



CLIMATE SCIENCE & ENVIRONMENTAL SUSTAINABILITY EDUCATION AT UNIVERSITY OF TABUK



The University of Tabuk provides credit-bearing courses related to climate science and environmental sustainability through several officially accredited academic programs. These courses are delivered within recognized Higher Diploma and postgraduate degree programs approved by the Saudi higher education system, and they contribute to preparing graduates capable of addressing key environmental challenges, including climate change, biodiversity conservation, environmental protection, and sustainable natural resource management.

Sustainability education is integrated across programs offered by the Faculty of Science and the Applied College, where students receive formal academic training in environmental sciences and sustainability-related disciplines. These programs address several critical sustainability themes, including climate change and environmental sustainability, biodiversity conservation, ecosystem monitoring and management, environmental protection and pollution control, sustainable agriculture and food security, and natural resource management.

All programs operate within a credit-based academic system, and students are required to successfully complete the listed courses in order to obtain their academic qualifications. The courses and programs presented in this report are officially documented on the University of Tabuk website and form part of recognized academic qualifications.

Academic Programs Supporting Climate Science and Environmental Sustainability at the University of Tabuk:

1. Faculty of Science

1.1 Master's in Biodiversity

Program Mission:

To prepare a qualified and skilled cadre in the field of biological diversity and conservation through an academic environment supportive of scientific research and community service.

Program Goals:

- Develop a stimulating and supportive academic environment that meets the beneficiary's needs.
- Prepare qualified, distinguished, and professional cadres with the knowledge and skills needed in biodiversity and conservation to meet the demands of the local and national labor market.
- Equip graduates with skills in research, experimentation, observation, data analysis, and strategic planning across various fields of biological diversity and conservation.
- Contribute effectively in community service through active partnerships and participation that promote awareness of the importance of biodiversity.

Program Details:

- <https://www.ut.edu.sa/faculty-of-science/study/academic-programs/environmental-sustainability>
- [M.S. biodiversity program specification](#)
- [Certification Evidence](#).

1.2. Higher Diploma in Environmental Sciences

1.2.1. Higher Diploma in Environmental Sciences 'Environmental Sustainability Track'

Program Mission:

The entrenchment of sustainable environment concepts and practices, to meet the needs of the present without compromising the ability of future generations to meet their own needs, through qualifying individuals for working in sectors concerned with environmental affairs, for the sake of environment protection, natural resources conservation, and sustainable development.

Program Goals:

- Raising environmental awareness, learn about local, regional and international environmental issues, their effects and ways to deal with, and promote behaviors in ecological preservation and public health protection, with a focus on the inter-relationship between environment and development.
- Reinforcement of the Faculty of Science at the University of Tabuk role in developing skills that meet labor market needs, and aligning the outputs with the Saudi SDGs, that are consistent with Saudi Vision 2030.
- Promote environmental preservation behaviors to achieve sustainable development for the sake of future generations, along with setting priorities for management and control of the environment, and nurture environment-friendly practices and develop procedures to address environmental issues.
- Conservation of the renewable and non-renewable resources, develop actions towards sustainable development, minimize overconsumption and pollution of water and energy, apply rational consumption policies, and protect the rights of future generations to natural resources.
- Switching to green energy, transition to sustainable buildings, urban reforestation, incorporating climate change adaptation in infrastructure planning, and reduce the emissions that cause climate change to maintain a sustainable nature.
- Maintain wildlife habitats, protection and conservation of biological diversity, and sustainable management of natural resources.

Program Details:

- https://www.ut.edu.sa/en/faculty-of-science/biology/media-center/news/higher-diploma-environmental-sciences?utm_source=chatgpt.com
- <https://drive.google.com/file/d/1jjlViOOYQyYw8M2dxR3qAEOOnCCAUCagV/view>
- [A Program Specification of Higher Diploma in Environmental Sciences Course "Environmental sustainability"](#)
- [Certification Evidence of Higher Diploma in Environmental Sciences – Environmental Sustainability](#)

1.2.2. Higher Diploma in Environmental Sciences ‘Vegetation and Ecosystem Sustainability Track’

Program Mission:

Entrenchment the concepts and practices of sustaining the distinctive vegetation cover of the Kingdom of Saudi Arabia, using the latest methods and technologies of biological sciences.

Program Goals:

- Raising awareness of the significance of preserving vegetation cover and its relationship to sustainable development, and identifying issues related to vegetation cover management locally, regionally and internationally, their implications and ways to deal with them, and promote behaviors in preserving the environment.
- Endorse aspects of cooperation in the field of vegetation cover between the university and other sectors, and enhance the role of the Faculty of Science at the University of Tabuk in qualifying graduates with skills to meet the needs of the labor market, and contribute to achieving the Kingdom's 2030 vision, which aims to protect and rehabilitate the natural vegetation cover, all the way to sustaining the environment and natural resources.
- Managing and monitoring vegetation cover, and enhancing positive behaviours and measures necessary to solve vegetation cover issues to achieve sustainable development as a national duty, ensuring a sustainable environment for future generations.
- Sustainable management of habitats, forests, vegetation cover and biodiversity which in turns will positively affect the environment, economy, and society.
- Combating desertification, preventing land degradation and rehabilitating it, and limiting biological diversity loss to achieve sustainable development goals.
- Introducing the vegetation cover composition in the Kingdom of Saudi Arabia, particularly the Tabuk region, and it's medical, economic and environmental importance, and contributing to the enactment of laws and legislation that ensure the protection and development of vegetation cover, forests and natural pastures.
- Balance achievement between human needs and the sustainability of the earth's resources.

- Provide professional learning for people who want to work in park management, land rehabilitation and conservation, or related industries.

Program Details:

- https://www.ut.edu.sa/en/faculty-of-science/biology/media-center/news/higher-diploma-environmental-sciences-vegetation-track?utm_source=chatgpt.com
- [A Program Specification of Higher Diploma in Environmental Sciences Course "Vegetation cover"](#).
- [Certification Evidence of Higher Diploma in Environmental Sciences "Vegetation cover"](#).

1.3 Bachelor of Science (B.Sc.)

1.3.1 Bachelor of Science in Sustainable Food Systems (Recently published in 2025-2026).

Program Mission:

Qualifying human cadres in the fields of food security and sustainable food systems, through quality in education, scientific research, and community service, in a manner that meets the needs of the present without compromising the ability of future generations to meet their own needs emphasizing technological innovation and public policy, in alignment with the Saudi Vision goals 2030 and development projects in the region.

Program Goals:

- Qualify students with the knowledge and skills needed to contribute to creating a food economy that integrates sustainable economic development, land management, food security, environmental protection, Biodiversity and climate change resiliency with community health and well-being and fostering interdisciplinary collaboration.
- Reinforcement of the Faculty of Science at the University of Tabuk's role in meeting the labour market needs and aligning the outputs with the Saudi SDGs, consistent with Saudi Vision 2030 and development projects and enhancing international cooperation in research and educational initiatives.
- Contribute to solving local food systems' challenges and creating a more sustainable food future through specialized applied research and community services and fostering global partnerships.
- Reinforce local food systems and seek to achieve food self-sufficiency, all the way to contribute to global food security while promoting resilience against food market volatility

Program Details:

- <https://www.ut.edu.sa/faculty-of-science/study/academic-programs/k>
- [ProSpeci SustainableFoodSystems](#)

1.3.2 Bachelor of Science in Plant Science and Technology (Recently published in 2025-2026).

Program Mission:

Providing a distinguished academic program that keeps pace with scientific progress in plant sciences and technologies to prepare competent graduates that make advancements in food production through working in the horticultural crop production sector, qualified with the knowledge and skills that meet the needs of the labor market, support innovation and scientific research, enhance the sustainability of the region's resources, and contribute to solving societal issues, in line with the goals of Saudi Vision 2030 and development projects.

Program Goals:

- Qualify distinguished graduates equipped with modern knowledge and skills in plant biology fields that meet the needs of local mega projects and other related industrial sectors to contribute to the Kingdom's Vision 2030 goal of lowering the unemployment rate.
- Train students in modern plant science and agricultural management techniques and twenty-first-century skills related to horticultural crop production in open-field and enclosed environments through curricular and extracurricular courses and activities.

- Offer an integrative academic environment for learning that focuses on enhancing knowledge, skills, and creativity and fosters life-long learning.
- Develop community partnerships to apply scientific knowledge in raising societal awareness about the critical role that plant preservation plays in attaining environmental sustainability.
- Strengthening student scientific research and innovation skills in fields of plant biology to support the educational process and contribute to solving community issues.

Program Details:

- <https://www.ut.edu.sa/faculty-of-science/study/academic-programs/w>
- [ProgSpeci Plant Sciences &Tech](#)

2. Applied College (Intermediate Diploma)

2.1 Intermediate Diploma in Environmental Studies

Program Mission:

Developing professional technical cadres with the highest levels of quality and efficiency in understanding, utilizing, and protecting the environment, natural resources, and energy sources, while ensuring their sustainability to meet diverse human needs in the Tabuk region. This is achieved through continuous education and learning, as well as the development of skilled professional and technical personnel capable of protecting the environment and sustaining its natural resources in Tabuk. The program operates within the general framework adopted by Saudi applied colleges.

Program Goals:

This program is concerned with produce graduates who care about the environment, are responsible, have great communication and problem-solving skills. Students will get training to satisfy the expanding needs of multidisciplinary practitioners in the many disciplines of sustainability and the environment.

