fuels to sustainable energy sources, promoting clean and affordable energy access. Courses on energy generation and storage are directly linked to developing technologies that ensure energy security and sustainability. SDG 9: Industry, Innovation, and Infrastructure: By addressing the technological challenges of energy systems and emphasizing innovation (e.g., energy digitization and carbon capture), the program encourages resilient infrastructure and fosters innovation in the energy sector. SDG 11: Sustainable Cities and Communities: The program's emphasis on energy policy and management contributes to the development of sustainable urban environments that prioritize clean energy solutions, thus enhancing community resilience and sustainability. SDG 4: Quality Education: The interdisciplinary nature of the program provides high-quality education that equips students with critical thinking and problem-solving skills necessary for addressing complex energy issues.
CHENG 463: Fundamentals of Water Desalination	Undergraduate	SDG 6: Clean Water and Sanitation: The course focuses on desalination processes that provide safe drinking water, addressing the critical need for clean water in regions with limited freshwater resources. Topics on water quality, including the characteristics of seawater and groundwater, ensure that students understand the importance of providing safe and potable water for both drinking and industrial use. The economics of desalinated water and the discussion on water treatment processes contribute to sustainable management practices for water resources, essential for long-term water security.

REE602: Photovoltaic Systems	Undergraduate	History of PV technology; Types of PV Systems, Principles of operation of photovoltaic systems; PV systems performance characteristics as a function of environmental conditions; Site assessment for PV systems installation, selection of an appropriate system design; Installation of basic subsystems; Inspection and maintenance of PV Systems; Safety considerations during installation and exploitation of PV systems. PV systems: standard PV systems, PV concentrator.
REE603: Wind Energy Systems	Postgraduate	The following topics will be covered in the course: Statistical methods of wind analysis, Wind Resources Assessment and Site Selection, Wind Machine Technologies and wind turbines performance analysis. The course deals with the basic characteristics of wind energy, site characterisation, fundamental principles of wind energy utilisation, and discusses the design of basic parts, including aerodynamics, mechanical and electrical design aspects. Special emphasis will be given to the theory of the design of turbine blades. Offshore and onshore wind plants. integration into the power systems will also be addressed in this course. Furthermore, the environmental impacts of wind power utilization will be discussed.
EENG490: Senior Project	Undergraduate	This paper studied a wind energy system and proposed two techniques in the control of the output voltage of a wind turbine generator. Note that the output voltage from the wind turbine generator is often not constant due to the intermittency of the wind speed. The voltage controller has been designed using MATLAB/SIMULINK toolboxes' flexibility. The performance of the proposed voltage controller has been tested via computer simulations as well as via an experiment performed on a typical laboratory vertical-axis wind turbine (VAWT). The present paper also studied the distance optimization between VAWTs when the latter are installed as arrays in highways.
EENG446-Solar and Wind Renewable System	Undergraduate	EENG 446 equips students with the knowledge and skills to design and analyse solar and wind energy systems, promoting the use of clean, reliable, and sustainable energy solutions that support global access to affordable and renewable energy.
EENG444: Electric Drives I	Undergraduate	Use the regeneration of Energy during the braking of electric motors.

REE601- Renewable Energy Systems	Postgraduate	REE601 fosters advanced understanding of renewable energy technologies, including solar, wind, biomass, and hybrid systems, to promote sustainable and efficient energy solutions. The course aligns with SDG 7 by preparing students to develop and implement innovative clean energy systems that enhance energy access, efficiency, and sustainability at local and global levels.
REE601: RENEWABLE ENERGY SYSTEMS FUNDAMENTALS,	Postgraduate	Gaining an understanding of the principles of renewable energy technologies is key to understanding the technological basis of the systems and their applications. This is particularly important with regard to the overall energy mix of a specific country. This module provides you with the fundamentals of renewable energy technologies and their impact on global and national energy systems. The purpose of this module is to introduce the basis for assessment of the performances of wind, wave and tidal, hydroelectricity, biomass and waste technologies, and geothermal technologies. Basic introduction to the relevant market and financial management, policies, regulations and incentives will be experienced.
REE602-Photovoltaic Energy Systems	Postgraduate	REE602 focuses on the design, operation, and performance analysis of photovoltaic (PV) systems, promoting the adoption of clean and sustainable electricity generation. The course aligns with SDG 7 by enabling students to develop efficient and affordable solar energy solutions that support the global transition toward renewable energy and reduced dependence on fossil fuels
REE603- Wind Energy Systems	Postgraduate	REE603 enhances students' understanding of wind energy conversion technologies and system integration for sustainable electricity generation. The course aligns with SDG 7 by promoting the development and implementation of efficient, clean, and affordable wind energy solutions that contribute to global renewable energy goals and reduce carbon emissions.
REE604- Solar thermal Energy	Postgraduate	REE604 supports SDG 7 (Affordable and Clean Energy) by promoting the design and application of solar thermal technologies for clean and sustainable heat and power generation. It also contributes to SDG 13 (Climate Action) through the reduction of greenhouse gas emissions, SDG 9 (Industry, Innovation, and Infrastructure) by encouraging innovation in renewable energy systems, and SDG 12 (Responsible Consumption and Production) by fostering efficient and sustainable energy utilization practices.

