

At **Sungait State University**, the subjects taught and academic programs are grounded in the principles of sustainable development and make a significant contribution to this field. More than 80 courses offered at the university are directly aligned with the United Nations Sustainable Development Goals (SDGs). These courses cover a wide range of areas, including water management, renewable energy, climate change, biodiversity conservation, pollution control, and environmental monitoring. In addition, they address key aspects of economic development, social welfare, and the organization of sustainable service sectors, enabling students to acquire knowledge and skills oriented toward solving real-world problems.

As a result of this approach, graduates of the university are trained as highly qualified professionals equipped with multidisciplinary knowledge and competencies, capable of contributing effectively to the achievement of sustainable development.

### Program-Based Overview of Sustainability Courses

N	Course	Course Code	ECT S	Course Outline	Related SDGs
1.	Biosphere and its Protection	IF-BO4	6	The biosphere is the global zone of life on Earth, including land, water, and air. Ecosystems, living organisms, atmosphere, hydrosphere, and lithosphere. Supports life, maintains ecological balance, and provides resources.	SDG 6, 13, 15
2.	General Ecology	IF-BO7	5	Study of interactions between organisms and environment. Focus on ecosystems, energy flow, and balance. Importance for environmental understanding and protection.	SDG 6, 13, 15
3.	Air and Water Quality, Pollution and Protection	IF-B14	6	Study of air and water pollution and quality standards. industrial, agricultural, urban pollution. monitoring, treatment, and regulations.	SDG 6, 13, 14, 15
4.	Conservation of Biodiversity	IF-B21	6	Protection of species, ecosystems, and genetic diversity. Importance: ecological balance and sustainability. Methods: conservation areas, laws, restoration.	SDG 6, 13, 15
5.	Sustainable Management of Natural Resource	IF-B22	4	Use of resources without depletion. Focus on efficiency and long-term availability. Methods:	SDG 13, 15

				recycling, conservation, renewable use.	
6.	Human Ecology and Sustainable Development	IF-B13	5	Relationship between humans and environment. Impact of human activity on ecosystems. Goal: balance development and environmental protection.	SDG 13, 15
7.	Technology for Obtaining Alternative Fuels	ATMF-B09	5	Production of fuels from renewable sources. Types: biofuels, hydrogen, solar energy. Benefit: reduce fossil fuel dependence.	SDG 7, 13, 15
8.	Environmental Engineering	IF-BO4	6	Application of engineering to environmental problems. Areas: pollution control, waste management, water treatment. Goal: protect environment and public health.	SDG 6, 13, 15
9.	Environmental Impact Assessment	IF-B12	6	Evaluate effects of projects on the environment. Identify risks and potential harm. Propose mitigation and management measures.	SDG 6, 13, 15
10.	Environmental Monitoring	IF-B14	5	Track air, water, and soil quality. Detect pollution and ecosystem changes. Support decision-making and protection strategies.	SDG 6, 13, 15
11.	Waste-free Production Processes and Waste Recycling	IF-B16	6	Minimize waste in production processes. Reuse and recycle materials effectively. Promote sustainability and resource efficiency.	SDG 12, 13, 15
12.	Climate Changes and Global Warming	IF-B18	5	Study causes and effects of climate change. Monitor greenhouse gas emissions and trends. Develop adaptation and mitigation strategies.	SDG 6, 13, 15
13.	Wastewater Treatment	IF-B17	6	Remove contaminants from industrial and domestic water. Use physical, chemical, and biological processes. Ensure safe release or reuse of water.	SDG 6, 13, 15
14.	Renewable Energy Resources and Their Efficient Use	ATMF-B07	5	Utilize solar, wind, hydro, and bioenergy. Improve energy efficiency and sustainability. Reduce dependence on fossil fuels.	SDG 7, 13, 15

