JSS ACADEMY OF HIGHER EDUCATION & RESEARCH
(DEEMED TO BE UNIVERSITY) MYSURU

SUSTAINABLE DEVELOPMENT GOALS

Division of Geoinformatics
School of Life Sciences
JSS Academy of Higher Education & Research
Mysuru (KA) India

Education for Sustainable Development Goals

Education 2030

Teaching & Learning Objective Handbook

Education for Sustainable Development Goals

Teaching & Learning Objective Handbook

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 culture's contribution to sustainable development.

Source: United Nations, 2015

FOREWORD

The Sustainable Development Goals (SDGs) introduced in the year 2015 is a follow up of the Millennium Development Goals (MDGs) implemented in 2000. It is a vital framework, which calls attention to meet the challenges towards creating a sustainable future with an impressive target of "Leaving No One Behind". Achievement of SDGs calls for collective efforts of stakeholders from Government, Non-governmental organizations, Higher Educational Institutions, Multi-national agencies, Civilian organizations, and Public.

While the countries around the globe are seriously addressing several issues on the way towards achieving the SDGs, it is becoming evident that these goals cannot be achieved in complete if the younger generation are not made aware of the goals. The best possible means of reaching the youth is through the curriculum, either in schools or in universities. The United Nations has called upon the countries to incorporate the SGDs into the existing curriculum, aligning the teaching and learning aspects in line with the goals. JSS Academy of Higher Education & Research has emerged as a renowned institute in the country by providing quality education of highest standards through innovation in academic and research activities even during the most difficult times, for instance, the recent pandemic. JSS AHER has initiated the task of educating students and staff on the SDGs by incorporating the goals into the existing curriculum. Under the able guidance of the HEI, School of Life Sciences is committed to contribute towards achieving the SDGs through its multi-disciplinary academic excellence, research, innovation, environmental protection, and inclusiveness. Since its inception, the School of Life Sciences has seen an exponential growth in a short span of time due to the unique programs, which are being offered in five departments and eight divisions, keeping in mind the problems of the society. The School sees that most of the activities are closely aligned with the vision of sustainable development goals. The programs are designed to address the issues of the society pertaining to water, health, food, and environment. The school stands today as a unique institution in the country known for multidisciplinary and interdisciplinary teaching and research in Life Sciences. We have attempted to identify potential courses that can be aligned to the tune of SDGs in the curriculum across the syllabi, which were recently revised according to the NEP 2020. I take this opportunity to express my sincere gratitude to the leadership of JSS Academy of Higher Education & Research for their constant support and cooperation towards all our initiatives. I thank all the faculty members both teaching and non-teaching for having contributed towards a noble cause of achieving the SDGs through Education.

Dr. K.A. Raveesha
Professor & Head
School of Life Sciences

PREFACE

We at Division of Geoinformatics, JSS AHER, offer master's program and research in Geospatial Technology. The importance of this technology in achieving SDGs is very crucial, since it is essential for creating a sustainable, community-based approach for achieving the SDGs.

At educational level Division of Geoinformatics is providing students with the knowledge, skills, and motivation to understand and address the challenges of the SDGs; empowering and mobilizing young people; providing in-depth academic or practical training to implement SDG solutions; enhancing opportunities for capacity building of students and professionals from the society to address challenges relating to the SDGs.

We also encouraging and promoting the SDGs as a topic of research within the Division of Geoinformatics; supporting the full spectrum of research approaches needed to address the SDGs, including interdisciplinary and transdisciplinary research; supporting and incubating innovation for sustainable development solutions; actively supporting national and local implementation of the SDGs; advocating for national support and coordination of research on the SDGs.

Dr Sawant Sushant Anil
Assistant Professor & Division Coordinator
Division of Geoinformatics
School of Life Sciences
JSS AHER, Mysuru (KA)

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


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
SUSTAINABLE DEVELOPMENT GOALS

SDG 1 – NO POVERTY

End poverty in all its forms everywhere

Teaching & Learning objectives for SDG 1 "No Poverty"

Subject/ topic/ course in regular curriculum relating to SDG 1	• Land Use and Land Cover mapping- land utilization • Agricultural land suitability • Climate Change and Food Security • Spatial-Temporal analysis of the poverty using GIS.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Understand the concept of povery and its corelationship with the existing LULC utilization. 2. Discuss the impact of various factory influencing variation in the spatial-temporal distribution of the poverty. 3. explain and identify the optimum utilisation of the land to increase the productiovity using GIS 4. Perform and analyse the application of GIS and Remote Sensing Technology in the analysis of the poverty. 5. understand the importance and use of Geospatial Technology to study and tackle the problems like proerty to achieve SDG.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. Learn ablout the vulnerable society, families and communities using GIS technology. 2. Reflect on how poverty contributes to the spatial-temporal variation of the geographical factors and LULC. 3. Can feel empathy, responsibility and solidarity for people 4. with poverty and its consequences
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Demonstrate various GIS technoques abnd methods to assess the socioeconomic status of the region and identify hotspot areas. 2. Assess the economic impact of various geographical factors 3. Analyse different variables that affect on the economic condition of the sociery or region. 4. propose and create spatial descision support system to solve the inequality in the region using spatial technology.

Examples of learning approaches and methods for SDG 1 "No Poverty."
1. Concept, causative factors, and impact of poverty on a spatial variation on LULC
2. Climate Change and Food Security for economic development
3. Spatial-temporal analysis of the indicators using GIS and Remote Sensing technology
4. Assessment of socio-economic indices to study economic development
5. Case studies on GIS application on poverty study and its use of GIS in decision support system.

Suggested topics for SDG 1 "No Poverty" for students' workshop
1. Concept, causative factors, and impact of poverty on a spatial variation on LULC
2. Climate Change and Food Security for economic development
3. Spatial-temporal analysis of the indicators using GIS and Remote Sensing technology
4. Assessment of socio-economic indices to study economic development
5. Case studies on GIS application on poverty study and its use of GIS in decision support system.

SDG 2 - ZERO HUNGER

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

Teaching & Learning objectives for SDG 2 "Zero Hunger."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Climate Change and Food Security using GIS • Natural Resource Management and Sustainable development • Remote Sensing Application in Agriculture. • Land Use and Land Cover mapping- land utilization
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. understand the spatial-temporal distribution of food grains and specific vulnerable groups. 2. Analysis of geospatial solutions to food insecurity, malnutrition, and climate change can be sustainably scaled to reach the most vulnerable in our food systems. 3. To understand the use of GIS in addressing food shortages, improving harvests, and tackling malnutrition. 4. To enable the farmers to map and project current and future fluctuations in precipitation, temperature, crop output etc.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner can use an effective application of GIS and remote Sensing to maximize agricultural yields through precision farming and the accurate targeting of irrigation and fertilization, as well as monitoring crop health. 2. The learner can create a decision support system for food security by performing a site suitability analysis for agriculture. 3. