

SRUSTI ACADEMY OF MANAGEMENT AND TECHNOLOGY (AUTONOMOUS)

Srusti Centre for Sustainable Development (SCSD)

INSTITUTIONAL ACADEMIC FRAMEWORK

Srusti Sustainability Learning Model

Curriculum Integration and Academic Framework

MBA and Undergraduate Education

Academic Year 2025-26

MBA 25MBA104 Business Environment and Sustainability	UNDERGRADUATE VAC 101 Environmental Science and Sustainability
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Bhubaneswar, Odisha

Formal curriculum integration of sustainability literacy, systems thinking and responsible decision-making

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1. Institutional Approach to Sustainability Education

The Srusti Sustainability Learning Model integrates sustainability literacy within formal academic delivery at both undergraduate and postgraduate levels. The model develops a progressive learning pathway: undergraduate learners build environmental understanding and responsible decision-making capability, while MBA learners extend this foundation into stakeholder responsibility, sustainable business strategy, ESG and sustainability reporting.

Table 1: Integrated Curriculum Architecture

Undergraduate Foundation - VAC 101 Environmental Science and Sustainability introduces environmental systems, natural resources, biodiversity, pollution, waste management, sustainable development, environmental ethics, legislation and practical applications. The course directly links environmental consequences with business decisions and responsible managerial behaviour.	Postgraduate Integration - 25MBA104 Business Environment and Sustainability connects macro and micro business environments with stakeholder responsibility, global business, the 5Ps, the 17 SDGs, ESG, sustainability management and reporting. It is positioned in Semester I with a defined credit, contact-hour and assessment structure.
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1.1 Core Learning Principles

Table 2: Core Learning Principles

1	Sustainability as a management capability: Environmental and social considerations are linked with organisational decisions, operational consequences and long-term value creation.
2	Systems orientation: Learners examine relationships among resources, ecosystems, communities, stakeholders, regulations, markets and institutional choices.
3	Ethical and responsible judgement: The curricula address stakeholder responsibility, equity, environmental ethics, justice, responsible consumption and intergenerational consequences.
4	Contextual application: Real-life examples, case studies, assignments, self-study, fieldwork and practical sustainability themes connect concepts with institutional and business contexts.

2. Curriculum Integration and Progression

The two courses form an integrated learning progression from environmental foundations to strategic sustainability analysis. The curriculum is structured to move learners from understanding environmental systems toward evaluating organisational responsibility and creating informed responses.

Table 3: Comparative Curriculum Integration

Curriculum dimension	VAC 101 - Undergraduate level	25MBA104 - MBA level
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Curriculum dimension	VAC 101 - Undergraduate level	25MBA104 - MBA level
Foundational understanding	Environment, natural resources, ecosystems, biodiversity, pollution and sustainability.	Business environment, macro and micro dimensions, PESTEL and global business context.
Systems thinking	Man-environment relationship, ecosystem resilience, carrying capacity, resource conservation and societal interactions.	Stakeholder relationships, macro-micro interdependence, global institutions, 5Ps and the 17 SDGs.
Business relevance	Environmental consequences of business operations and the role of responsible future managers.	Sustainability management, social responsibility, ESG, reporting and organisational decision-making.
Ethics and responsibility	Environmental ethics, justice, equitable resource use, responsible consumption and rehabilitation.	Stakeholder responsibility, triple bottom line, SDGs, UN Global Compact and reporting standards.
Application	Waste management, cleaner technologies, disaster management, legislation and hands-on fieldwork.	Assignments, case studies, self-study of sustainability reports and analysis of real business contexts.
Higher-order capability	Environmentally sensitive decision-making and practical understanding of sustainability challenges.	Course outcomes progress through analysis, evaluation and creation, including assessment of standards and reporting frameworks.

2.1 Curriculum Progression

ENVIRONMENTAL LITERACY Resources, ecosystems, biodiversity, pollution and sustainability.	SYSTEMS ANALYSIS Interdependencies among environment, society, stakeholders and business.	RESPONSIBLE DECISIONS Ethics, equity, resource use, legislation and long-term consequences.	SUSTAINABLE MANAGEMENT ESG, SDGs, reporting, stakeholder responsibility and strategic response.
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3. Teaching-Learning and Assessment Framework

The learning model combines structured academic content with interactive, contextual and assessed learning processes. This ensures that sustainability is treated as a core academic capability rather than as an isolated awareness topic.

Table 4: Teaching-Learning Processes

MBA Teaching-Learning Process Regular classroom lectures are supported by ICT, interactive sessions and real-life examples. The syllabus includes self-study, assignments, case studies and analysis of a corporate sustainability report. Sustainability concepts are reinforced through multiple assessment components across the semester.	Undergraduate Teaching-Learning Process VAC 101 is organised through four connected units covering environmental foundations, ecosystems, pollution and waste management, social issues, legislation and practical applications. The course description incorporates hands-on fieldwork and decision-making related to environmental consequences.
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3.1 MBA Assessment Structure - 25MBA104

Table 5: MBA Assessment Structure for 25MBA104

Component	Marks	Academic purpose
Assignment and Case Study	10	Application of concepts to organisational and sustainability contexts.
Weekly Assessment	10	Continuous reinforcement of conceptual understanding.
Quiz	5	Recall and comprehension of core ideas and terminology.
PIL	5	Structured learner engagement within the course process.
Mid-Term Examination	20	Interim evaluation of understanding and analytical capability.
End-Term Examination	100	Comprehensive evaluation of the course outcomes.
Total	150	Integrated continuous and end-term assessment.

Academic reinforcement: The curriculum links conceptual learning with real-life examples, case analysis, self-study, practical application and formal assessment. This sequence supports continued development of environmental literacy, systems thinking, ethical judgement and responsible managerial decision-making.

4. Sustainability Capability Framework

The integrated curriculum develops a set of complementary capabilities that are relevant to academic learning, professional decision-making and institutional responsibility.

Table 6: Sustainability Capability Framework

Capability	Curriculum basis	Expected academic development
Environmental literacy	Natural resources, ecosystems, biodiversity, pollution, climate and sustainable development.	Understanding environmental processes and their relevance to organisational and societal activity.
Systems thinking	Man-environment relationships, resource interdependence, stakeholders, macro-micro environment, 5Ps and SDGs.	Ability to recognise relationships, trade-offs and wider consequences of decisions.
Stakeholder responsibility	Social responsibility, stakeholder analysis, environmental justice, equity and rehabilitation.	Consideration of affected groups and responsible organisational conduct.
Ethical judgement	Environmental ethics, responsible consumption, intergenerational equity and value-based leadership.	Evaluation of choices beyond immediate cost and efficiency.
Resource and waste management	Conservation, cleaner technologies, solid waste management, energy security and	Practical understanding of resource efficiency and environmental

Capability	Curriculum basis	Expected academic development
	water conservation.	responsibility.
Sustainable business analysis	ESG, sustainability management, reporting standards and strategic business environment.	Application of sustainability concepts to business planning, reporting and long-term value creation.

5. Academic Continuity

Sustainability learning is located within regular Semester I course structures rather than being limited to a standalone event. The curricular sequence supports repeated delivery, faculty-led teaching, student engagement and academic assessment. The undergraduate course establishes foundational environmental responsibility, while the MBA course advances learners toward strategic, stakeholder-sensitive and reporting-oriented sustainability capability.

5.1 Academic Documents Included

Annexure A: Business Environment and Sustainability (25MBA104) - MBA Course Syllabus

Annexure B: Environmental Science and Sustainability (VAC101) - Undergraduate Course Syllabus



Annexures: Approved Course Syllabi

Semester	Code	Business Environment and Sustainability	Credits	L-T-P	Hours	Marks
1 st	25MBA104		3	3-0-0	30 Hrs	150

Introduction

Teaching Business Environment and Sustainability to MBA students involves introducing them to the dynamic and interrelated factors shaping business operations and strategies. This course provides a comprehensive understanding of the macro and microeconomic environments, the role of global and local regulations, and the principles of sustainability management.

Objectives	To understand different Business Environmental concepts and their scope and its impact on economy of India. To equip the students with the conceptual clarity regarding sustainability practices undertaken by organizations and its relation to the costs.
Pre-requisites	A foundational understanding of business principles, economic theories, and environmental science, as well as familiarity with sustainability concepts and reporting standards.
Teaching Scheme	Regular classroom lectures with use of ICT as and when required, sessions are Planned to be interactive with more focus on real life examples.

