

Integrating sustainable development goals in undergraduate courses

Energy & Petroleum Logistics Management Department		
Semester -1-		
Basics of logistics management	GOAL 9: Industry, Innovation and Infrastructure Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production	
Semester -2-		
Logistics operations Management	GOAL 9: Industry, Innovation and Infrastructure Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production Goal 15: Life on land	
	Semester -3-	Related topics
Cost Accounting	Goal 12: Responsible consumption and production	
Energy Management system	Goal 7: Affordable and clean energy	week 3: Energy Sources; Non-renewable and Renewable energy sources.
	GOAL 9: Industry, Innovation and Infrastructure	week 14: Technology impact on energy industry
	Goal 12: Responsible consumption and production	Week5: Energy Forms & Energy Storage Week 6: Review of Energy Aspects and Factors
	Semester -4-	Related topics
Oil & gas operation management	Goal 7: Affordable and clean energy	Week 1, 2: Oil and gas origin, exploration, and drilling
	GOAL 9: Industry, Innovation and Infrastructure	Week 3: Oil and gas production, transportation, and refinery, part 1. Week 4: Oil and gas production, transportation, and refinery, part 2
	Goal 12: Responsible consumption and production	Week 8: Oil and gas facility Integrity and risk Management
	Goal 13: Climate action	Week 14: Oil and gas facility Integrity and risk Management

	Semester -5-	Related topics
Oil & Gas supply chain Management	Goal 7: Affordable and clean energy	Week 3: Operating and Maintenance Cost Reduction. Week 5: Operational Safety and Environmental Risk Management
	GOAL 9: Industry, Innovation and Infrastructure	Week 3, 4: Engineering and Procurement of Equipment and Services at Minimum Total Cost and Risk.
	Goal 12: Responsible consumption and production	Week 13: Evaluation of External Forces Affecting week 14: Supply Chain Sustainability of Oil & Gas Industry
Semester -6-		
Energy Marketing	Goal 4: Quality education	Week 9: Foundations of Renewable Energy Marketing.
	GOAL 8: Decent Work and Economic Growth	Week 11: Renewable Energy Special Markets and New Business Models.

	Semester -7-	Related topics
Oil & gas health safety management	Goal 7: Affordable and clean energy	week 3: Risk management techniques used in the oil and gas industries - Organization safety documented evidence.
	GOAL 9: Industry, Innovation and Infrastructure Goal	Week8: Failure modes and safety critical equipment controls.
	17: Partnership for the Goals	Week 14: Emergency response. week 4: Contract and process safety management

	Semester -8-	Related topics
Graduation project	Goal 7: Affordable and clean energy GOAL 8: Decent Work and Economic Growth GOAL 9: Industry, Innovation and Infrastructure Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production Goal 13: Climate action Goal 14: Life below water Goal 15: Life on land Goal 16: Peace, justice and strong institutions Goal 17: Partnership for the Goals	Graduation project ideas
Risk management in energy projects	GOAL 9: Industry, Innovation and Infrastructure	Week 4: Market Risk Measurement, Management, and Best Practices for Energy Firms
	Goal 11: Sustainable cities and communities	Week 6, 9: Risk Management in Energy-Focused Commodity Futures Investing-case study: Creation and Transfer of Price Risk in European Energy Markets.
	Goal 12: Responsible consumption and production	Week 11: The Complexities of Trading Regional Emission Markets-Climate Risks and Electric Utilities.
	Goal 13: Climate action	Week 13: Carbon Trading-Risks in Renewable Energy Projects and their Mitigation. Week 14: Energy and Environmental Hedge funds