15.	Sustainable Development of Ecosystems	ATMMF-B03	6	Maintain ecosystem health and biodiversity. Balance human use and natural regeneration. Promote long-term environmental resilience.	SDG 7, 13
16.	Sustainable Use and Planning of Natural Resources	ATMMF-B04	6	Manage resources without depletion. Plan extraction, use, and conservation. Support economic and ecological sustainability.	SDG 13, 15
17.	Environmental Ecological and Economic Evaluation	ATMMF-B08	6	Assess environmental impacts of projects. Integrate ecological and economic considerations. Guide sustainable decision-making.	SDG 6, 13, 15
18.	The Impact of Oil and Petroleum Products on the Environment	ATMSF-B01	6	Study pollution from oil extraction, transport, and use. Effects: soil, water, and air contamination. Develop prevention, cleanup, and mitigation strategies.	SDG 6, 7, 13
19.	Environmental Ecological and Economic Evaluation”	ATMSF-B04	6	Assess environmental and ecological impacts of projects. Integrate economic costs and benefits. Guide sustainable decision-making.	SDG 6, 13, 15
20.	Waste Recycling and Zero-Waste Technologies	ATMSF-B02	6	Reuse and recycle materials efficiently. Reduce production and consumption waste. Promote sustainability and resource efficiency.	SDG 6, 13, 15
21.	Analysis of Industrial Facilities	ATMMF-B02	6	Examine structure and operation of industrial plants. Identify efficiency and environmental risks. Recommend improvements and safety measures.	SDG 9, 13
22.	Historiography	ATMF-BO2	4	Study methods and writing of history. Analyze historical sources and interpretations. Evaluate historical theories and perspectives.	SDG - 16
23.	Slavic countries	IF -B08	5	Geography, culture, and politics of Slavic nations. Historical development and regional relations. Economic and social structures of the region.	SDG-16

24.	World landscapes and ecological development	ATMF-B06	6	Study global landforms and ecosystems. Examine environmental changes and human impact. Promote ecological management and sustainability.	SDG-15
25.	Economic and Social Geography of the World Course Summary	IF-B25	5	Population distribution, resources, and development. Global economic systems and trade patterns. Social, cultural, and demographic trends.	SDG-16,17
26.	Population geography	IF-B28	5	Study population size, density, and distribution. Analyze migration and demographic trends. Assess human-environment interactions.	SDG-11
27.	Geology	ATMF-B02	5	Study Earth's structure and composition. Analyze rocks, minerals, and geological processes. Understand natural hazards and resource deposits.	SDG-12,13,14,15
28.	Geomorphology	IF-B20	5	<input type="checkbox"/> Study landforms and surface processes. <input type="checkbox"/> Analyze erosion, weathering, and tectonics. <input type="checkbox"/> Understand landscape evolution.	SDG-13,14,15
29.	Hydrology	IF-B18	5	Study water distribution and movement. Analyze rivers, groundwater, and water cycles. Assess water resources and management	SDG-6,14
30.	Climatology	IF-B18	5	Study climate patterns and atmospheric processes. Analyze weather, temperature, and precipitation trends. Assess climate change and impacts on ecosystems.	SDG-13
31.	Fundamentals of economic and social geography	IF-B24	5	Study spatial distribution of resources, population, and industries. Analyze human-environment interactions. Understand regional development and economic patterns	SDG-9,8
32.	Cartography	IF-B17	5	Science and art of map-making. Represent geographical data visually. Use maps for analysis and planning.	SDG-13

33.	Social systems and potential	ATMF-B06	6	Study structure and functions of society. Analyze social roles and institutions. Evaluate societal capacities and potential.	SDG10
34.	Sociology of work	ATMF-B09	7	Study work, labor, and employment patterns. Examine workplace behavior and social relations. Analyze organizational and economic impacts.	SDG-10
35.	The impact of the social and economic environment on social work	ATMF-B04	5	Economic and social conditions affect service delivery. Poverty, inequality, and policy influence work priorities. Shapes interventions and professional challenges.	SDG-1,8,9
36.	Social policy	IF-B11	5	Government actions to promote welfare and equity. Covers health, education, and employment policies. Influences social work and economic outcomes.	SDG-1,16,17
37.	Globalization and international social work	IF-B17	5	Global interconnection affects social problems. Focus on human rights and social justice. Collaboration and policy advocacy across borders.	SDG-16,17
38.	Artificial intelligence	IF-B18	6	Machines simulate human intelligence and learning. Used for decision-making, automation, and analysis. Challenges include ethics, bias, and security	SDG-8,17
39.	Industrial Power Supply	ATMF-B02	5	Provides electricity to industrial equipment. Ensures reliability and safety. Includes AC, DC, and UPS systems	SDG-7,9
40.	Electricity supply of cities	ATMF-B09	5	Provides power to urban areas. Involves generation, transmission, and distribution. Challenges: outages, efficiency, and growing demand.	SDG-11
41.	Electricity in energy	ATMF-B07	4	Flow of electric charge as energy. Powers homes, industries, and technology. Issues: efficiency, losses, and environmental impact.	SDG-7
42.	Renewable Energy	ATMF-B02	5	Energy from natural, replenishable sources.	SDG-7