Evaluation Scheme

Teacher Assessment				Written Assessment		Total
Assignment & Case Study	Weekly Assessment	Quiz	PIL	Mid term	End term	
10	10	05	05	20	100	150

Detailed Syllabus

Modules	Topics	Hours
Module– I	Overview of Business Environment: Characteristics of Business Environment, Macro and Micro Dimensions of Business Environment Environmental Analysis: PESTEL. Concept of Social Responsibility of Business towards Stakeholders. Demographic transition and Business Decisions in India	8 Hrs.
	Self-Study& Assignment: SWOT Analysis of Business	
	Case study and Activities	
Module– II	Global Environment: Concept of Globalization, Cross-Cultural Dilemmas and global business decision making, Role & Functions of WTO, Regional groupings and Trade Blocks.	6 Hrs.
	Self- Study & Assignment: Foreign Investment In India	
	Case Study and Activities	
Module– III	Concept of Sustainability and Sustainable Development. 5Ps of Sustainability (People, Planet, Profit, Peace and Prosperity). Brundtl and Report and 17 Sustainable Development Goals (SDGs). Environmental, Social and Governance (ESG)and Sustainability. ESG and Sustainability Reporting.	6 Hrs.



	Self-Study and Assignment: Wipro Sustainability Report FY 2022-23	
	Case Study & Activities	

Referred Books

Books	Name of the Books	Publisher
Text books	Business Environment by B.N Ghosh	Oxford University Press, 4 th Impression
	Business Environment: Text and Cases by Justin Paul	Mc GrawHill, 3 rd Edition
	Young T. Scott and Dhanda K. Kathy: <i>Sustainability: Essentials for Business</i> ,	Sage, London , 2012
	Sachs D. Jeffrey: <i>The Age of Sustainable Development</i> ,	Columbia University Press, 2015
Reference books	Rosy Joshi and Sangam Kapoor: Business Environment,	Kalyani Publications, 5 th edition, 2015
	Sustainability development goals report 2024 by UN	Development-Goals-Report-2024.pdf

Course Outcomes:

At the end of the course the students will be able to:

	Course Outcomes	Levels of Learning based on Bloom's Taxonomy
CO1	Define and describe the meaning, characteristics, and scope of the business environment, including macro and micro dimensions.	Level 1 (Remember)
CO2	Explain the concept of social responsibility of business towards stakeholders and analyze the impact of demonetization, political stability, and legal changes	Level 2 (Understand)
CO3	Identify and illustrate the nature and structure of the economy, economic policies, and planning, and evaluate the role of NITI Ayog in the economic environment.	Level 3 (Apply)
CO4	Understand and assess globalization, the functions of WTO, IBRD, and trade blocks, and examine the impact of organizations like BRICS, SAARC, and ASEAN	Level 4 (Analyze)
CO5	Define and discuss the triple bottom line approach and the need for sustainability management, including sustainability development goals and the UN Global Compact.	Level 5 (Evaluate)
CO6	Describe and analyze sustainability reporting standards and guidelines, including GRI, Dow Jones sustainability index, and integrated reporting, and evaluate standards such as AA-1000, ISO-26000, ISO-14001, OHSAS-18001, and SA-8000	Level 6 (Create)

Programme Outcome:

PO 1	Apply knowledge of management theories and practices to solve business problems.
PO 2	Foster Analytical and critical thinking abilities for data-based decision making.



PO 3	Ability to develop value-based leadership ability.
PO 4	Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business.
PO 5	Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.
PO6 /PSO	Identify business opportunities, design and implement innovations in the work space (entrepreneurial skills).

CO-PO Matrix

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	3	2	1
CO2	2	3	2	2	2	1
CO3	2	2	2	3	3	1
CO4	3	2	2	2	2	3
CO5	2	3	3	3	2	1
CO6	2	2	3	3	3	3



global climate change, ozone layer depletion, the greenhouse effect, and acid rain, with a particular focus on pollution episodes in India. Importance of adopting cleaner technologies; Solid waste management; Natural and man-made disasters, their management, and the role of businesses in mitigating disaster impacts.

Unit 4: Social Issues, Legislation, and Practical Applications

Dynamic interactions between society and the environment, with a focus on sustainable development and environmental ethics. Role of businesses in achieving sustainable development goals and promoting responsible consumption. Overview of key environmental legislation and the judiciary's role in environmental protection, including the Water (Prevention and Control of Pollution) Act of 1974, the Environment (Protection) Act of 1986, and the Air (Prevention and Control of Pollution) Act of 1981. Environmental justice, environmental refugees, and the resettlement and rehabilitation of affected populations; Ecological economics, human population growth, and demographic changes in India.

Readings:

Text Books (Latest Editions):

- Poonia, M.P. *Environmental Studies*, Khanna Book Publishing Co.
- Bharucha, E. *Textbook of Environmental Studies*, Orient Blackswan Private Ltd.
- Dave, D., & Katewa, S. S. *Text Book of Environmental Studies*. Cengage Learning India Pvt Ltd.
- Rajagopalan, R. *Environmental studies: from crisis to cure*, Oxford University Press.

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- Miller, G.T. & Spoolman S. *Living in the Environment*. Cengage.
- Basu, M., & Xavier Savarimuthu, S. J. *Fundamentals of environmental studies*. Cambridge University Press.
- Roy, M. G. *Sustainable Development: Environment, Energy and Water Resources*. Ane Books.
- Pritwani, KS. *ustainability of business in the context of environmental management*. CRC Press.
- Wright, R.T. & Boorse, D.F. *Environmental Science: Toward A Sustainable Future* (13th ed.). Pearson.

SRUSTI ACADEMY OF MANAGEMENT AND TECHNOLOGY (AUTONOMOUS)
Srusti Centre for Sustainable Development (SCSD)

ACADEMIC IMPLEMENTATION FRAMEWORK

Sustainability Project-Based Learning Framework

Student Engagement and Capability Development

Environmental Science and Sustainability (VAC101)

Academic Year 2025-26

BIO-ENZYME Organic-waste conversion, observation and practical use planning.	HERB GARDEN Container gardening, growth monitoring and care management.	WASTE-TO-WEALTH Waste-paper reuse, creative production and cultural sustainability.
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Bhubaneswar, Odisha

Structured project learning through planning, execution, observation, reflection and assessment

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1. Purpose and Academic Design

The Environmental Science and Sustainability (VAC101) project framework **extends classroom learning into a structured three-month academic engagement.** Students work in project teams on practical sustainability themes, follow a defined weekly schedule, maintain project records and complete a final presentation. The design enables learners to connect environmental concepts with resource use, institutional practices, teamwork and responsible decision-making.

Table 1: Academic Components of the Project Framework

Structured Duration	Team-Based Responsibility
The project cycle is planned for 13 weeks, with two sessions per week and approximately 1.5 hours per session. Each week has a defined operational task and expected output.	Student leaders and functional coordinators manage attendance, materials, process quality, data recording, housekeeping, photographs, documentation and presentation.

1.1 Academic Components

Table 2: Project Learning Cycle

1	Project planning: Selection of a sustainability issue, role allocation, material planning, work scheduling and safety preparation.
2	Practical execution: Regular project activity involving organic-waste processing, campus gardening or waste-paper product development.
3	Observation and recording: Maintenance of fermentation, growth, cost, material-use and progress records throughout the project cycle.
4	Analysis and reflection: Identification of operational issues, corrective action, sustainability relevance, campus application and SDG linkage.
5	Academic communication: Submission of the final output, project report, learning note, display material and presentation.

2. Sustainability Projects and Learning Contexts

Three project themes provide different but complementary sustainability learning contexts. Each project requires students to combine technical activity with planning, observation, teamwork and responsible use of resources.

Table 3: Sustainability Projects and Planned Outputs

Project theme	Core activity	Primary learning context	Planned output
Bio-Enzyme Preparation	Preparation of six separately labelled bio-enzyme batches using eggshells, neem leaves,	Organic-waste utilisation, fermentation monitoring, quality control, safe dilution,	Six samples, observation records, process charts, use-

Project theme	Core activity	Primary learning context	Planned output
Kitchen Herb Garden	vegetable peels, citrus peels, tea leaves and banana peels.	plant care and campus use.	case chart, cost sheet, report and presentation.
	Establishment and maintenance of a container-based garden with coriander, mint, tulsi, curry leaves, fenugreek, ajwain and lemongrass.	Resource-efficient cultivation, biodiversity, plant-care discipline, growth monitoring and campus replicability.	Functional herb garden, labels, growth records, care manual, cost sheet, report and presentation.
Waste-to-Wealth Product	Conversion of discarded paper into an eco-friendly Jagannath statue through paper-mache or paper-clay technique.	Waste segregation, creative reuse, low-cost innovation, process quality, safe handling and cultural sustainability.	Completed product, process record, display board, cost sheet, report and presentation.

