Education for Sustainable Development Goals

JSS ACADEMY OF HIGHER EDUCATION & RESEARCH

Teaching & Learning of Activities in Achieving UN Sustainable Development Goals

Teaching & Learning Objective Handbook

SDG-15- Life on Land

2022

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PREFACE

The United Nations' 2030 Agenda for Sustainable Development was adopted Globally in September 2015. It is underpinned by 17 Sustainable Development Goals (SDGs) and 169 targets and applies to every country. It helps people from various counties to work together to promote sustained and inclusive economic growth, social development and environmental protection and to benefit all, including future generations. The 2030 Agenda for Sustainable Development sets forth "a plan of action for people, planet and prosperity " and "seeks to strengthen universal peace in larger freedom".

This universal agenda requires an integrated approach to sustainable development and collective action, at all levels, to address the challenges of our time, with an overarching imperative of 'leaving no one behind' and addressing inequalities and discrimination as the central defining feature. Many countries , institutions and organisations have already started to translate the new agenda into their development plans, strategies and visions.

JSSAHER'S Social Responsibility is an approach of ethical and intelligent management, which involves both its impact on its human, social and natural context and its active role on the promotion of Sustainable Human Development of the country. Within this approach, "Sustainable Campus" is a strategy that strives to reduce the ecological footprint of the Institution via a rational use of resources and to educate the JSSAHER community on the ethics of sustainability.

Supporting the JSSAHER'S Social Responsibility, the SDG Hand Book explains the SDGs and their connection between the various goals and targets of JSSAHER . It provides a blueprint to help, identify, implement and achieve the Sustainable Development Goals (SDGs) at JSS AHER.

As the process moves towards implementation, there is a need to address the scope and systemic nature of the 2030 Agenda and the urgency of the challenges. This requires a wide range of tools and science-based analysis to navigate that complexity and to realise the ambition. JSSAHER having in place effective governance systems, institutions, partnerships, and intellectual and financial resources favouring effective, efficient and coherent approach for implementation of SDGs.

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https://www.jssuni.edu.in/JSSWeb/WebShowFromDB.aspx?MID=11011&CID=0&PID=10001

PREAMBLE

Education for

Sustainable Development Goals

By 2030, ensure that all learners acquire knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non- violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Source: **The Sustainable Development Goals Report 2022**

http://www.un.org/sustainabledevelopment/sustainable- development-goals

Access to Learning objectives for SDG-15

Education for Sustainable Development Goals: learning objectives - UNESCO Digital Library

United Nations, n.d.

OBJECTIVE OF JSS ACADEMY OF HIGHER EDUCATION & RESEARCH TO PROMOTE EDUCATION FOR SUSTAINABLE DEVELOPMENT GOALS OF THE UNITED NATION IS TO MATCH THE TEACHING & LEARNING ACTIVITIES WITH SUSTAINABLE DEVELOPMENT GOALS THROUGH CURRICULUM DEVELOPMENT, ENHANCED RESEARCH AND EXTENDED OUTREACH ACTIVITIES.

INTRODUCTION

The Sustainable Development Goals – an ambitious and universal agenda to transform our world

On 25 September 2015, the UN General Assembly adopted the 2030 Agenda for Sustainable Development (UN, 2015). This new global framework to redirect humanity towards a sustainable path was developed following the United Nations Conference on Sustainable Development (Rio+20) in Rio de Janeiro, Brazil in June 2012, in a three-year process involving UN Member States, national surveys engaging millions of people and thousands of actors from all over the world.

At the core of the 2030 Agenda are 17 Sustainable Development Goals (SDGs). The universal, transformational and inclusive SDGs describe major development challenges for humanity. The aim of the 17 SDGs is to secure a sustainable, peaceful, prosperous, and equitable life on earth for everyone now and in the future. The goals cover global challenges that are crucial for the survival of humanity. They set environmental limits and set critical thresholds for the use of natural resources. The goals recognize that ending poverty must go together with strategies that build economic development. They address a range of social needs including education, health, social protection, and job opportunities while tackling climate change and environmental protection. The SDGs address key systemic barriers to sustainable development such as inequality, unsustainable consumption patterns, weak institutional capacity, and environmental degradation.

For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and every human being across the world. Governments are expected to take ownership and establish national frameworks, policies, and measures for the implementation of the 2030 Agenda.

A key feature of the 2030 Agenda for Sustainable Development is its universality and indivisibility. It addresses all countries – from the Global South and the Global North – as target countries. All countries subscribing to the 2030 Agenda are to align their own development efforts with the aim of promoting prosperity while protecting the planet to achieve sustainable development. Thus, with respect to the SDGs, all countries can be considered as developing and all countries need to take urgent action.

The 17 Sustainable Development Goals (SDGs)

No Poverty – End poverty in all its forms everywhere

Zero Hunger – End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Good Health and Well-Being – Ensure healthy lives and promote well-being for all at all ages

Quality Education – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Gender Equality – Achieve gender equality and empower all women and girls

Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all

Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable, and clean energy for all

Decent Work and Economic Growth – Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all

Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

Reduced Inequalities – Reduce inequality within and among countries

Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable

Responsible Consumption and Production – Ensure sustainable consumption and production patterns

Climate Action – Take urgent action to combat climate change and its impacts

Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Life on Land – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Peace, Justice and Strong Institutions – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Partnerships for the Goals – Strengthen the means of implementation and revitalize the global partnership for sustainable development

Source: http://www.un.org/sustainabledevelopment/sustainable- development-goals


1 NO POVERTY
2 ZERO HUNGER
3 GOOD HEALTH AND WELL-BEING
4 QUALITY EDUCATION
5 GENDER EQUALITY
6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY
8 DECENT WORK AND ECONOMIC GROWTH
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
14 LIFE BELOW WATER
15 LIFE ON LAND
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

TEACHING & LEARNING OBJECTIVES FOR SDG 15
JSS MEDICAL COLLEGE & HOSPITAL

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Teaching & Learning objectives for SDG 15 "Life on Land"

Subject/ topic/ course in regular curriculum relating to SDG -15	Microbiology, Pharmacology, Forensic medicine, Medicine, paediatrics, Community medicine,
Cognitive Teaching & learning objectives	**At the end of 3rd Professional year part-1, the learner should be able to,** • Describe features and management of Snake bite, scorpion sting, bee and wasp sting and spider bite • Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program. • Describe the health hazards of air, water, noise, radiation and pollution • Describe concepts of safe and wholesome water, sanitary sources of water, water purification processes, water quality standards, concepts of water conservation and rainwater harvesting • Describe the aetiology and basis of water borne diseases/jaundice/hepatitis/ diarrheal diseases • Describe toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry **At the end of 3rd Professional year part -2, the learner should be able to,** • Describe the concept of solid waste, human excreta and sewage disposal

Socio-emotional Teaching & learningobjectives	**At the end of final year the learner should be able to** • Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals • Counsel the families on integrated vector control and personal prophylaxis against mosquitoes • Counsel the youth and school children on importance of preserving flora and fauna
Behavioural Teaching & learningobjectives	**At the end of final year the learner should be able to** • To identify & draw medico-legal inference from common poisons e.g. dhatura, castor, cannabis, opium, aconite copper sulphate, pesticides compounds, marking nut, oleander, Nux-vomica, abrus seeds, Snakes, capsicum, calotropis, lead compounds & tobacco. • Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures. • Conduct sessions at community setting on causes, consequences and prevention of climate hazards

Topics for SDG 15 - Life on Land

- Environmental sanitation to promote the life on land
- Rain waster harvesting
- Biotoxicology
- Strategies to protect climate at local, National and global level.

Learning approaches and Methods for SDG 15 - Life on Land

- Swatch Bharat Abhiyan
- Go green initiative- Green campus
- Encourage public on prohibition on use of plastic bags and bottles
- Training students in proper waste disposal practices and sensitising them on using the services of biomedical disposal certified agencies.
- Awareness programs on rainwater harvesting and use of solar energy
- Encourage students on planting trees and animal adoption.
- Poster competition, essay writing competition, role play on World Environment Day celebration

TEACHING & LEARNING OBJECTIVES FOR SDG 15
JSS DENTAL COLLEGE & HOSPITAL

Subject/ topic/ course in regular curriculum relating to SDG 15	• Genetics and oral health • Ethics in dental profession • Occupational health and Hazards	• All specialties in Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife	
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.	
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. • The learner can campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.	

Suggested topics for SDG 15 "Life on Land"

Ecology: competition, predator-prey, community dynamics, energy flow through food webs, dispersal and ranges. Specific ecosystems – local and global native ecosystems and also human-made ones, e.g. managed forestry plantations

Threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)

The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions

Restoration of wildlife and seeing humans as a healing force

Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)

Soil and its formation and structure

Desertification, deforestation and efforts to combat themThe human's connection with nature – the natural

self Ecosystem services (cultural, provisioning, regulatory and supporting)

Examples of learning approaches and methods for SDG 15 "Life on Land"

Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations

Perform an annual day when the community comes together to map as many different species in their area as possible

Run a composting workshop and show organic material formation

Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art

Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas

Celebrate Earth Day and/or World Environment Day

Develop an enquiry-based project: "Why is biodiversity important?"

TEACHING & LEARNING OBJECTIVES FOR SDG 15
JSS COLLEGE OF PHARMACY, MYSORE

Subject/ topic/ course in regular curriculum relating to SDG 15	• Pharmacognosy, Microbiology, Pharmacology, Pharmacy practice
Cognitive Teaching & learning objectives	**At the end of final year, the learner should be able to,** • Understand the ethical guidelines in conducting the animal research • Enlist the alternatives to animal methods in preclinical research • Describe the etiology of air and water borne diseases/jaundice diarrheal diseases • Explain the role of environmental hazards in causing infectious diseases. • Understand the guidelines for proper disposal of biomedical and other wastes • To describe the vernacular and biological names and uses of all the lower phylogenetic models
Socio-emotional Teaching & learning objectives	**At the end of final year, the learner should be able to** • Appreciate the medicinal value of the various flora and fauna • Conduct the research activities involving animals and humans with ethical and humane way • Correlate the harmful effects of deforestation, pollution in the causing ecological imbalance and its impact of health • Understand the importance of green initiatives implemented in the institution
Behavioural Teaching & learning objectives	**At the end of final year, the learner should be able to** • Choose appropriate methods of research (invitro and bioinformatics) wherever applicable to reduce the small animal use in research • Follow the 3R's principles in research i.e reduce, replace and reuse animal in research • Provide proper housing facilities during the research and follow all the humane methods as per the CPCSEA guidelines • Implement green initiatives as applicable

Suggested topics for SDG 15 "Life on Land"

- Alternatives to animal testing

3R's Principles in research (reduce, replace and reuse animal in research)

- CPCSEA and ICH guidelines for conducting research.
- Green initiatives to save environment

Examples of learning approaches and methods for SDG 15 "Life on Land"

- Seminar on alternatives to animal experimentation
- Reduce and replace usage of biohazard materials
- Training students in biomedical waste disposal practices
- Encourage students for planting trees and animal adoption.
- Poster competition, essay writing competition, role play on World Environment Day celebration

TEACHING & LEARNING OBJECTIVES FOR SDG 15
JSS COLLEGE OF PHARMACY, OOTY

Subject/ topic/ course in regular curriculum relating to SDG 15	**III Pharm D** **Subject: PHARMACEUTICAL JURISPRUDENCE** **Topic:** Narcotic Drugs and Psychotropic substances Act-1985. **Cognitive Teaching & learning objectives:** ● The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. ● The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife **Socio-emotional Teaching & learning objectives:** ● The learner can create a vision of a life in harmony with nature. **Behavioural Teaching & learning objectives:** ● The learner can connect with local groups working toward biodiversity conservation in their area. **II D Pharm** **Subject:** Pharmacy Ethics & Law **Topic :** Disaster management Act **Cognitive Teaching & learning objective:** ● The learner knows about causes and impacts of poverty such as unequal distribution of resources and power, colonization, conflicts, disasters caused by natural hazards and other climate change-induced impacts, environmental degradation and technological disasters, and the lack of social protection systems and measures. **Socio-emotional Teaching & learning objectives:** ● The learner can raise awareness about extremes of poverty and wealth and encourage dialogue about solutions. **Behavioural Teaching & learning objectives:** ● The learner can propose solutions to address systemic problems related to poverty. **II B Pharm** **Subject:** Pharmacognosy & Phytochemistry I **Topic :** Cultivation, collection, conservation & storage of medicinal plants **Cognitive Teaching & learning objective:** ● The learner understands basic ecology with reference to local and global ecosystems, identifying

	local species and understanding the measure of biodiversity. ● The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. ● The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. ● The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife **Socio-emotional Teaching & learning objectives:** ● The learner can argue against destructive environmental practices that cause biodiversity loss. ● The learner can connect with their local natural areas and feel empathy with non- human life on Earth. ● The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. ● The learner can create a vision of a life in harmony with nature. **Behavioural Teaching & learning objectives:** ● The learner can connect with local groups working toward biodiversity conservation in their area. ● The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. ● The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils.

TEACHING & LEARNING OBJECTIVES FOR SDG 15
FACULTY OF HEALTH SYSTEM MANAGEMENT STUDIES

Subject/ topic/ course in regular curriculum relating to SDG 15	• Safety and Risk Management- Biomedical waste management- MBA HA- IV Semester • Environmental studies- BBA- Ist Semester • Corporate social responsibility- BBA HHSM- V Semester
Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understand the responsibility of corporates towards society and environment
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.  
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the

erosion of our soils

TEACHING & LEARNING OBJECTIVES FOR SDG 15
JSS SCHOOL OF LIFE SCIENCES, OOTY

Subject/ topic/ course in regular curriculum relating to SDG 15	• Course: BSc Life Sciences - AECC01 - Environmental Studies
Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil as our growing materia for all food and the importance of remediating or stopping the erosion of our soils. • The learner can campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

Ecology: competition, predator-prey, community dynamics, energy flow through food webs, dispersal and ranges. Specific ecosystems – local and global native ecosystems and also human-made ones, e.g. managed forestry plantations

Threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)

The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions

Restoration of wildlife and seeing humans as a healing force

Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)

Soil and its formation and structure

Desertification, deforestation and efforts to combat them

The human's connection with nature – the natural self

Ecosystem services (cultural, provisioning, regulatory and supporting)

Evolution and genetics, genetic resources, ethics

Examples of learning approaches and methods for SDG 15 "Life on Land"

Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations

Perform an annual day when the community comes together to map as many different species in their area as possible

Run a composting workshop and show organic material formation

Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art

Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas

Celebrate Earth Day and/or World Environment Day

Develop an enquiry-based project: "Why is biodiversity important?"

DEPARTMENT OF YOGA

BSC Yoga

Subject/ topic/ course in regular curriculum relating to SDG 15	• Environmental studies, Environmental Psychology
Cognitive Teaching & learning objectives	**At the end of 1st year:learner should be able to** • Understand the energy flow in the eco system • Understand the importance of urbanization and globalization without affecting the eco-system • Understand the importance of green space in the local community • Understand the difference between renewable and non-renewable energy system **At the end of 2nd year learner should be able to** • Understand the impact of chemicals and pesticides on the soil pollution, • Understand the consequences of air, soil and water pollution on the living beings • Understand the consequences arising as a result of the exploitation of natural resources.
Socio-emotional Teaching & learning objectives	**At the end of the final year learner should be able to** • Create awareness of the effect of deforestation and desertification • Encourage the community to plant more trees • Tie up with any of the local agencies or non-governmental organizations and educate the community • The learner can help prevent the exploitation of natural resources by educating them on the consequences • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	**At the end of final year course learner should be able to** • Connect with local groups and working toward biodiversity conservation in their area. • Bring about a change in the community by increasing the green space and keeping the community pollution free • Help community on the proper usage of pesticides and chemicals for food production • Campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

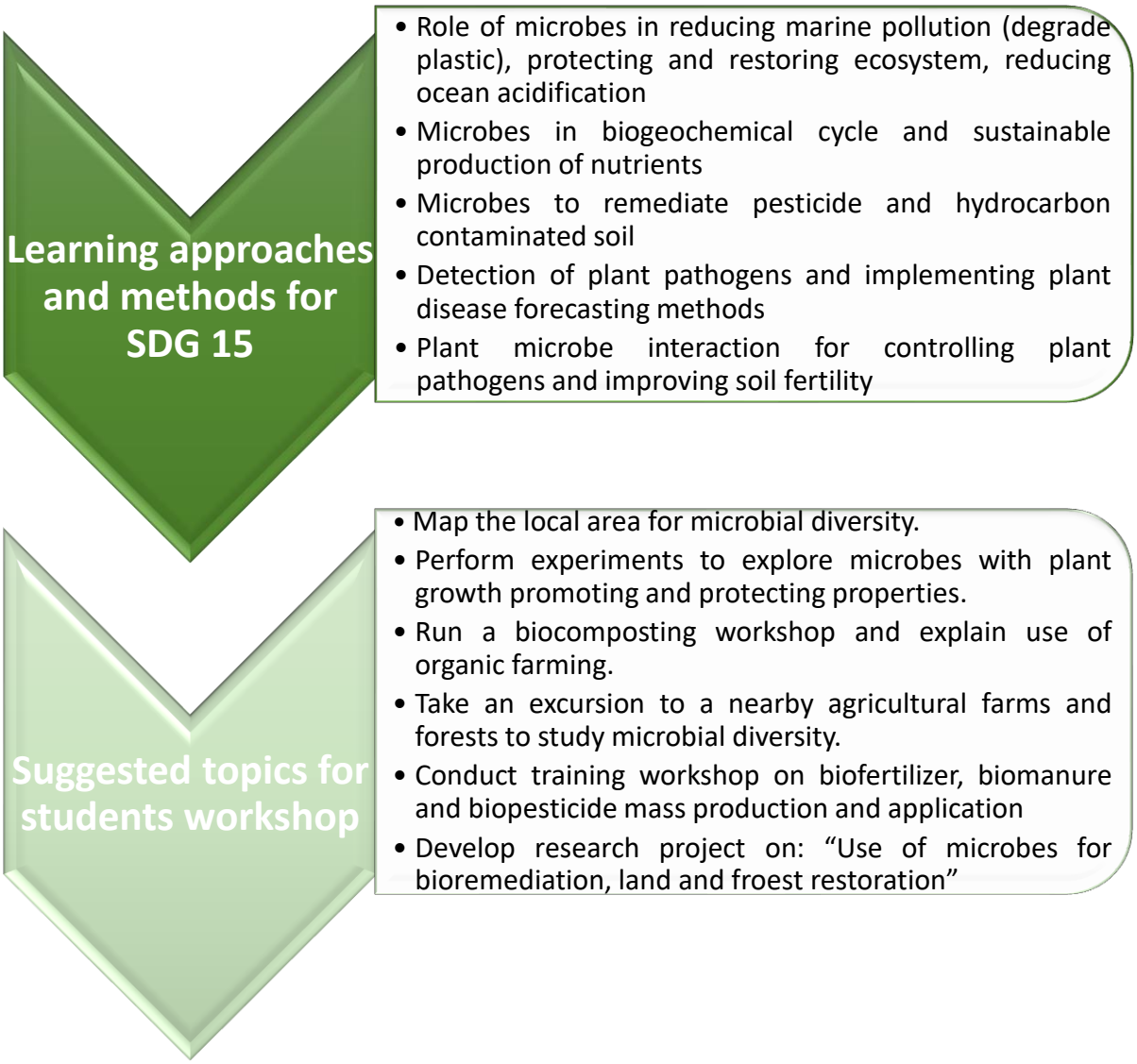
- Energy flow through food webs, dispersal and ranges. Specific ecosystems
- Threats to biodiversity: habitat loss, deforestation, and overexploitation
- The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions
- Restoration of wildlife and seeing humans as a healing force
- Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)
- Land erosion, land slides and land encroachment
- Desertification, deforestation and efforts to combat them The human's connection with nature – the natural self
- Environmental communication and public awareness

Examples of learning approaches and methods for SDG 15 "Life on Land"

- Celebrate Earth Day/World Environment Day to insist importance on the preservation and conservation
- Involve in community work to plant trees and increase the green space
- Encourage to establish kitchen garden
- Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art
- Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas
- Develop an enquiry-based project: "Why is biodiversity important?"

DEPARTMENT OF MICROBIOLOGY

Subject/ topic/ course in regular curriculum relating to SDG 15	•DSC 02 Microbial Diversity (BSc I sem); DSE 01b. Bioremediation & Microbial Technology (BSc V Sem); DSE 02a. Microbial Biotechnology (BSc VI Sem); OEC 04 Biofertilizers & Biopesticides (BSc VI Sem); DSC 11 Agricultural Microbiology (BSc V Sem); DSE 03a Advances in Bioremediation & Microbial Technology (MSc III Sem); DSC 07 Soil Microbiology & Plant Health (MSc II Sem); DSE 01b Biofertilizers, Biomanure & Biopesticides (MSc II Sem)
Cognitive Teaching & learning objectives	•The learner understands role of microbes in local and global ecosystems, identifying local microbial species and understanding the biodiversity; the beneficial role of microbes in land remediation, restoration and soil generation; the use of microbes as Biofertilizers, Biomanure & Biopesticides for sustainable agricultural practice; role of microbes in biogeochemical cycling and in soil and plant interactions.
Socio-emotional Teaching & learning objectives	• The learner can argue on use of microbe based products for preventing excess use of chemical fertilizers and pesticides; connect with their local natural areas and search for microbial intervention based solutions for land restoration; think of methods to reduce plant diseases by pathogensfor economic and environmental sustainability and to obtain healthy crops; create a vision of sustainable practices using the concept of integrated plant disease management.
Behaviorial Teaching & Learning objectives	• The learner can connect with local groups working toward microbe mediated remediation and restoration; effectively speak on topics related to agro-environmental schemes for biofertilizer, biomanure and biopesticide production; able to highlight the importance of soil-microbe and plant –microbe interaction for obtaining healthy crops and high yield; campaign and work for the implementation and development of sustainable agricultural practices and bioremediation of land.



Subject/ topic/ course in regular curriculum relating to SDG 15	• Plant Biochemistry
Cognitive Teaching & learning objectives	**The course aims to** • provide information on the physiological processes of plant at molecular level. • explain the biochemical and cellular aspects of photosynthesis, respiration, and other special functions of plants. **At the end of all the units, the learners will** • appreciate the functioning of plants by specialized molecular processes. • extrapolate this knowledge for their research work. • understand plant cell structure, organization, and apply specific biochemical functions to all compartments of the plant cell • learn the structure, function and biosynthetic pathways of essential biochemical molecules including their key chemical and physical properties.

	• learn amino acid structures and relate their chemical properties to the synthesis and function of proteins and enzymes. • understand protein structural hierarchy and relate structure to function.
Socio-emotional Teaching & learning objectives	• The learner can argue scientifically stating the biochemical perspectives against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non-human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeability to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil and water as our growing material for all food and the importance of remediating or stopping the erosion of our soils.

Suggested topics for SDG 15 "Life on Land"

Ecology: competition, predator-prey, community dynamics, energy flow through food webs, dispersal and ranges. Specific ecosystems – local and global native ecosystems and also human-made ones, e.g. managed forestry plantations

Threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)

The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions

Restoration of wildlife and seeing humans as a healing force

Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)

Soil and its formation and structure

Desertification, deforestation and efforts to combat them

The human's connection with nature – the natural self

Ecosystem services (cultural, provisioning, regulatory and supporting)

Evolution and genetics, genetic resources, ethics

Examples of learning approaches and methods for SDG 15 "Life on Land"

Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations

Perform an annual day when the community comes together to map as many different species in their area as possible

Run a composting workshop and show organic material formation

Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art

Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas

Celebrate Earth Day and/or World Environment Day

Develop an enquiry-based project: "Why is biodiversity important?"

DEPARTMENT OF ENVIRONMENTAL SCIENCES

Course Name in curriculum relating to SDG 15	• Environmental Pollution and Health (DSC 04) • Introduction to Environmental Microbiology (DSC 07) • Sustainable Development (OEC 07) • Environmental Monitoring and Techniques (DSC 10) • Eco-restoration and Development (DSC 11) • Environmental Disaster Management (DSC 12) • Atmospheric Sciences (DSE 01b) • Carbon Sequestration and Management (DSE 02b) • Environmental Biology (DSC 16) • Environmental Impact Assessment (DSC 19) • Water and Energy and Food Nexus (DSE 04a)
Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioral Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes,

	restoration ecology and more. • The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. • The learner can campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

- Ecology: competition, predator-prey, community dynamics, energy flow through food webs, dispersal, and ranges. Specific ecosystems – local and global native ecosystems and also human-made ones, e.g. managed forestry plantations
- Threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species, and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)
- The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions
- Restoration of wildlife and seeing humans as a healing force
- Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)
- Soil and its formation and structure
- Desertification, deforestation, and efforts to combat them
- The human's connection with nature – the natural self
- Ecosystem services (cultural, provisioning, regulatory and supporting)
- Evolution and genetics, genetic resources, ethics

Examples of learning approaches and methods for SDG 15 "Life on Land"

- Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations
- Perform an annual day when the community comes together to map as many different species in their area as possible
- Run a composting workshop and show organic material formation
- Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art
- Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas Celebrate Earth Day and/or World Environment Day
- Develop an enquiry-based project: "Why is biodiversity important?"

DEPARTMENT OF NUTRITION & DIETETICS

Subject/ topic/ course in regular curriculum relating to SDG 15	• The course MSc in Nutrition & Dietetics, indirectly supports conservation and sustainable management of biodiversity and natural food resources.
Cognitive Teaching & learning objectives	**At the end of 2nd year and course the learner should be able to,** • Understands the relation between ecology, biodiversity, farming on food and nutrition security for all. • The learner can understand the conservation strategies to improve agriculture and safeguard biodiversity of the region.
Socio-emotional Teaching & learning objectives	**At the end of 2nd year and course the learner should be able to,** • Connect with biodiversity conservation, promote sustainable agricultural and farming strategies. • Create awareness on consumption and production of natural food sources, reducing risk of malnutrition and onset of diseases.
Behavioural Teaching & learning objectives	**At the end of 2nd year and course the learner should be able to,** • Connect with local groups working toward biodiversity conservation in their area. • Effectively help in implementation of agro-environmental schemes, flora and soil quality restoration which in turn helps in quality food production.

Suggested topics for SDG 15 "Life on Land"

- Improve knowledge on biodiversity conservation, promote sustainable agricultural and farming strategies.
- Understand the conservation strategies to improve agriculture and safeguard biodiversity of the region.

Examples of learning approaches and methods for SDG 15 "Life on Land"

- Create awareness on consumption and production of natural food sources, reducing risk of malnutrition and onset of diseases.
- Encourage public on prohibition on use of plastic bags and bottles.
- Training students in proper waste disposal practices.
- Implementation of agro-environmental schemes, flora and soil quality restoration which in turn helps in quality food production.

MSc Sports Nutrition & Management

Subject/ topic/ course in regular curriculum relating to SDG 15	• Entrepreneurial Development, Experimental Sports Nutrition, Internship, Dissertation, Sports Supplements and Ergogenic Aids, Nutraceuticals & Functional Foods
Cognitive Teaching & learning objectives	At the end of 1st professional year, the student should be able to • use entrepreneurial knowledge and apply it in conservation of biodiversity. • judiciously use and be part of sustainable farming/agricultural practices pertaining to nutraceutical plants.
Socio-emotional Teaching & learning objectives	At the end of the program, the student should be able to • create awareness about exploitation of the natural resources and how-to live-in harmony with the nature. • spread awareness about sustainable use of resources so that the future generation can benefit from it.
Behavioral Teaching & learning objectives	At the end of the program, the student should be able to • be part of solution driven campaigns relating to safeguard of flora and fauna. • be part of groups associated with restoration of biodiversity, and agro-forestry

Suggested topics for SDG 15 "Life on Land"
Entrepreneurial development keeping in mind the ecological balance

Examples of learning approaches and methods for SDG 15 "Life on Land"
Map the nutraceutical herbs and plants

BSc Food, Nutrition & Dietetics

Subject/ topic/ course in regular curriculum relating to SDG 15	• Food Packaging & Informatics, Food and Nutrition Security, Environmental studies.
Cognitive Teaching & learning objectives	**At the end of 1st year:= earner should be able to** • Understand the energy flow in the eco system • Understand the importance of urbanization and globalization without affecting the eco-system • Understand the importance of green space in the local community • Understand the difference between renewable and non-renewable energy system **At the end of 2nd year earner should be able to** • Understand the impact of chemicals and pesticides on the soil pollution, • Understand the consequences of air, soil and water pollution on the living beings • Understand the consequences arising as a result of the exploitation of natural resources.
Socio-emotional Teaching & learning objectives	**At the end of the 3rd &4th year earner should be able to** • Create awareness of the effect of deforestation and desertification • Encourage the community to plant more trees • Tie up with any of the local agencies or non-governmental organizations and educate the community • The learner can help prevent the exploitation of natural resources by educating them on the consequences • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	**At the end of the course earner should be able to** • Connect with local groups and working toward biodiversity conservation in their area. • Bring about a change in the community by increasing the green space and keeping the community pollution free • Help community on the proper usage of pesticides and chemicals for food production • Campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

energy flow through food webs, dispersal and ranges. Specific ecosystems

Threats to biodiversity: habitat loss, deforestation, and overexploitation

The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions

Restoration of wildlife and seeing humans as a healing force

Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)

Land erosion, land slides and land encroachment

Desertification, deforestation and efforts to combat

themThe human's connection with nature – the

natural self

Examples of learning approaches and methods for SDG 15 "Life on Land"

Celebrate Earth Day and/or World Environment Day to insist importance on the preservation and

conservation

Involve in community work to plant trees and increase the green space

Encourage to establish kitchen garden

Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art

Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas

Develop an enquiry-based project: "Why is biodiversity important?"

DIVISION OF COGNITIVE NEUROSCIENCE AND PSYCHOLOGY

Subject/ topic/ course in regular curriculum relating to SDG 15	• **Community psychology** • A shift in perspective. Ecological levels of analysis in community psychology. Seven core values in community psychology. • **Understanding communities** What is a community? Types of communities Levels of communities. Who defines communities? The importance of community: Social capital Stress and coping: An ecologicalcontextual model Mutual help groups • **Concept of Nutrition**, • Food Groups, RDA Definition of Nutrition, Health, Nutritional status. Factors affecting food choices. Five food group system. Relationship between Nutrition on Health. Food Pyramid. Macronutrients & Micronutrients – Functions, Sources, deficiency. RDA- Definition. Dietary Guidelines for Indians, Reference Man and Reference Woman. • **Growth &Development,** • Nutrition through life span Growth & Development from infancy to adulthood. Nutritional needs during Different age groups. Advantages of breast feeding, Weaning foods. Galactagogues. Pubertal period (Maturation). Ageing. • **Nutrition and Mental Health**, • Role of Micronutrients and Macronutrients on psychological development. Nutrition effects on mental functions across the lifespan • **Selection and training of military personnel** • Assessment of psychomotor, spatial abilities, interest, aptitudes, and personality; Training- training needs analysis, types and methods of training, evaluation, and monitoring. • **Introduction to Human Resource Management (HRM)** - Meaning, Definition and Scope of HRM, Role and Functions of HRM in the organization, HR Systems, HR Information Systems (HRIS or HRMS), Policies and Procedures-Overview, Changing trends and Challenges in HRM • **Social Psychology** • Definition, Overview: Scientific in Nature-Causes of Social Behavior. Multi-cultural and evolutionary perspectives of social psychology. Social Cognition: Definition, Heuristics; Schemas. Counterfactual Thinking-Magical thinking; Affect & Cognition. Potential sources of error in social cognition and affect. • **Quality Of Life Quality of Life**, Emotional responses to chronic Illness, Personal Issues in Chronic Illness, Coping with Chronic Illness, Rehabilitation, Psychological Interventions

Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. • The learner can campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

Ecology: competition, predator-prey, community dynamics, energy flow through food webs, dispersal and ranges. Specific ecosystems – local and global native ecosystems and also human-made ones, e.g. managed forestry plantations

Threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)

The dangers of extinction: Individually endangered species, how extinction is forever, the long time needed to form species, and the six mass extinctions

Restoration of wildlife and seeing humans as a healing force

Climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)

Soil and its formation and structure

Desertification, deforestation and efforts to combat them

The human's connection with nature – the natural self

Ecosystem services (cultural, provisioning, regulatory and supporting)

Evolution and genetics, genetic resources, ethics

Examples of learning approaches and methods for SDG 15 "Life on Land"

Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations

Perform an annual day when the community comes together to map as many different species in their area as possible

Run a composting workshop and show organic material formation

Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, art

Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc. in urban areas

Celebrate Earth Day and/or World Environment Day

Develop an enquiry-based project: "Why is biodiversity important?"

DIVISION OF MEDICAL PHYSICS

Subject/ topic/ course in regular curriculum relating to SDG 15	• Radiation Protection and Safety Standards • Nuclear Medicine & Internal Dosimetry and Brachytherapy
Cognitive Teaching & learning objectives	• Describe the health hazards of air, water, noise, radiation and pollution. • Describe toxic pollution of environment, its medicolegal aspects & toxic hazards of occupation and industry. • At the end of Professional year the learner should be able to, • Describe the concept of solid waste, human excreta and sewage disposal related to Nuclear medicine waste management.
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	• Conduct sessions at community setting on causes, consequences and prevention of Radiation hazards.

Examples of learning approaches and methods for SDG 15"Life on Land"

- Perform an annual day when the community comes together to map as many different treatment modalities in treatment of cancer area as possible.
- Evaluation of external radiation hazards and evaluation of exposures like occupational public and medical exposures.
- Take an excursion to a nearby rural areas for creating awareness in cancer.
- Celebrate "world environment day" by adding awareness of radiation exposure

Suggested topics for SDG 15"Life on Land"

- Radiation therapy as treatment modality which controls the cancer/cures
- Life enhancement for the cancer patient
- Giving hope and cheerness to the cancer affected patients.