				Includes solar, wind, hydro, and biomass. Benefits: clean, sustainable, reduces fossil fuel use.	
43.	Industrial Automation	IF-B19	7	Machines and control systems reduce human intervention. Increases efficiency, productivity, and safety. Tools: sensors, PLCs, and robotics.	SDG-9
44.	Production logistics	ATMTMF-B01	8	Manages material flow in production processes. Ensures efficiency, timely delivery, and cost control. Processes: handling, storage, and inventory.	SDG-12
45.	Materials technology	IF-13	4	Study and application of metals, polymers, and composites. Focus on properties like strength and durability. Challenges: cost, sustainability, and performance.	SDG-12
46.	Fundamentals of Logistics	IF-B08	7	Planning and control of goods, services, and information. Key elements: transport, warehousing, inventory. Goal: timely, cost-effective delivery	SDG-17
47.	Corrosion and Protection of Metals	ATMF-B03	5	Corrosion: metal degradation by chemical reactions. Causes: moisture, acids, salts, environment. Protection: coatings, cathodic protection, alloys.	SDG-9
48.	Informatics in primary grades and its teaching methodology	IF-B13	5	Teach basic computer skills to young students. Methods: interactive tools, games, and visuals. Outcome: digital literacy and logical thinking.	SDG-4
49.	Methodology of developing logical and mathematical thinking in preschool educational institutions	IF-B14	5	Develop reasoning and problem-solving skills. Methods: play-based learning, puzzles, activities. Tools: numbers, shapes, games.	SDG-4
50.	Informatics and ICT in education	IF-B13	6	Use of technology in teaching and learning. Tools: computers, internet, digital content. Purpose: improve education quality and access.	SDG4,8

51.	Theory of algorithms	IF-B05	5	Step-by-step problem-solving procedures. Types: sequential, branching, looping. Application: programming and data processing	SDG-4,8,9
52.	Computer graphics	IF-B21	6	Creation and manipulation of visual content. Types: 2D and 3D graphics. Application: animation, games, design.	SDG-9
53.	Information security	ATMF-B04	5	Protect data and systems. Methods: encryption, passwords, firewalls. Goal: confidentiality, integrity, availability.	SDG-9
54.	Logic issues	ATMF-B01	8	Study of correct reasoning. Elements: statements, truth values, arguments. Application: programming, math, analysis.	SDG-4
55.	Robotics and programming	IF-B07	5	Design and program robots. Components: sensors, controllers, actuators. Applications: industry, education, AI.	SDG-4,8,9
56.	Logic	ÜFS-B04	3	Science of reasoning and thinking. Operations: AND, OR, NOT. Purpose: correct conclusions and problem-solving.	SDG-4,8
57.	Innovation management	IF-15	4	Manage new ideas, products, processes. Goal: improve competitiveness and growth. Challenges: risk, cost, market uncertainty.	SDG-9
58.	Enterprise economics	ATMF-03	5	Study business operations and decisions. Focus: production, costs, revenue, profit. Goal: efficiency and profit maximization.	SDG-9
59.	Engineering economics	IF-24	4	Economic analysis of engineering projects. Tools: cost-benefit analysis, NPV, ROI. Goal: choose cost-effective solutions.	SDG-9
60.	Business security	ATMF-04	5	Protect business assets and operations. Threats: fraud, cyberattacks, theft. Methods: policies, risk management, systems.	SDG-10
61.	Foreign investments	ATMF-09	5	Investment in other countries' economies. Types: direct and portfolio	SDG-8