2.1 Common Project Cycle

PLAN	IMPLEMENT	OBSERVE	IMPROVE	PRESENT
Define the task, assign responsibilities and arrange materials.	Carry out the technical work through scheduled sessions.	Record progress, measurements, quality issues and costs.	Review outcomes, resolve problems and refine the project.	Compile the report, learning note, display and presentation.

3. Capability Development Framework

The project design develops academic, professional and personal capabilities through repeated practice across the three-month cycle.

Table 4: Capability Development through Project Work

Capability	Development through project work	Student performance indicators
Systems thinking	Learners connect waste, natural resources, plant systems, campus operations, stakeholders and long-term consequences.	Explains interrelationships, identifies trade-offs and links project choices with sustainability outcomes.
Environmental responsibility	Projects address organic waste, resource conservation, biodiversity, cleaner practices and responsible consumption.	Selects appropriate materials and methods, minimises waste and follows safe-use instructions.
Planning and teamwork	Defined roles create accountability for coordination, materials, process quality, records, housekeeping and presentation.	Completes assigned responsibilities, collaborates with the team and follows the project schedule.
Observation and data discipline	Students maintain fermentation, growth, progress, cost and material-use records over multiple weeks.	Records observations regularly, compares progress and presents information accurately.
Problem-solving	Learners identify spoilage, plant-health, structural, material and quality issues and	Diagnoses project issues, applies suitable corrections and documents improvement

Capability	Development through project work	Student performance indicators
	take corrective action.	decisions.
Communication and reflection	Final reports, learning notes, display material and presentations require structured explanation and reflection.	Communicates process, sustainability relevance, learning and recommendations with clarity.

Learning approach: Capability is developed through the full cycle of planning, practical work, observation, corrective action, documentation and presentation. The focus is not limited to the final product; it also includes the quality of the process and the learner's ability to explain sustainability implications.

4. Assessment and Academic Monitoring

Project assessment combines common academic parameters with project-specific performance. The consolidated framework allocates 20 marks to common parameters and 30 marks to project-specific parameters, resulting in a total of 50 marks per student or project.

Table 5: Project Assessment Structure

Common Parameters - 20 Marks	Project-Specific Parameters - 30 Marks
Planning and team discipline, project execution, regular records, sustainability relevance, final presentation and learning reflection.	Technical quality and completion requirements defined separately for the bio-enzyme, herb-garden and waste-to-wealth projects.

4.1 Academic Monitoring Structure

Table 6: Academic Monitoring Records

Monitoring record	Purpose	Review responsibility
Attendance register	Records regular student participation across scheduled project days.	Student leader and faculty mentor
Day-wise work log	Records assigned work, progress achieved, hours dedicated and faculty remarks.	Project group and faculty mentor
Observation record	Captures fermentation, growth, product progress, quality issues and corrective action.	Data recorder and process monitor
Material and cost sheet	Tracks resources used and develops awareness of low-cost and responsible implementation.	Material and documentation coordinators
Final academic submission	Combines the physical output, report, learning note, photographs, display and presentation.	Faculty evaluator

Academic review principle: Regular faculty monitoring ensures that students are assessed on continuity, technical

discipline, problem-solving, responsible resource use and the quality of their final communication.

5. Institutional Coordination and Academic Continuity

The project framework is coordinated through the Srusti Centre for Sustainable Development in association with the academic department responsible for VAC101. The structure supports recurring delivery through defined project themes, scheduled faculty engagement, common monitoring formats and a consolidated assessment framework.

Table 7: Institutional Coordination Responsibilities

Academic Department	Srusti Center for Sustainable Development
Integrates project work with course delivery, communicates schedules, assigns faculty mentors and maintains academic records.	Coordinates sustainability themes, SDG linkage, campus relevance and documentation of institutional sustainability learning.

5.1 Continuity Mechanisms

Table 8: Academic Continuity Mechanisms

1	Recurring course integration: Project work is linked with the regular delivery of Environmental Science and Sustainability (VAC101).
2	Defined project schedules: Each theme has a week-wise sequence, expected outputs, care instructions and final deliverables.
3	Standard monitoring formats: Attendance, work-progress, observation and faculty-review formats enable consistent academic follow-up.
4	Assessment integration: Common and project-specific parameters connect project participation with formal academic evaluation.
5	Scope for annual refinement: Project themes, technical guidance and campus applications can be updated in response to emerging sustainability priorities.

5.2 Included Academic Records

The following pages reproduce the approved project structure, project-wise schedules and consolidated evaluation framework used for VAC101 project implementation. They are retained in their original institutional format.



Annexures: Academic Project Documents

Three-Month Sustainability Project Work Schedule

UG Project-Environmental Science and Sustainability (VAC101)

1. Project Structure

Parameter	Plan
Total projects	3 project proposals: Bio-Enzyme Preparation Project, Kitchen Herb Garden, and Waste-to-Wealth Product Making Activity.
Student groups	3 groups, each having 8 students. Each group will work on one project only.
Group leadership	Each group will nominate one Student Leader responsible for coordination, attendance, weekly reporting, and submission.
Duration	3 months. Operational schedule is planned for 13 weeks / approximately 90 days so that bio-enzyme fermentation can complete the minimum required period.
Weekly engagement	2 days per week. Each day: 1.5 hours. Total structured engagement per group: 3 hours per week.
Evidence required	Attendance sheet, photographs, weekly work log, material list, cost sheet, observation records, and final presentation.
Final output	One completed project output per group with documentation, photographs, learning note, and presentation.

2. Suggested Group Allocation and Roles

Group	Project Assigned	Team Composition	Core Responsibility
Group 1	Bio-Enzyme Preparation Project	8 students including 1 Student Leader	Prepare six separate bio-enzyme batches, maintain fermentation records, and submit final samples and use-case documentation.
Group 2	Kitchen Herb Garden	8 students including 1 Student Leader	Create and maintain a functional campus herb garden with selected herbs, growth records, and care protocol.
Group 3	Waste-to-Wealth Product Making Activity	8 students including 1 Student Leader	Create an eco-friendly Jagannath statue using waste paper and submit process documentation and display material.
Role within each 8-student group		Responsibility	
Student Leader		Coordinate work, maintain attendance, allocate weekly duties, communicate with faculty mentor, and ensure timely submission.	
Documentation Coordinator		Maintain weekly work log, process notes, cost sheet, and final report.	
Material Coordinator		Arrange materials, tools, containers, labels, soil, waste paper, paints, etc. as applicable.	
Process and Quality Monitor		Check correct method, safety, cleanliness, and quality of project output.	
Data Recorder		Maintain observation sheets, growth records, fermentation log, or product progress record.	
Photo and Evidence Coordinator		Capture dated photographs and compile evidence for submission.	
Safety and Housekeeping Coordinator		Ensure cleanliness, safe handling, and proper disposal/storage after each session.	
Presentation Coordinator		Prepare final presentation, display board, and speaking points.	

3. Common Weekly Working Pattern

Weekly Day	Time	Purpose
Day 1	1.5 hours	Planning, preparation, technical activity, data entry, and issue resolution.
Day 2	1.5 hours	Execution, maintenance, observation, documentation, photographs, and next-week task allocation.



Project 1: Bio-Enzyme Preparation Project

Project Objective: To prepare six separate bio-enzyme batches from campus/home organic waste and document their preparation, fermentation, use cases, precautions, and sustainability value.

A. Six Bio-Enzymes to be Prepared

No.	Bio-Enzyme	Raw Material	Best Use
1	Eggshell Bio-Enzyme	Clean, sun-dried eggshells	Calcium support for plants and compost mineral boosting.
2	Neem Leaves Bio-Enzyme	Fresh neem leaves	Natural pest-repellent spray and soil pest control.
3	Vegetable Peel Bio-Enzyme	Vegetable peel scraps	General plant tonic, compost booster, and basic drain odour control.
4	Citrus Fruit Peel Bio-Enzyme	Lemon/orange/sweet lime/mosambi peels	Floor, bathroom, kitchen-surface, dustbin, and drain cleaning.
5	Tea Leaves Bio-Enzyme	Used tea leaves without milk	Soil enrichment, plant growth tonic, and compost booster.
6	Banana Peel Bio-Enzyme	Banana peels	Potassium support for flowering and fruiting plants.