DIVISION OF MEDICAL STATISTICS

Subject/ topic/ course in regular curriculum relating to SDG 15	• Regression and Generalized Linear Models • Operational Research and Quality Control
Cognitive Teaching & learning objectives	• The learner understands basic ecology with reference to local and global ecosystems, identifying local species and understanding the measure of biodiversity. • The learner understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • The learner understands the slow regeneration of soil and the multiple threats that are destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • The learner understands that realistic conservation strategies work outside pure nature reserves to also improve legislation, restore degraded habitats and soils, connect wildlife corridors, sustainable agriculture and forestry, and redress humanity's relationship to wildlife
Socio-emotional Teaching & learning objectives	• The learner can argue against destructive environmental practices that cause biodiversity loss. • The learner can connect with their local natural areas and feel empathy with non- human life on Earth. • The learner can question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • The learner can create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	• The learner can connect with local groups working toward biodiversity conservation in their area. • The learner can effectively speak on topics related to permeable to wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • The learner is able to highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. • The learner can campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land"

- ✓ Machine Learning and Deep Learning
- ✓ Analyse forest ecology data
- ✓ ecosystem models
- ✓ Estimating and modelling
- ✓ Terrestrial Ecosystem Modelling

Examples of learning approaches and methods for SDG 15 "Life on Land"

- ✓ To Monitoring Terrestrial Ecosystems
- ✓ assist intelligent planning framework for environmental restoration of terrestrial ecosystems
- ✓ Estimating the Responses of Carbon Fluxes to Climatic Forces in Different Terrestrial Ecosystems

estimates of soil respiration and its components with those from terrestrial ecosystem models

DIVISION OF GEOINFORMATICS

Subject/ topic/ course in regular curriculum relating to SDG 1	• Advanced Geospatial Analysis • Land Use Land Cover Change Detection and Analysis. • GIS for biodiversity and disaster risk reduction. • GIS for habitat loss, deforestation, fragmentation and wildlife study.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to • understands the manifold threats posed to biodiversity, including habitat loss, deforestation, fragmentation, overexploitation, and invasive species, and can relate these threats to their local biodiversity. • Understands the slow regeneration of soil and the multiple threats thatare destroying and removing it much faster than it can replenish itself, such as poor farming or forestry practice. • understands that realistic conservation strategies work outside purenature reserves to also improve legislation, restore degraded habitatsand soils, connect wildlife corridors, sustainable agriculture
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to • argue against destructive environmental practices that cause biodi- versity loss. • Connect with their local natural areas and feel empathy with non-hu-man life on Earth. • Question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. • Create a vision of a life in harmony with nature.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to • effectively use GIS to study wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. • Highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. • Campaign and work for the implementation and development of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) regulations.

Suggested topics for SDG 15 "Life on Land."

- GIS application for the study of threats to biodiversity: habitat loss, deforestation, fragmentation, invasive species and overexploitation (caused by unsustainable production and consumption practices, unsustainable technologies, etc.)
- GIS for restoration of wildlife and seeing humans as a healing force
- Geospatial technology for the study of climate change and biodiversity, ecosystems as carbon sinks, disaster risk reduction and ecosystems (ecosystems as a natural barrier to natural hazards)
- Land Degradation Assessment & SDG monitoring in GIS
- Desertification, deforestation and efforts to combat them

Examples of learning approaches and methods for SDG 15 "Life on Land."

- Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations
- Perform an annual day when the community comes together to map as many different species in their area as possible
- Run a composting workshop and show the organic material formation
- Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, or art.
- Plant a wildlife garden for wild animals, e.g. bee-friendly flowers, insect hotels, ponds, etc., in urban areas. Celebrate Earth Day and/or World Environment Day.
- Develop an enquiry-based project: "Why is biodiversity important?"

JSSAHER

'Touching the lives of Millions'

Focusing on a purpose as expansive and yet as specific as improving quality of life through Human Development, the JSS Mahavidyapeetha has grown from strength to strength. A long and healthy life, Education for all and a decent standard of living, the indicators of Human development, have been the underlying philosophy of Jagadguru Sri Veerasimhasana Mahasamsthana Math, Suttur Srikshethra, for centuries. This is also the philosophy for which the Mahaidyapeetha today stands for.

Under the untiring efforts of Jagadguru Dr. Sri Shivarathri Rajendra Mahaswamiji, the Mahavidyapeetha has witnessed enormous growth in the field of education and today has over 300 institutions under its fold, from kindergartens to postgraduate centres and postdoctoral research catering to the educational needs of more than 1,00,000 students.

The Mahavidyapeetha continues to play an important role in expanding the scope of its activities to several branches of knowledge, welfare, and culture. Its educational efforts span crèches for toddlers of working rural women, schools to impart primary and secondary education in both Kannada and English medium, Colleges, Polytechnics, Technical, Medicine, etc. For realizing its mission, it has equipped itself with an extensive infrastructure and an army of dedicated and highly qualified human resource. These institutions, located in strategic areas, serve a broad spectrum of society, from virtually remote tribal villages to metropolitan cities such as Bengaluru, Noida, New Delhi, Ooty, and Coimbatore, besides their presence in United States, Mauritius, and Dubai.

Apart from formal education, the initiatives stretch to integrated rural development through training and empowering of rural folk, reaching out healthcare to people through modern and traditional Indian systems of medicine, patronizing literary activities, visual arts, performing arts, restoration of temples and historical monuments.

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