Transport Logistics Management Department

Semester -1-

Principles of Transport operation	Goal 12: Responsible consumption and production	Week 2: The role of transport in supply chains
	Goal 11: Sustainable cities and communities	Week 4 : The role of transport in the planning and implementation of world trade
	Goal 15: Life on land	Week 5 :Car transport industry Week 6: Railway industry
Semester -3-		
Transport Economics	Goal 12: Responsible consumption and production	Week 9 :Maritime Market Cycle Week 10: Maritime Market Equilibrium
	Goal 13: Climate action	Week 3 :Risk in Maritime Transport
	Goal 14: Life below water	Week 4 :Ship operation efficiency
Cargo Handling Management	Goal 13: Climate action	Week 2 :Cargo security and safety when handling
	Goal 15: Life on land	Week 4: Scientific terms for cargo handling Week 8: Stowage the containers inside the yards and on board ships Week 14: Handling of dangerous goods

	Semester -4-	Related topics
Port and terminal operation management	Goal 12: Responsible consumption and production	week 1: Transport and International Trade and Basic concepts on ports
	Goal 13: Climate action	Week 8: yard Operation.
	Goal 15: Life on land	Week 11: operation of container terminals. Week 4 :Port logistics activities Week 9: New technology in port management
	Semester -5-	Related topics
Inland Transport management	Goal 12: Responsible consumption and production	Week 6: The development of a day-to-day truck transport operation circle to distribution centers
	Goal 13: Climate action	Week 14: Characteristics of railway planning and Fleet management of railways transport
	Goal 14: Life below water	Week 9: Means of inland waterways transport and The factors that affect the inland waterways transport Week 10: The factors that affect the total length and overall width of the navigational formation
	Goal 15: Life on land	Week 3: Road transport and the types of roads & safe distance between vehicles Week 4: The road capacity calculations and axle loads and truck loads Week 5: The dimensions of vehicles and The operational circle of fleet trucking management
	Semester -7-	Related topics
Transport modeling	Goal 12: Responsible consumption and production	Week 12: Transportation and warehouse problem
	Goal 13: Climate action	week 4: Features choose the mode of transport and ways to allocate traffic
	Goal 15: Life on land	week 3: Structure of classic transport model week 5: Maximum flow week 6: Shortest route

Airport & Airlines Management	Goal 12: Responsible consumption and production	Week 13: Airline services and pricing system
	Goal 13: Climate action	Week 6: Airport Operation Management Week 10 :Air carriers, agents and consolidators
	Goal 15: Life on land	Week 2: Economical characteristics and Environmental issues Week 4: Air Cargo operations Week 11: Airline Management and Air transport documents

Semester -8-		
Graduation project	Goal 7: Affordable and clean energy GOAL 8: Decent Work and Economic Growth GOAL 9: Industry, Innovation and Infrastructure Goal 11: Sustainable cities and communities Goal 12: Responsible consumption and production Goal 13: Climate action Goal 14: Life below water Goal 15: Life on land Goal 16: Peace, justice and strong institutions Goal 17: Partnership for the Goals	Graduation project ideas.
Multimodal Transport management	Goal 12: Responsible consumption and production	Week 4 : Impact of Multimodal transport on marketing and distribution Week 5: Some aspects of the overall distribution Week 6: Economic and commercial impacts on the entry into Multimodal Transport Agreement
	Goal 15: Life on land	Week 7: Comments on the Multimodal Transport Agreement

Transport fleet management	Goal 12: Responsible consumption and production	Week 1: The role of transport in the supply chain and economy
	Goal 13: Climate action	Week 10: Loads scheduling and controlling Week 13: Drivers management
	Goal 15: Life on land	Week 2: Characteristics of goods impact on transportation methods Week 4: Activities controlled by the fleet management system

Integrating sustainable development goals in undergraduate courses
Logistics of International Trade Department

		Related topics
Cost Accounting	Goal 12: Responsible consumption and production	Week 3: Optimizing the cost of consumption and production of raw materials, work in process products and finished goods in terms of obtaining a more sustainable consumption and production patterns.
Financial markets & institutions	Goal 16: Peace, justice and strong institutions	Week 1 “Why Study Financial Markets and Institutions?”: Socially responsible investments
	Goal 17: Partnership for the Goals	Week 2 “Overview of the Financial System”: Stakeholders collaborative roles to support the adoption of sustainability practices.
Human Resources Management	Goal 3: Good health and well being	Week 11: Employee Safety and Health
	Goal 4 : Quality education	Week 9: Training and Developing Employees
	Goal 5: Gender equality	Week 5: Managing careers
	Goal 6: Decent work and Economics Growth	Week 9: Managing careers
	Goal7: Peace, justice and strong instructions.	Week 13: Ethics, Justice, and Fair Treatment in HR Management Ethics, Justice, and Fair Treatment in HR Management
Feasibility Study	Goal 12: Responsible consumption and production	Week 1: Industry Analysis
	Goal 5: Gender equality Goal 6: Decent work and Economics Growth	Week 5: Company Design