B. Standard Formula for Each Batch

Component	Quantity per Bio-Enzyme Batch	Instruction
Organic raw material	300 g	Use only the assigned raw material. Do not mix all six materials together.
Jaggery / brown sugar	100 g	Dissolve properly in water before adding raw material.
Water	1 litre	Prefer non-chlorinated water.
Container	Minimum 1.5 litre plastic bottle/container	Use plastic only. Fill maximum 70% to allow gas formation.
Fermentation time	90 days minimum	Best maturity is 100-120 days, but project submission will be based on the 90-day cycle.

C. Student Instructions for Bio-Enzyme Preparation

- Create six separate labelled containers: Eggshell, Neem Leaves, Vegetable Peel, Citrus Peel, Tea Leaves, and Banana Peel.
- For each batch, follow the 3:1:10 ratio: 300 g raw material, 100 g jaggery/brown sugar, and 1 litre water.
- Use plastic containers only and fill only up to 70% of the container capacity.
- Keep all containers in a shaded and dry place. Avoid direct sunlight.
- Open the lid daily for the first 15 days to release gas. After the first 15 days, open once every 3-4 days.
- Shake each container gently 2-3 times per week.
- Maintain one observation sheet per bio-enzyme: date, smell, gas formation, colour, any fungal layer, corrective action, and photo evidence.
- Do not use any batch if it develops rotten smell, black fungus, worms/maggots, very thick foul sludge, or sewage-like smell.
- Do not use eggshell or tea-leaf bio-enzyme as a cleaner. Use them mainly for plants and compost.
- Citrus bio-enzyme may be used for cleaning after dilution. Avoid undiluted use on marble, granite, or natural stone.

D. Bio-Enzyme Specific Preparation Notes

Bio-Enzyme	Preparation Instruction	Dilution / Use Method
Eggshell	Wash properly, remove egg residue, sun-dry completely, and crush into pieces or powder.	10 ml in 1 litre water for calcium plant support; 20 ml in 1 litre water for soil calcium support.
Neem Leaves	Wash leaves, chop roughly, and keep in a dark shaded place.	5 ml in 1 litre water as pest-repellent spray; 10-15 ml in 1 litre water for soil pest control. Use in evening only.
Vegetable Peel	Use clean peels such as potato, carrot, cucumber, bottle gourd, pumpkin, beetroot, or ridge gourd. Avoid cooked/oily/rotten scraps.	10 ml in 1 litre water as plant tonic; 20 ml in 1 litre water as compost booster.
Citrus Peel	Cut citrus peels into small pieces and keep in a cool shaded area.	50 ml in 1 litre water for floor cleaning; 100 ml in 1 litre water for bathroom cleaning; 20-30 ml in 1 litre water for kitchen surfaces.
Tea Leaves	Use only tea leaves without milk. Wash once and squeeze excess water.	5-10 ml in 1 litre water as plant growth tonic; 20 ml in 1 litre water as compost booster.
Banana Peel	Cut banana peels into small pieces and fill the bottle only up to 70%.	10 ml in 1 litre water as potassium plant tonic; 10-15 ml in 1 litre water for flowering support.



E. Three-Month Work Schedule - Bio-Enzyme Group

Week	Day 1 - 1.5 Hours	Day 2 - 1.5 Hours	Weekly Output
Week 1	Orientation; assign roles; collect six plastic containers, labels, raw materials, jaggery, water, gloves, weighing scale, and logbook.	Clean/chop/crush raw materials and prepare all six batches separately. Label each bottle with batch name, date, ratio, and group details.	Six labelled batches initiated; batch register opened.
Week 2	Open lids for gas release; check smell, colour, and container swelling; record observations.	Release gas again; shake gently; update photo record; verify containers are in shaded storage.	First-week fermentation log completed.
Week 3	Daily gas-release compliance review; identify any leakage, fungal growth, or bad smell.	Shake all bottles; correct filling/storage issues; record observations.	Quality-control note prepared.
Week 4	Review first 21 days of fermentation; check sour/mild alcohol-like smell, brownish liquid, gas formation.	Prepare individual process charts for all six bio-enzymes.	Month 1 progress sheet and process chart draft.
Week 5	Open lids once in 3-4 days; shake gently; continue observation log.	Prepare use-case chart for each bio-enzyme with dilution ratios.	Use-case chart draft.
Week 6	Monitor colour, smell, gas, and white layer if any; check spoilage signs.	Prepare safety and precaution poster for bio-enzyme handling.	Safety poster and mid-cycle observation record.
Week 7	Continue fermentation monitoring; photograph bottles and storage area.	Prepare cost sheet: raw material, jaggery, containers, labels, gloves, and other items.	Cost sheet draft.
Week 8	Faculty mentor review; identify weak batches and corrective actions.	Prepare campus-use mapping: plant tonic, pest spray, compost support, cleaner, drain odour control.	Campus-use mapping chart.
Week 9	Continue observation; release gas if required; shake gently.	Prepare final documentation format and assign writing responsibilities.	Documentation structure ready.
Week 10	Prepare sample labels and final bottle tags for six bio-enzymes.	Draft final report sections: objective, materials, method, observation, use cases, SDG linkage.	Final report draft initiated.
Week 11	Check all batches for good fermentation signs and spoilage signs.	Prepare final presentation slides/display chart with photographs.	Presentation draft and display chart.
Week 12	Near-final observation and documentation review; do not use any batch before 90 days completion.	Correct documentation gaps; complete observation tables and evidence file.	Complete project file except final maturity check.
Week 13 / Day 90	Final maturity check. Filter only if 90 days are complete and the batch shows acceptable fermentation signs.	Submit six labelled bio-enzyme samples, process chart, use-case chart, cost sheet, observation log, and presentation.	Final submission: six bio-enzymes and full documentation.

F. Final Deliverables - Bio-Enzyme Group

- Six separate labelled bio-enzyme samples.
- Bio-enzyme batch register and observation sheet for each batch.
- Preparation process chart for each bio-enzyme.
- Use-case and dilution chart.
- Cost sheet and material-use note.
- Photographic evidence from Week 1 to Week 13.
- Final report and presentation.



Project 2: Kitchen Herb Garden

Project Objective: To establish a small kitchen herb garden on campus using practical container gardening methods, maintain growth records, and create a replicable herb-care model for students.

A. Herbs to be Cultivated

Herb	Propagation / Starting Method	Care Requirement	Expected Benefit
Coriander	Start from seeds.	Rich, well-draining soil; moderate watering.	Fresh leaves for culinary use and quick learning on seed germination.
Mint	Propagate from cuttings; can root in a glass of water.	Plenty of water; keep soil evenly moist.	Fast-growing herb suitable for continuous harvesting.
Tulsi / Holy Basil	Start from sapling or seeds.	Requires 4+ hours of direct sun and moderate watering.	Fragrant medicinal and cultural herb.
Curry Leaves	Use sapling for better success.	Bright sunlight and well-draining soil; slow-growing woody herb.	Staple culinary herb and long-term garden component.
Fenugreek	Start from seeds.	Cool to mild weather; container friendly; ready within 2-3 weeks.	Fast harvest and visible student outcome.
Ajwain / Indian Borage	Use cuttings or sapling.	Warm climate; low maintenance; avoid overwatering.	Leaves useful for culinary and home-remedy purposes; natural mosquito-repellent value.
Lemongrass	Use slips/cuttings or sapling.	Hot and humid conditions; pots or loamy soil; regular watering.	Continuous supply of citrusy blades for tea/soups.

B. Required Materials

- Medium-sized pots/grow bags/repurposed containers with drainage holes.
- Garden soil, compost, cocopeat or sand for drainage improvement.
- Seeds: coriander and fenugreek; saplings/cuttings: mint, tulsi, curry leaves, ajwain, and lemongrass.
- Watering can/spray bottle, gloves, hand trowel, labels, marker, and small sticks for support.
- Organic compost or standard organic fertilizer.
- Garden record sheet, photographs, and growth measurement scale.

C. Procedure for Students

11. Identify a suitable campus space with sunlight, access to water, and safe student movement.
12. Prepare containers with drainage holes. Add a soil mix of garden soil and compost; add sand/cocopeat where needed for drainage.
13. Label each container with herb name, planting date, student group, and care instruction.
14. Sow coriander and fenugreek seeds directly in containers. Plant mint, tulsi, curry leaves, ajwain, and lemongrass from saplings/cuttings.
15. Check soil moisture before watering. Mint and tulsi require evenly moist soil; curry leaves, ajwain, and lemongrass should not be waterlogged.
16. Pinch top leaves periodically to encourage bushier growth. Do not overharvest young plants.
17. Use organic compost/fertilizer lightly during the growth period.
18. Maintain weekly growth records: germination, plant height, number of leaves, pest issues, watering, pruning, and photographs.
19. Assign a minimal rotating care roster for watering checks when soil becomes dry between scheduled project days.

D. Three-Month Work Schedule - Kitchen Herb Garden Group

Week	Day 1 - 1.5 Hours	Day 2 - 1.5 Hours	Weekly Output
Week 1	Orientation; identify garden location, sunlight, water access, and container requirements.	Finalize layout; allocate herbs among students; prepare material list and cost sheet.	Garden layout and material plan.
Week 2	Collect pots/grow bags, soil, compost, seeds, saplings, labels, and tools.	Prepare soil mix and containers with drainage holes; label each container.	Containers ready for planting.
Week 3	Sow coriander and fenugreek seeds; plant mint cuttings and tulsi saplings.	Plant curry leaves, ajwain, and lemongrass; water and record initial condition.	All herbs planted and labelled.
Week 4	Check germination of coriander and fenugreek; monitor mint rooting and tulsi establishment.	Prepare first growth record with photographs; adjust sunlight/watering if needed.	Month 1 growth record.
Week 5	Watering and soil-moisture check; remove weeds; inspect pest/disease signs.	Light composting if required; update plant height and leaf-count records.	Maintenance log.
Week 6	Pinch top leaves of suitable herbs to encourage bushier growth; avoid overharvesting.	Prepare herb care cards showing watering, sunlight, and harvesting instructions.	Herb care cards.
Week 7	Review fast-growing herbs; begin limited harvest of fenugreek if mature.	Document first harvest, weight/quantity, and learning from quick-cycle herbs.	First harvest note.



Week	Day 1 - 1.5 Hours	Day 2 - 1.5 Hours	Weekly Output
Week 8	Continue care: watering, pruning, soil check, pest check.	Prepare kitchen-herb use-note and campus replicability note.	Use-note and replicability draft.
Week 9	Replace weak plants if required; strengthen plant support and containers.	Update growth table and photo evidence; compare growth across herbs.	Comparative growth record.
Week 10	Conduct regular harvesting of mint/coriander/fenugreek where ready; prune safely.	Prepare signage for the herb garden: herb name, use, care, SDG linkage.	Garden signage draft.
Week 11	Final maintenance round: cleaning, arrangement, pruning, pest check.	Prepare final report sections: objective, materials, procedure, care, growth record, outcome.	Final report draft.
Week 12	Prepare garden display and final photographs.	Prepare final presentation and assign speaking roles.	Presentation draft.
Week 13	Final inspection of garden; record survival and growth status of all herbs.	Submit herb garden, growth record, care manual, cost sheet, photographs, and presentation.	Final submission.

E. Care and Maintenance Protocol

Care Area	Instruction
Watering	Always check soil before watering. Mint and tulsi prefer evenly moist soil. Curry leaves, ajwain, and lemongrass need moisture but must not be waterlogged.
Sunlight	Ensure adequate sunlight. Tulsi needs 4+ hours of direct sun; curry leaves require bright sunlight.
Harvesting	Pinch top leaves gently to encourage bushier growth. Fenugreek may be harvested within 2-3 weeks if grown well.
Feeding	Use organic compost or standard organic fertilizer lightly. Avoid excessive fertilizer.
Documentation	Record planting date, growth, watering, pruning, pest issues, harvest details, and photographs weekly.

F. Final Deliverables - Kitchen Herb Garden Group

- Functional herb garden with at least seven selected herbs.
- Garden layout and plant labels.
- Growth observation sheet and weekly photo evidence.
- Herb care manual and watering/harvesting protocol.
- Cost sheet and material-use note.
- Final report and presentation.



Project 3: Waste-to-Wealth Product Making Activity

Project Objective: To convert waste paper into an eco-friendly Jagannath statue using paper-mache/clay technique and demonstrate waste-to-worth creativity, low-cost innovation, and cultural sustainability.

A. Product Output

Product	Technique	Sustainability Value
Eco-friendly Jagannath statue	Waste-paper paper-mache / clay technique with painted finish.	Converts discarded paper into festive/cultural decor; reduces waste and promotes creative reuse.

B. Materials Required

Material	Details
Waste paper	Old newspapers, magazines, rough draft papers, used office paper.
Adhesive	White glue such as Fevicol or homemade flour-and-water paste.
Structure base	Discarded plastic bottle, paper cups, cardboard, crumpled paper, or crumpled foil.
Coating material	Wall putty or tissue paper for smooth finish, if required.
Paints	Acrylic colours: white, black, yellow, crimson red, and blue.
Tools	Brushes, mixing bowl, water, cloth, gloves, pencil, scissors/cutter, and drying tray.

C. Step-by-Step Procedure for Students

20. Collect clean waste paper from classroom/office sources. Remove plastic, staples, and glossy non-usable material where possible.
21. Tear waste paper into tiny pieces and soak in warm water for a few hours.
22. Drain water and blend or mash the soaked paper into a fine pulp.
23. Mix the pulp with sufficient white glue or flour-and-water paste to make a dough-like material.
24. Build the base using a discarded bottle, cardboard, paper cups, or tightly bound crumpled paper.
25. Shape the dome-like square head and torso structure of Lord Jagannath.
26. Apply paper pulp over the base and sculpt the eyes, smiling face, and iconic arm stumps.
27. Smooth the surface using fingers, tissue paper, or a thin layer of wall putty if required.
28. Dry the idol completely in sunlight or a ventilated area. Drying may take 24-48 hours depending on thickness.
29. Apply a white base coat after full drying.
30. Paint the traditional design: black face, large white eyes with black pupils, yellow-red body structure, blue accents where required, and fine black borders.
31. Prepare display label explaining materials used, process, sustainability value, and cultural relevance.

D. Three-Month Work Schedule - Waste-to-Wealth Group

Week	Day 1 - 1.5 Hours	Day 2 - 1.5 Hours	Weekly Output
Week 1	Orientation; discuss waste-to-worth concept, product target, roles, safety, and evidence requirements.	Collect waste paper, cardboard, discarded bottle/paper cups, glue, paints, brushes, and tools.	Material collection and project plan.
Week 2	Clean and segregate waste paper; tear into small pieces and soak in warm water.	Drain, mash/blend pulp, mix with glue/paste, and test pulp consistency.	Paper pulp prepared.
Week 3	Create rough sketch and size plan of Jagannath statue.	Build base using discarded bottle/cardboard/crumpled paper; secure structure.	Base structure ready.
Week 4	Apply first layer of paper pulp over the base.	Shape the head, torso, and arm stumps; begin basic facial structure.	First sculpting layer complete.
Week 5	Add more pulp to improve shape, thickness, and stability.	Refine large eyes, smiling face, and body details.	Main idol form complete.
Week 6	Surface smoothing with fingers/tissue/wall putty as required.	Dry the idol in sunlight/ventilated space; check cracks and weak points.	Smoothed idol drying.
Week 7	Repair cracks using pulp/putty; sand/smooth lightly if required.	Final drying and structural quality check.	Ready for painting.
Week 8	Apply white base coat uniformly after complete drying.	Second base coat or touch-up if required.	Base painting complete.
Week 9	Paint black face and main colour zones.	Paint large white eyes, black pupils, yellow-red body, blue accents, and borders.	Traditional colour work complete.
Week 10	Detailing, correction of borders, and final paint touch-up.	Apply optional protective coating if available and safe.	Finished statue.
Week 11	Prepare display board: materials, steps, sustainability value, SDG linkage, and cost sheet.	Compile photographs from every stage and write process documentation.	Display and documentation draft.
Week 12	Final product inspection and display	Prepare final presentation and speaking	Presentation ready.



Week	Day 1 - 1.5 Hours	Day 2 - 1.5 Hours	Weekly Output
Week 13	Final exhibition/display and peer/faculty review.	Submit statue, process report, cost sheet, photographs, learning note, and presentation.	Final submission.

E. Safety and Quality Instructions

- Use scissors/cutters only under supervision.
- Keep the work area clean and dry after each session.
- Do not use rotten or dirty paper waste.
- Dry the idol completely before painting to avoid cracks and fungal growth.
- Use paint in a ventilated area and keep brushes/materials organized.
- Avoid religious disrespect in form, colour, or display. Maintain a clean, dignified presentation.

F. Final Deliverables - Waste-to-Wealth Group

- One eco-friendly Jagannath statue made from waste paper.
- Before-during-after photographic evidence.
- Material list and cost sheet.
- Step-by-step process documentation.
- Display board with sustainability and SDG linkage.
- Final report and presentation.



Environmental Science and Sustainability (VAC101) - Evaluation Framework					
Common Mark Distribution Parameter - 50 Common: 20 Marks + Project-specific: 30 Marks = Total: 50 Marks					
Component	Marks	Applicability	Sheet Reference		
Common Parameters	20	All three projects	Each project sheet		
Bio-Enzyme Project-specific Parameters	30	Bio-Enzyme Preparation Project	Bio-Enzyme		
Kitchen Herb Garden Project-specific Parameters	30	Kitchen Herb Garden	Herb Garden		
Waste-to-Wealth Project-specific Parameters	30	Waste-to-Wealth Product Making Activity	Waste-to-Wealth		
Total Marks per Student/Project	50	20 + 30	Evaluator entry		
Project	Common Marks	Project-specific Marks	Total Marks	Purpose	Key Evidence
Bio-Enzyme Preparation Project	20	30	50	Evaluate six bio-enzyme batches and documentation	Batch register, observation sheets, photos, use-case chart, final report
Kitchen Herb Garden	20	30	50	Evaluate functional herb garden and maintenance discipline	Growth records, labels, photos, care manual, cost sheet, final report
Waste-to-Wealth Product Making Activity	20	30	50	Evaluate eco-friendly product and process quality	Final statue/product, display board, photo evidence, cost sheet, final report

SRUSTI ACADEMY OF MANAGEMENT AND TECHNOLOGY (AUTONOMOUS)

Srusti Centre for Sustainable Development (SCSD)

ACADEMIC GOVERNANCE FRAMEWORK

Srusti Sustainability Learning Model

Institutional Integration, Academic Governance and Continuity

MBA and Undergraduate Education

Academic Year 2025-26

CURRICULUM	COORDINATION	CONTINUITY
Prescribed sustainability courses within the regular academic structure.	SCSD, departments, faculty mentors and student teams working through defined roles.	Recurring course delivery, scheduled project work, monitoring and formal assessment.

Bhubaneswar, Odisha

Institutionalised sustainability education through curriculum, project learning, monitoring and assessment

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5. Institutional Resources and Academic Records

5.1 Core Academic Records

6. Continuity and Periodic Academic Review

7. Consolidated Institutional Framework

Annexures: Academic and Project Documents

1. Institutional Integration of Sustainability Education

The Srusti Sustainability Learning Model integrates sustainability education within the regular academic structure at undergraduate and postgraduate levels. The model combines prescribed course content, contextual learning, structured project work and formal assessment so that sustainability literacy is developed through recurring academic processes rather than through isolated activities.

Table 1: Curriculum Integration at Undergraduate and Postgraduate Levels

Undergraduate Curriculum - VAC 101 Environmental Science and Sustainability introduces environmental concepts, natural resources, ecosystems, biodiversity, pollution, waste management, sustainable development, environmental ethics, legislation and practical applications. The course connects environmental understanding with responsible business decisions.	MBA Curriculum - 25MBA104 Business Environment and Sustainability is a 3-credit, 30-hour Semester I course with a 150-mark evaluation structure. Its sustainability component covers the 5Ps, the 17 SDGs, ESG, sustainability reporting and responsible stakeholder-oriented management.
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1.1 Embedded Academic Elements

Table 2: Embedded Academic Elements

1	Regular curriculum placement: Sustainability is delivered through Semester I courses within the normal programme structure.
2	Defined course content: Environmental, social, economic, ethical and managerial dimensions are addressed through prescribed modules and units.
3	Formal assessment: Assignments, case studies, quizzes, examinations, project work, presentations and documented outputs provide academic accountability.
4	Contextual application: Learners connect concepts with resource use, pollution, waste management, responsible consumption, stakeholder interests and long-term business consequences.
5	Progressive capability development: Undergraduate environmental foundations are extended into systems analysis, ESG, reporting and responsible management at the MBA level.

2. Academic Governance and Coordination

The model operates through coordinated academic responsibilities. Course delivery, project supervision, student participation, documentation and assessment are linked through a clear institutional workflow.

ACADEMIC LEADERSHIP Programme planning, semester scheduling and	SCSD Sustainability coordination, project framework, SDG orientation and	PROGRAMME / DEPARTMENT Course delivery arrangements, student allocation	FACULTY MENTORS Teaching, project guidance, weekly monitoring, feedback	STUDENT TEAMS Role allocation, scheduled work, record maintenance, final outputs and
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academic oversight.	consolidated documentation.	and coordination with faculty mentors.	and assessment.	presentation.
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2.1 Role and Responsibility Matrix

Table 3: Institutional Roles and Responsibilities

Institutional level	Primary responsibility	Operational output
Academic leadership	Maintains the academic position of sustainability courses within the programme structure.	Semester-level academic direction and continuity.
SCSD	Coordinates sustainability themes, project design, SDG linkage and institutional consolidation.	Common learning framework and project documentation.
Programme / department	Facilitates course delivery, learner grouping and academic communication.	Programme-wise implementation and coordination.
Faculty mentor	Guides learning, monitors progress and evaluates performance.	Teaching records, progress remarks, assessment and feedback.
Student leader and team	Manage attendance, work allocation, process records and final submission.	Completed project, report, presentation and learning documentation.

3. Recurring Academic Delivery Cycle

Continuity is created through a repeatable academic cycle that begins with course planning and concludes with assessment, documentation and review. The cycle is supported by formal course structures and the 13-week undergraduate project schedule.

1 PLAN Confirm course delivery, learning outcomes, project themes, faculty roles and semester schedule.	2 TEACH Develop conceptual foundations through lectures, discussions, case studies, assignments and self-study.	3 ALLOCATE Form project teams, assign roles, define materials, outputs, safety requirements and work schedules.	4 MONITOR Use attendance sheets, weekly logs, photographs, observations, faculty remarks and signatures.	5 ASSESS Evaluate project quality, documentation, sustainability relevance, reflection and presentation.	6 REVIEW Consolidate project records, retain academic outputs and refine themes for the next delivery cycle.
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Continuity mechanism: The prescribed curriculum establishes the academic requirement; the project schedule converts the requirement into recurring weekly engagement; monitoring formats create process discipline; and formal evaluation links the learning experience to academic progression.

4. Monitoring and Assessment Structure

Academic monitoring is integrated into the learning process through standard records and clearly defined assessment components. This enables regular follow-up, responsibility allocation and documented completion of student work.

4.1 Monitoring Instruments

Table 4: Academic Monitoring Instruments

Instrument	Academic function	Typical information maintained
Attendance register	Confirms regular student participation across scheduled project days.	Student name, programme, day-wise attendance and group allocation.
Work-progress log	Tracks execution against the assigned weekly plan.	Date, student presence, assigned work, progress achieved and hours dedicated.
Faculty monitoring record	Provides academic supervision and timely corrective guidance.	Status, faculty remarks and signature.
Observation and photo record	Captures process development and project quality over time.	Growth, fermentation, material use, product progress and dated photographs.
Final report and presentation	Consolidates analysis, reflection, sustainability relevance and communication.	Objectives, method, results, SDG linkage, learning note and presentation.

4.2 Assessment Integration

Table 5: Assessment Integration

Academic component	Assessment focus
MBA course assessment	Assignment and case study, weekly assessment, quiz, PIL, mid-term examination and end-term examination within a total 150-mark structure.
UG project assessment	Common academic parameters and project-specific criteria covering execution, documentation, sustainability relevance, final output and presentation.
Capability focus	Systems thinking, responsible use of resources, problem-solving, teamwork, observation, analysis, communication and reflection.

5. Institutional Resources and Academic Records

The learning model is sustained through academic time, faculty guidance, campus-based learning contexts, project materials and standard documentation. Together, these resources support consistent implementation and institutional memory.