The main goals of this program can be summarized as follows:

- Graduating technicians with distinctive professional competence via the application of professional ethics, safety norms, economic, and environmental concerns with a high level of capacity to communicate and cooperate within the team.
- Providing students with a broad interdisciplinary framework for understanding the relationship between humans and their environment.
- Providing students with the concept of environment and trained on the use of modern methods in the field of environmental conservation and the optimum use of its natural wealth and resources.
- Preparing students for professions, citizenship, and environmental stewardship through hands-on academic and extracurricular experiences.
- Equipping students with the knowledge, abilities, skills, and attitudes needed to deal with challenges and risks in the environmental work sector.
- Educating students, the value of protecting the environment, rationing the use of natural resources, and avoiding or reducing its degradation or contamination.
- Describing the interactions between the ecological, economic, and social systems that promote or inhibit sustainability.
- Empowering environmental science students and future technicians by providing access to latest technologies and practices.

Program Details:

- <https://www.ut.edu.sa/en/the-applied-college/study/academic-programs/environmental-studies>
- [A Program Specification: Intermediate Diploma in Environmental Sciences](#)
- [Certification Evidence of Intermediate Diploma in Environmental Sciences.](#)

2.2 Intermediate Diploma in Plant Ecology

Program Mission:

Entrenchment the concepts and practices of sustaining the distinctive vegetation cover of the Kingdom of Saudi Arabia, using the latest methods and technologies of biological sciences. The program adopts the general framework of Saudi Applied College.

Program Goals:

- Raising awareness of the significance of preserving vegetation cover and its relationship to sustainable development, and identifying issues related to vegetation cover management locally, regionally and internationally, their implications and ways to deal with them, and promote positive behaviors in preserving the environment.
- Endorse aspects of cooperation in the field of vegetation cover between the university and other sectors, meet the needs of the labor market, and contribute to achieving the Kingdom's 2030 vision.
- Combating desertification, preventing land degradation and rehabilitating it, and limiting biological diversity loss to achieve sustainable development goals.
- Introducing the vegetation cover composition in the Kingdom of Saudi Arabia, particularly the Tabuk region, and its medical, economic and environmental importance, and contributing to the enactment of laws and legislation that ensure the protection and development of vegetation cover, forests and natural pastures.
- Balance achievement between human needs and the sustainability of the earth's resources.
- Provide professional learning for people who want to work in park management, land rehabilitation and conservation, or related industries.

Program Details:

- <https://www.ut.edu.sa/en/the-applied-college/study/academic-programs/plant-ecology>
- [A Program Specification: Intermediate Diploma in Plant Ecology](#)
- [Certification Evidence of Intermediate Diploma in Plant Ecology.](#)

2.3 Intermediate Diploma in Environment protection and Natural Resources

Program Mission:

Preparing graduates with knowledge and skills in the field of Environment protection and Natural Resources through a distinguished professional and training program that meets the growing needs of the labor market and achievement of the sustainable development goals in the Kingdom of Saudi Arabia. The program adopts the general framework of Saudi applied colleges.

Program Goals:

- To align the outcomes of the Environment protection and Natural Resources program with the needs of the labor market.
- To Increase the percentage of localization in the Environment protection and Natural Resources sector through qualifying national cadres to contribute to the development of the Environment protection sector effectively and sustainably in the Kingdom of Saudi Arabia.
- Providing the learner with environmental knowledge and concepts, getting acquainted with local, regional and international environmental issues, their effects and ways of dealing with them, and enhancing behaviors in preserving the environment and protecting public health.
- Identify the current practices in waste management and Environment protection as well as understand the relationships between inappropriate waste management practices and their impacts on water, soil and sediment quality.
- Providing the student with the skills to develop performance, solve problems, and apply the available systems in waste management and Environment protection.

- Train the student on the use of modern methods in the field of waste management, recycling and reclamation.
- Encouraging students to complete at least one professional certification.

Program Details:

- https://www.ut.edu.sa/en/the-applied-college/study/academic-programs/environment-protection-and-natural-resources?utm_source=chatgpt.com
- [A Program Specification: Intermediate Diploma in Environment protection and Natural Resources.](#)
- [Certification Evidence of Intermediate Diploma in Environment protection and Natural Resources.](#)

2.4 Conservation Management: (Recently published in 2025)

Programs focus on sustainable management of natural resources.

Program Details:

- <https://www.ut.edu.sa/the-applied-college/study/academic-programs/conservation-management>
- [Conservation Management-Study Plan](#)

2.5 Wildlife Protection: (Recently published in 2025)

Programs focus on preserving and protecting wildlife.

Program Details:

- <https://www.ut.edu.sa/the-applied-college/study/academic-programs/conservation-and-wildlife-protection>
- [Wildlife Protection- Study Plan](#)