	Goal 13: Climate Action	Week 10: Managing Supply Chain
Quality Management	Goal 9: Industry, Innovation & Infrastructure	Week 3 “Differing Perspectives on Quality”: Strategic Management Perspective.
	Goal 12: Responsible Consumption & Production	Week 13 “Strategic Quality Planning”: - Quality as a strategy from the perspective of generic strategies, and - Quality and Sustainability.
	Goal 17: Partnerships for the Goals	Week 14 “Quality Management System”: Principles of Quality Management System: Improvement.
Innovation and Entrepreneurship	Goal 9: Industry, Innovation and Infrastructure	Week 1: Identifying good opportunities and creating, communicating, and capturing value from those opportunities; including innovation in a corporate context. This clarifies the skills to analyze business opportunities, and articulate them as a compelling business description, and pitch to an audience of investors, customers, or business partners. To bring the real world into the classroom, guest entrepreneurs will come to class and share their experiences.
		Week 2: Identifying good opportunities and creating, communicating, and capturing value from those opportunities; including innovation in a corporate context. This clarifies the skills to analyze business opportunities, and articulate them as a compelling business description, and pitch to an audience of investors, customers, or business partners. To bring the real world into the classroom, guest entrepreneurs will come to class and share their experiences.

	Goal 8: Decent work and Economic Growth	Week 3: Collaboration, speaking up, and taking-action in support of decent work and positive economic development. They can do so by seizing and creating chances to design, plan, and implement environmentally and socially beneficial entrepreneurial enterprises. This necessitates their ability to think in a methodical manner in order to create "pictures" of the future in which the ecological, social, and economic consequences of their individual short-term decisions are considered on a global and long-term scale. It also necessitates the students' ability to promote long-term change processes in order to contribute to a society and economy.
		Week 4: Collaboration, speaking up, and taking-action in support of decent work and positive economic development. They can do so by seizing and creating chances to design, plan, and implement environmentally and socially beneficial entrepreneurial enterprises. This necessitates their ability to think in a methodical manner in order to create "pictures" of the future in which the ecological, social, and economic consequences of their individual short-term decisions are considered on a global and long-term scale. It also necessitates the students' ability to promote long-term change processes in order to contribute to a society and economy.
	Goal 11: Sustainable Cities and Communities	Week 5: Implement policies for inclusivity, resource efficiency, and catastrophe risk reduction across the organization. Devise or join an existing sustainable community that includes all stakeholders to examine issues, develop strategies, and take-action to improve functionality, resiliency, and long-term sustainability. Work with local governments to develop ways to reduce

		the environmental impact of your company's operations. Changes should be made to improve your structures' over time. Week 6: Improve the overall infrastructure sustainability of your buildings, and construct new facilities in accordance with sustainable construction standards. Encourage employees to take advantage of public transportation. Build facilities near existing public transportation lines and provide bike racks and incentives for using public transit.
	Goal 12: Responsible consumption and production	Week 7: Changing the way we manufacture and use things and services from the ground up. The Goal recognizes that the production and consumption of goods and services drives economic progress and increased quality of life, but that we must do it with less natural resources and consequent environmental effect throughout the life cycle.
	Goal 13: Climate action	Week 8: Developing technologies, business models and services that society can use to achieve low-emission and climate-resilient sustainable development. It also suggests ways of encouraging, guiding and supporting entrepreneurs in their efforts to innovate climate technologies.
	Goal 14: Life below water	Week 9: Supporting the incredible natural assets is the only way to ensure long-term ocean resources. At the same time, we want to ensure that fishing villages have a secure future. prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.
	Goal 15: Life on land	Week 10: Managing Forest and desertification are two issues that need to be addressed. There are now two