Table 6: Institutional Resources Supporting the Learning Model

CURRICULUM TIME Semester-based course hours and scheduled project engagement.	FACULTY GUIDANCE Teaching, mentoring, monitoring, feedback and academic assessment.	CAMPUS CONTEXT Energy, waste, biodiversity, resource use and operational issues as learning contexts.	PROJECT RESOURCES Containers, organic material, gardening inputs, waste paper, tools and display materials.
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5.1 Core Academic Records

Table 7: Core Academic Records

Record category	Purpose within the institutional framework
Course documents	Define course title, code, credits or units, learning objectives, content, outcomes and assessment structure.
Project plan	Establish project themes, duration, weekly engagement, roles, materials, procedures and final outputs.
Participation and progress records	Maintain attendance, work allocation, hours, observations, faculty remarks and signatures.
Assessment records	Document performance against common and project-specific academic criteria.
Final student outputs	Retain reports, presentations, learning notes, photographs, project samples and display materials.
Institutional consolidation	Bring together programme-level learning activities for academic review and future planning.

6. Continuity and Periodic Academic Review

The continuity framework consolidates the recurring practices already present in the course and project documents. Periodic review keeps the learning experience relevant while preserving its core academic structure.

Table 8: Periodic Academic Review Framework

Review dimension	Continuity practice	Expected institutional value
Curriculum relevance	Review course content against emerging sustainability, ESG, environmental and business priorities.	Maintains contemporary academic relevance.
Project themes	Refresh project contexts while retaining the common planning, monitoring and assessment process.	Connects learning with current campus and societal challenges.
Assessment quality	Review rubrics, project-specific criteria and learning indicators after each delivery cycle.	Improves consistency and capability measurement.
Faculty coordination	Share project progress, common challenges and	Strengthens interdisciplinary

Review dimension	Continuity practice	Expected institutional value
	effective teaching practices.	and programme-level alignment.
Student learning records	Consolidate reports, presentations, photographs, observations and outcomes.	Builds institutional learning continuity and reusable academic material.
Annual academic summary	Document courses delivered, learner participation, projects completed and areas for improvement.	Supports planning, accountability and long-term development.

Institutional continuity: Sustainability education remains embedded because it is linked to regular courses, prescribed learning outcomes, academic marks, scheduled student engagement, faculty monitoring and documented outputs. The model can therefore be repeated, reviewed and progressively strengthened without depending on a single event or short-term campaign.

7. Consolidated Institutional Framework

The Srusti Sustainability Learning Model establishes a connected pathway from environmental literacy to responsible managerial judgement. Its enduring character arises from the integration of curriculum, coordinated roles, scheduled project learning, assessment and academic documentation.

Table 9: Consolidated Institutional Framework

CURRICULUM	COORDINATION	PROJECT LEARNING	ASSESSMENT	DOCUMENTATION	CONTINUITY
Prescribed courses and learning outcomes	SCSD, departments, faculty and student roles	Structured application in campus and societal contexts	Academic marks, rubrics, reports and presentations	Attendance, logs, photographs and final outputs	Recurring delivery, monitoring and periodic review

Academic position: Sustainability literacy is treated as a core graduate capability. Undergraduate learners develop environmental awareness and practical responsibility, while MBA learners extend this foundation to stakeholder analysis, ESG, sustainability reporting, ethical judgement and long-term organisational decision-making.



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Annexures: Academic and Project Documents

Selected course structures, project schedules, monitoring formats and assessment framework

Included documents: MBA syllabus, undergraduate syllabus and selected VAC101 project records

Included documents: Selected course structures, project schedules, monitoring formats and assessment framework are reproduced in their approved institutional format.



Semester	Code	Business Environment and Sustainability	Credits	L-T-P	Hours	Marks
1 st	25MBA104		3	3-0-0	30 Hrs	150

Introduction

Teaching Business Environment and Sustainability to MBA students involves introducing them to the dynamic and interrelated factors shaping business operations and strategies. This course provides a comprehensive understanding of the macro and microeconomic environments, the role of global and local regulations, and the principles of sustainability management.

Objectives	To understand different Business Environmental concepts and their scope and its impact on economy of India. To equip the students with the conceptual clarity regarding sustainability practices undertaken by organizations and its relation to the costs.
Pre-requisites	A foundational understanding of business principles, economic theories, and environmental science, as well as familiarity with sustainability concepts and reporting standards.
Teaching Scheme	Regular classroom lectures with use of ICT as and when required, sessions are Planned to be interactive with more focus on real life examples.

Evaluation Scheme

Teacher Assessment				Written Assessment		Total
Assignment & Case Study	Weekly Assessment	Quiz	PIL	Mid term	End term	
10	10	05	05	20	100	150

Detailed Syllabus

Modules	Topics	Hours
Module– I	Overview of Business Environment: Characteristics of Business Environment, Macro and Micro Dimensions of Business Environment Environmental Analysis: PESTEL. Concept of Social Responsibility of Business towards Stakeholders. Demographic transition and Business Decisions in India	8 Hrs.
	Self-Study& Assignment: SWOT Analysis of Business	
	Case study and Activities	
Module– II	Global Environment: Concept of Globalization, Cross-Cultural Dilemmas and global business decision making, Role & Functions of WTO, Regional groupings and Trade Blocks.	6 Hrs.
	Self- Study & Assignment: Foreign Investment In India	
	Case Study and Activities	
Module– III	Concept of Sustainability and Sustainable Development. 5Ps of Sustainability (People, Planet, Profit, Peace and Prosperity). Brundt and Report and 17 Sustainable Development Goals (SDGs). Environmental, Social and Governance (ESG)and Sustainability. ESG and Sustainability Reporting.	6 Hrs.



	Self-Study and Assignment: Wipro Sustainability Report FY 2022-23	
	Case Study & Activities	

Referred Books

Books	Name of the Books	Publisher
Text books	Business Environment by B.N Ghosh	Oxford University Press, 4 th Impression
	Business Environment: Text and Cases by Justin Paul	Mc GrawHill, 3 rd Edition
	Young T. Scott and Dhanda K. Kathy: <i>Sustainability: Essentials for Business</i> ,	Sage, London , 2012
	Sachs D. Jeffrey: <i>The Age of Sustainable Development</i> ,	Columbia University Press, 2015
Reference books	Rosy Joshi and Sangam Kapoor: Business Environment,	Kalyani Publications, 5 th edition, 2015
	Sustainability development goals report 2024 by UN	Development-Goals-Report-2024.pdf

Course Outcomes:

At the end of the course the students will be able to:

	Course Outcomes	Levels of Learning based on Bloom's Taxonomy
CO1	Define and describe the meaning, characteristics, and scope of the business environment, including macro and micro dimensions.	Level 1 (Remember)
CO2	Explain the concept of social responsibility of business towards stakeholders and analyze the impact of demonetization, political stability, and legal changes	Level 2 (Understand)
CO3	Identify and illustrate the nature and structure of the economy, economic policies, and planning, and evaluate the role of NITI Ayog in the economic environment.	Level 3 (Apply)
CO4	Understand and assess globalization, the functions of WTO, IBRD, and trade blocks, and examine the impact of organizations like BRICS, SAARC, and ASEAN	Level 4 (Analyze)
CO5	Define and discuss the triple bottom line approach and the need for sustainability management, including sustainability development goals and the UN Global Compact.	Level 5 (Evaluate)
CO6	Describe and analyze sustainability reporting standards and guidelines, including GRI, Dow Jones sustainability index, and integrated reporting, and evaluate standards such as AA-1000, ISO-26000, ISO-14001, OHSAS-18001, and SA-8000	Level 6 (Create)

Programme Outcome:

PO 1	Apply knowledge of management theories and practices to solve business problems.
PO 2	Foster Analytical and critical thinking abilities for data-based decision making.



PO 3	Ability to develop value-based leadership ability.
PO 4	Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business.
PO 5	Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment.
PO6 /PSO	Identify business opportunities, design and implement innovations in the work space (entrepreneurial skills).

CO-PO Matrix

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6
CO1	3	2	1	3	2	1
CO2	2	3	2	2	2	1
CO3	2	2	2	3	3	1
CO4	3	2	2	2	2	3
CO5	2	3	3	3	2	1
CO6	2	2	3	3	3	3



global climate change, ozone layer depletion, the greenhouse effect, and acid rain, with a particular focus on pollution episodes in India. Importance of adopting cleaner technologies; Solid waste management; Natural and man-made disasters, their management, and the role of businesses in mitigating disaster impacts.

Unit 4: Social Issues, Legislation, and Practical Applications

Dynamic interactions between society and the environment, with a focus on sustainable development and environmental ethics. Role of businesses in achieving sustainable development goals and promoting responsible consumption. Overview of key environmental legislation and the judiciary's role in environmental protection, including the Water (Prevention and Control of Pollution) Act of 1974, the Environment (Protection) Act of 1986, and the Air (Prevention and Control of Pollution) Act of 1981. Environmental justice, environmental refugees, and the resettlement and rehabilitation of affected populations; Ecological economics, human population growth, and demographic changes in India.