				investments. Risks: political and economic instability.	
62.	International tourism	ATMF-04	6	Travel across countries for leisure or business. Benefits: economic growth, cultural exchange. Challenges: seasonality, global risks.	SDG-10,17
63.	International marketing	ATMF-01	5	Market products in global markets. Strategies: standardization vs adaptation. Challenges: culture, regulations, competition.	SDG-10,17
64.	International trade	IF-13	4	Exchange of goods and services globally. Benefits: access to markets, specialization. Barriers: tariffs, quotas, regulations.	SDG-10,17
65.	International economy	IF-11	4	Study of global economic interactions. Elements: trade, finance, globalization. Issues: inequality, crises, development.	SDG-10,17
66.	Foreign economic policy	ATMF-06	5	Government policy on international economics. Tools: tariffs, subsidies, agreements. Purpose: protect national interests.	SDG-10
67.	World market prices	ATMF-08	5	Prices of goods in global markets. Factors: supply, demand, exchange rates. Impact: trade and economic decisions.	SDG-17
68.	Consumer behavior	IF-11	6	Study of purchasing decisions. Factors: psychological, social, cultural. Purpose: inform marketing strategies.	SDG-12
69.	Marketing research	IF-12	4	Collect and analyze market data. Methods: surveys, interviews, observation. Outcome: informed business decisions.	SDG-8
70.	International operations	IF-14	6	Manage business activities globally. Areas: production, logistics, supply chain. Challenges: coordination, regulations.	SDG-10
71.	Soft skills	T02	9	Personal and interpersonal skills. Examples: communication, teamwork, leadership. Purpose: career growth and effectiveness.	SDG-4,8

72.	Hard skills	T03	10	Technical, job-specific skills. Examples: programming, accounting, engineering. Purpose: perform specific tasks professionally.	SDG-4,8
73.	Career planning	T01	6	Set professional goals and paths. Steps: self-assessment, planning, training. Outcome: structured career development.	SDG-8
74.	Plant Biology	IF-B08	5	Study of plant structure, growth, and reproduction. Focus: physiology, morphology, and development. Application: agriculture, ecology, conservation.	SDG-15
75.	Agrobiology	ATMF-B05	6	Study of crops and agricultural systems. Focus: plant cultivation, soil, and nutrition. Goal: improve yield and sustainability.	SDG-2
76.	Herpetology	ATMF-B09	6	Study of reptiles and amphibians. Focus: anatomy, behavior, and ecology. Application: conservation and biodiversity studies.	SDG-15
77.	Mycology	ATMF-B01	5	Study of fungi, including molds and mushrooms. Focus: classification, physiology, and ecology. Application: medicine, agriculture, and industry.	SDG-15
78.	Human Anatomy and Physiology	IF-B11	7	Structure and function of human body systems. Study organs, tissues, and physiological processes. Application: medicine, health, and research.	SDG-3
79.	Plant Physiology	IF-B15	5	Study of plant life processes. Focus: photosynthesis, respiration, and growth. Application: crop improvement and ecology.	SDG-15
80.	Plant Morphology and Anatomy	IF-B06	5	Study of plant form and internal structure. Focus: tissues, organs, and developmental stages. Application: taxonomy, physiology, and agriculture.	SDG-15
81.	Medicinal plants	ATMF-B07	5	<b>Definition:</b> Plants with therapeutic or medicinal	SDG-2,3,15

				properties. <b>Uses:</b> Treat diseases, improve health, and support wellness. <b>Application:</b> Pharmaceuticals, herbal medicine, and research.	
82.	Organic chemistry	IF-B06 IF-B06	6	Study of carbon-containing compounds. Focus: structure, reactions, and synthesis. Application: pharmaceuticals, materials, and industry.	SDG4
83.	Fundamentals of life activity	ATMF-B04	5	Study biological processes in living organisms. Focus: metabolism, growth, and reproduction. Application: medicine, health, and biotechnology.	SDG-3
84.	Biochemistry	ATMF-B01	5	Study chemical processes in living organisms. Focus: enzymes, proteins, nucleic acids, metabolism. Application: medicine, genetics, biotechnology.	SDG-3
85.	Green chemistry	ATMF-B07	5	Design chemical products and processes to reduce harm. Focus: sustainable, non-toxic, and eco-friendly methods. Application: industrial and environmental safety.	SDG-13
86.	Project learning basics	ATMF-B12	3	Student-centered learning through projects. Focus: real-world problem solving and creativity. Outcome: critical thinking, teamwork, and practical skills.	SDG-17
87.	Surdopedagogy	IF-B12	6	Education for students with hearing impairments. Methods: visual aids, sign language, and communication strategies. Goal: language development and academic achievement.	SDG-3,4,10
88.	Typhlopedagogy	IF-B14	6	Education for visually impaired individuals. Methods: Braille, tactile learning, orientation, and mobility. Goal: independent learning and social integration.	SDG-3,4,10