		international accords in effect that promote the equitable use of resources. There are also financial investments in favor of biodiversity.
	Goal 16: Peace, Justice and strong institutions	Week 11: Promoting peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.
	Goal 17: Partnership for Goals	Week 12: Developing global alliances to support and bringing together national governments, the international community, civil society, the commercial sector, and other stakeholders. Despite success in certain areas, there is still work to be done to expedite progress. All parties involved will need to refocus and redouble their efforts in areas where development has been slow.

Integrating sustainable development goals in undergraduate courses

Logistics and Supply Chain Management		
Course	Goal	Suggested topic according to course description
Semester 1		
BASICS OF LOGISTICS MANAGEMENT	Goal 9: Industry, Innovation and Infrastructure	Irrelevant
	Goal 11: Sustainable cities and communities	Strategic & Financial Logistics.
	Goal 12: Responsible consumption and production	Logistics system & infrastructure / Elements of Logistics Systems.
Semester 2		
LOGISTICS OPERATIONS MANAGEMENT	Goal 9: Industry, Innovation and Infrastructure	Irrelevant
	Goal 11: Sustainable cities and communities	Irrelevant
	Goal 12: Responsible consumption and production	Customer Service.
Semester 3		
SUPPLY CHAIN MANAGEMENT	Goal 12: Responsible consumption and production	- Development of supply chain systems - Designing and restructuring supply chains according to economic challenges - Designing supply chains for service delivery
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
PROCUREMENT MANAGEMENT	Goal 12: Responsible consumption and production	- Purchasing with Right quality - Purchasing in Right quantity
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant

Semester 4		
WAREHOUSE & MATERIALS HANDLING MANAGEMENT	Goal 12: Responsible consumption and production	- Planning and designing the warehouse layout - Performance measurement.
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
PRODUCTION PLANNING MANAGEMENT	Goal 12: Responsible consumption and production	- Competition, strategic planning and production planning - Planning production capacity for products and services - Production line designing and the internal scheduling of operations - Planning and measuring operations - Production planning
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
Semester 5		
INVENTORY MANAGEMENT	Goal 12: Responsible consumption and production	Irrelevant
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
Semester 6		
SUSTAINABLE SUPPLY CHAIN MANAGEMENT	Goal 8: Decent Work and Economic Growth	- Green SC Planning - Green SC Procurement
	Goal 9: Industry, Innovation and Infrastructure	Course Introduction in Green and SC Sustainability
	Goal 11: Sustainable cities and communities	Carbon Management
	Goal 12: Responsible consumption and production	Green SC Production
	Goal 13: Climate action	Irrelevant

	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
Semester 7		
DISTRIBUTION MANAGEMENT	Goal 12: Responsible consumption and production	Irrelevant
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
Semester 8		
GRADUATION PROJECT	Goal 7: Affordable and clean energy	• Could be applied to any graduation project topics among departments
	GOAL 8: Decent Work and Economic Growth	
	GOAL 9: Industry, Innovation and Infrastructure	
	Goal 11: Sustainable cities and communities	
	Goal 12: Responsible consumption and production	
	Goal 13: Climate action	
	Goal 14: Life below water	
	Goal 15: Life on land	
	Goal 16: Peace, justice and strong institutions	
SUPPLY CHAIN SYSTEM	Goal 12: Responsible consumption and production	Irrelevant
	Goal 13: Climate action	Irrelevant
	Goal 14: Life below water	Irrelevant
	Goal 15: Life on land	Irrelevant
CUSTOMER RELATIONSHIP MANAGEMENT	Goal 12: Responsible consumption and production	• Strategy Development Process
	Goal 16: Peace, justice and strong institutions	• The Multi-Channel Integration
	Goal 17: Partnership for the Goals	• The Multi-Channel Integration