CHENG423: Plant Design Project course	Undergraduate	SDG 3: Good Health and Well-being: Emphasis on safety and health considerations in process design., SDG 4: Quality Education: Promotes experiential learning through field visits, group projects, and presentations., SDG 9: Industry, Innovation and Infrastructure: Focus on industrial process design, innovation, and infrastructure development., SDG 12: Responsible Consumption and Production: Includes sustainability assessments, material and energy balances, and economic evaluations., SDG 13: Climate Action: Environmental impact assessments and sustainability considerations support climate-conscious engineering
REE605-Special Topics in Renewable Energy Engineering	Postgraduate	These courses collectively support SDG 7 (Affordable and Clean Energy) by promoting knowledge and practical skills in renewable energy generation, storage, and system installation. Energy Storage Systems and Energy Conservation Techniques contribute to SDG 12 (Responsible Consumption and Production) through efficient energy management and reduced energy waste. Energy Economics, Policies, and Regulations align with SDG 13 (Climate Action) and SDG 8 (Decent Work and Economic Growth) by addressing sustainable energy policies, economic frameworks, and climate-resilient strategies. Installation of Renewable Energy Systems supports SDG 9 (Industry, Innovation, and Infrastructure) by developing technical expertise for clean energy deployment. Courses such as Geothermal Energy, Wave Energy, and Other Forms of Renewable Energy Systems further contribute to SDG 13 (Climate Action) by diversifying renewable energy resources and fostering innovation toward a sustainable, low-carbon future.
EEM699-Master Thesis	Postgraduate	EEM699 – master's Thesis allows students to conduct in-depth research or development projects in renewable energy and related fields, directly supporting SDG 7 (Affordable and Clean Energy) by fostering innovative solutions for sustainable energy. The course also promotes SDG 9 (Industry, Innovation, and Infrastructure) through research-driven technological advancement and SDG 13 (Climate Action) by encouraging projects that address climate mitigation, energy efficiency, and low-carbon solutions.

MSc Thesis	Postgraduate	The MSc Thesis course aligns strongly with several United Nations Sustainable Development Goals (SDGs) by emphasizing independent research, innovation, and the pursuit of solutions to global civil engineering challenges. As a capstone of the MSc program, the thesis allows students to apply advanced knowledge and analytical skills to address complex problems related to infrastructure, sustainability, safety, and environmental stewardship. This directly supports SDG 9 (Industry, Innovation, and Infrastructure) through the development of resilient and sustainable engineering solutions. By encouraging research that promotes sustainable urban development, efficient resource use, and climate resilience, the course also advances SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action). Moreover, in line with the program's intended learning outcome (PILO) of solving global issues through research, the MSc Thesis fosters innovation, ethical responsibility, and global awareness—qualities essential for achieving the broader vision of the SDGs and contributing to a more sustainable and equitable world.
ARCG210	Undergraduate	The course emphasizes designing sustainable homes with conscious passive designs to respond perfectly to the local environment.
Architectural Design 2	Undergraduate	The course emphasizes in designing sustainable, energy-efficient community buildings which are designed in a way to encourage collaboration and engagement between the community members.
Environmental System I	Undergraduate	The course teaches the students how to design energy-efficient buildings using insulation, shading, and passive strategies as a response to the climate in order to save energy. It also promotes designing sustainable buildings that reduce resource consumption while meeting occupants' comfort requirements at the same time.
Building service systems	Undergraduate	The course promotes designing buildings' efficient water supply, drainage, and electrical systems, which save water use, enhance safe drainage, and reliable electrical systems, directly promoting in provision of clean Water and clean energy. It also contributes to creating resilient structures and safer living environments.

Architectural construction I	Undergraduate	The course promotes the use of sustainable building materials and construction methods to achieve responsible consumption and production. It also enhances safety in buildings, as a response to achieve sustainable cities and communities.
Architectural Graphics I	Undergraduate	The course supports the sustainable goals by developing precision and communication skills essential for designing sustainable and efficient buildings. It also preserves foundational skills in technical drawing, supporting lifelong learning and quality education.
Design communication I	Undergraduate	The course supports the sustainable goals by developing precision and communication skills essential for designing sustainable and efficient buildings. It also preserves foundational skills in technical drawing, supporting lifelong learning and quality education.
Architectural Graphics II	Undergraduate	The course teaches freehand sketching and manual drawings that foster creativity and visual communication skills, supporting quality education through hands-on, artistic learning. Helping students to visualise and communicate sustainable design concepts, it indirectly supports sustainable cities and encourages more thoughtful, human-centred architecture.
Design Communication II	Undergraduate	The course teaches freehand sketching and manual drawings that foster creativity and visual communication skills, supporting quality education through hands-on, artistic learning. Helping students to visualise and communicate sustainable design concepts, it indirectly supports sustainable cities and encourages more thoughtful, human-centred architecture.
INTD 411: Graduation Project Design Stage and INTD 420: Graduation Project Design Stage	Undergraduate	Both the Programming and Design Stage courses support the SDGs by encouraging students to apply sustainable design principles in their projects. Through researching sustainable materials and energy-efficient tools, students contribute to SDG 4 (Quality Education), SDG 7 (Clean Energy), SDG 11 (Sustainable Cities), SDG 12 (Responsible Consumption), and SDG 13 (Climate Action), fostering environmentally and socially responsible design practices.

INTA 212 - Building Construction I	Undergraduate	This course aligns with the UN Sustainable Development Goals (SDGs) by encouraging students to explore sustainable and eco-friendly materials, climate-responsive and energy-efficient techniques, and local construction practices. Through this learning, students contribute to SDG 4 (Quality Education), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action)—promoting environmentally responsible and contextually appropriate building study.