89.	Somatic and clinical development features of people with disabilities	IF-B17	7	Study physical and medical characteristics of disabilities. Focus: growth, mobility, and health limitations. Application: personalized education and therapy planning.	SDG-3
90.	Activation of speech motor skills in children	ATMF-B04	5	Develop coordination of speech muscles. Methods: exercises, articulation therapy, and games. Goal: improve pronunciation, fluency, and communication.	SDG-3
91.	Legal psychology	IF-B13	5	Study human behavior in legal contexts. Focus: criminal behavior, testimony, and forensic assessment. Application: courts, law enforcement, and legal counseling.	SDG-5,16,17
92.	Psychology of communication and relationships	ATMF-B04	5	Study interpersonal interactions and communication patterns. Focus: verbal, nonverbal, and social behaviors. Application: counseling, education, and conflict resolution.	SDG-16,17
93.	Psychogenetics	ATMF-B12	5	Study genetic influences on behavior and development. Focus: heredity, traits, and mental health. Application: developmental psychology and personalized education	SDG-3
94.	Philosophy of education	IF-B18	5	Study fundamental ideas about teaching and learning. Focus: aims, values, and methods of education. Application: curriculum design and pedagogy.	SDG-4,10
95.	Experimental psychology	IF-B05	5	Study behavior using scientific experiments. Methods: observation, testing, and controlled studies. Application: cognitive, social, and developmental psychology.	SDG-3,4
96.	Defectology and speech therapy	ATMF-B01	5	Study of learning and communication disorders. Methods: diagnosis, therapy, and special education strategies. Goal: rehabilitation and skill development in children.	SDG-3

97.	Speech therapy	İF-B10	7	Develop and correct speech and language disorders. Methods: articulation exercises, pronunciation, and communication practice. Goal: improve verbal skills and social interaction.	SDG-3
98.	Age and pedagogical psychology	ATMF-B01	5	Study psychological development at different ages. Focus: learning, motivation, and behavior. Application: optimize teaching methods for age groups.	SDG-4,10
99.	Personality and activity psychology	ATMF-B07	5	Study human personality and behavior patterns. Focus: motivation, interests, and activities. Application: education, counseling, and personal development.	SDG-10
100	Psychocorrection of mental retardation	ATMF-B07	5	Develop interventions for cognitive and behavioral deficits. Methods: therapy, training, and adaptive learning. Goal: improve functioning and social adaptation.	SDG-3,4
101	Fundamentals of defectology	ATMF-B05	5	Study education and rehabilitation of students with disabilities. Focus: diagnosis, therapy, and individualized support. Application: special education and inclusive teaching.	SDG-3,4
102	Business and academic communication in a foreign language 1,2 (English)	ÜF-B03.1 ÜF-B03.2	7	Develop professional and academic communication skills. Focus: writing, presentations, and professional etiquette. Application: workplace, academic, and international contexts.	SDG-4,10,17
103	Eastern theme in US literature	ATMF-B07	5	Study depiction of Eastern cultures in US literature. Focus: themes, authors, and historical context. Application: cultural understanding and literary analysis.	SDG-4,17
104	Theory and practice of translation	ATMF-B05	5	Study principles and techniques of translating texts. Focus: accuracy, equivalence, and language nuances. Application:	SDG-4,10,17

				literary, technical, and professional translation.	
105	Linguocultural aspects in teaching English	ATMF-B09	6	Integrate language learning with cultural knowledge. Focus: customs, idioms, and communication norms. Application: enhance language proficiency and cultural competence.	SDG-4,10,17

### Sustainability Education at a Glance

Indicator	Value
Sustainability-related academic programs	3
Sustainability-related courses	80+
Credit system	ECTS-aligned
Main SDGs reflected in courses	SDG 1, 2,3,4,5, 6, 7, 8, 9, 10,11, 12, 13, 14, 15,16,17