Readings:

Text Books (Latest Editions):

- Poonia, M.P. *Environmental Studies*, Khanna Book Publishing Co.
- Bharucha, E. *Textbook of Environmental Studies*, Orient Blackswan Private Ltd.
- Dave, D., & Katewa, S. S. *Text Book of Environmental Studies*. Cengage Learning India Pvt Ltd.
- Rajagopalan, R. *Environmental studies: from crisis to cure*, Oxford University Press.

Model curriculum for UG Degree in BBA

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- Miller, G.T. & Spoolman S. *Living in the Environment*. Cengage.
- Basu, M., & Xavier Savarimuthu, S. J. *Fundamentals of environmental studies*. Cambridge University Press.
- Roy, M. G. *Sustainable Development: Environment, Energy and Water Resources*. Ane Books.
- Pritwani, KS. *ustainability of business in the context of environmental management*. CRC Press.
- Wright, R.T. & Boorse, D.F. *Environmental Science: Toward A Sustainable Future* (13th ed.). Pearson.



Three-Month Sustainability Project Work Schedule

UG Project-Environmental Science and Sustainability (VAC101)

1. Project Structure

Parameter	Plan
Total projects	3 project proposals: Bio-Enzyme Preparation Project, Kitchen Herb Garden, and Waste-to-Wealth Product Making Activity.
Student groups	3 groups, each having 8 students. Each group will work on one project only.
Group leadership	Each group will nominate one Student Leader responsible for coordination, attendance, weekly reporting, and submission.
Duration	3 months. Operational schedule is planned for 13 weeks / approximately 90 days so that bio-enzyme fermentation can complete the minimum required period.
Weekly engagement	2 days per week. Each day: 1.5 hours. Total structured engagement per group: 3 hours per week.
Evidence required	Attendance sheet, photographs, weekly work log, material list, cost sheet, observation records, and final presentation.
Final output	One completed project output per group with documentation, photographs, learning note, and presentation.

2. Suggested Group Allocation and Roles

Group	Project Assigned	Team Composition	Core Responsibility
Group 1	Bio-Enzyme Preparation Project	8 students including 1 Student Leader	Prepare six separate bio-enzyme batches, maintain fermentation records, and submit final samples and use-case documentation.
Group 2	Kitchen Herb Garden	8 students including 1 Student Leader	Create and maintain a functional campus herb garden with selected herbs, growth records, and care protocol.
Group 3	Waste-to-Wealth Product Making Activity	8 students including 1 Student Leader	Create an eco-friendly Jagannath statue using waste paper and submit process documentation and display material.
Role within each 8-student group		Responsibility	
Student Leader		Coordinate work, maintain attendance, allocate weekly duties, communicate with faculty mentor, and ensure timely submission.	
Documentation Coordinator		Maintain weekly work log, process notes, cost sheet, and final report.	
Material Coordinator		Arrange materials, tools, containers, labels, soil, waste paper, paints, etc. as applicable.	
Process and Quality Monitor		Check correct method, safety, cleanliness, and quality of project output.	
Data Recorder		Maintain observation sheets, growth records, fermentation log, or product progress record.	
Photo and Evidence Coordinator		Capture dated photographs and compile evidence for submission.	
Safety and Housekeeping Coordinator		Ensure cleanliness, safe handling, and proper disposal/storage after each session.	
Presentation Coordinator		Prepare final presentation, display board, and speaking points.	

3. Common Weekly Working Pattern

Weekly Day	Time	Purpose
Day 1	1.5 hours	Planning, preparation, technical activity, data entry, and issue resolution.
Day 2	1.5 hours	Execution, maintenance, observation, documentation, photographs, and next-week task allocation.



4. Evaluation Framework - 10 Marks

Component	Marks	Evaluation Basis
Planning and team discipline	2	Role allocation, attendance, preparedness, material readiness, and adherence to schedule.
Project execution	3	Correct method, quality of output, regular maintenance, and problem-solving.
Documentation and evidence	2	Weekly log, photographs, cost sheet, observation sheet, and source-based procedure.
Sustainability relevance	1	Clear SDG linkage, waste/resource saving, campus use, and practical impact.
Final presentation and learning	2	Display, explanation, reflection, and clarity of student learning.

5. Common Submission Checklist for All Groups

Submission Item	Bio-Enzyme	Kitchen Herb Garden	Waste-to-Wealth
Attendance record	Yes	Yes	Yes
Weekly work log	Yes	Yes	Yes
Photographic evidence	Yes	Yes	Yes
Material and cost sheet	Yes	Yes	Yes
Observation / growth / progress record	Fermentation observation record	Plant growth record	Product progress record
Final physical output	Six labelled bio-enzyme samples	Functional herb garden	Eco-friendly Jagannath statue
Final report	Yes	Yes	Yes
Final presentation	Yes	Yes	Yes

6. Faculty Monitoring Format

Week	Group 1 Bio-Enzyme Status	Group 2 Herb Garden Status	Group 3 Waste-to-Wealth Status	Faculty Remarks
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				
Week 6				
Week 7				
Week 8				
Week 9				
Week 10				
Week 11				
Week 12				
Week 13				



UG Project - Environmental Science and Sustainability (VAC101)

Attendance and Work Progress Sheet

Group 1 - Bio-Enzyme Project

Group	Group 1	Project Allocation	Bio-Enzyme Project
Project Duration	3 Months 24 Project Days	Engagement Plan	2 Days per Week 1.5 Hours per Day

Attendance marking: P = Present, A = Absent, L = Leave. Hours may be recorded as 1.5 or actual hours dedicated.

Student Attendance Register - Day 1 to Day 6

Sl. No.	Student Name	Course	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
1	Bimla Joshi (Group Lead)	BBA						
2	Ayushmita Nayak	BBA						
3	Ananya Nayak	BBA						
4	Aditya Sahoo	BBA						
5	Shakti Rout	BBA						
6	Subhangi Shaw	BCA						
7	Sneharani Pradhan	BBA						
8	Biswajit Pattnaik	BBA						
9	Sriyashree Jena	BBA						

Student Attendance Register - Day 7 to Day 12

Sl. No.	Student Name	Course	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12
1	Bimla Joshi (Group Lead)	BBA						
2	Ayushmita Nayak	BBA						
3	Ananya Nayak	BBA						
4	Aditya Sahoo	BBA						
5	Shakti Rout	BBA						
6	Subhangi Shaw	BCA						
7	Sneharani Pradhan	BBA						
8	Biswajit Pattnaik	BBA						
9	Sriyashree Jena	BBA						



Group 1 - Bio-Enzyme Project							
Day-wise Work Progress and Hours Monitoring Log - Day 1 to Day 12							
Day No.	Date	Student Presence	Assigned Work	Achieved / Progress of Work	Hours Dedicated	Faculty Remarks	Faculty Signature
Day 1							
Day 2							
Day 3							
Day 4							
Day 5							
Day 6							
Day 7							
Day 8							
Day 9							
Day 10							
Day 11							
Day 12							



Environmental Science and Sustainability (VAC101) - Evaluation Framework

Common Mark Distribution Parameter - 50 | Common: 20 Marks + Project-specific: 30 Marks = Total: 50 Marks

Component	Marks	Applicability	Sheet Reference		
Common Parameters	20	All three projects	Each project sheet		
Bio-Enzyme Project-specific Parameters	30	Bio-Enzyme Preparation Project	Bio-Enzyme		
Kitchen Herb Garden Project-specific Parameters	30	Kitchen Herb Garden	Herb Garden		
Waste-to-Wealth Project-specific Parameters	30	Waste-to-Wealth Product Making Activity	Waste-to-Wealth		
Total Marks per Student/Project	50	20 + 30	Evaluator entry		
Project	Common Marks	Project-specific Marks	Total Marks	Purpose	Key Evidence
Bio-Enzyme Preparation Project	20	30	50	Evaluate six bio-enzyme batches and documentation	Batch register, observation sheets, photos, use-case chart, final report
Kitchen Herb Garden	20	30	50	Evaluate functional herb garden and maintenance discipline	Growth records, labels, photos, care manual, cost sheet, final report
Waste-to-Wealth Product Making Activity	20	30	50	Evaluate eco-friendly product and process quality	Final statue/product, display board, photo evidence, cost sheet, final report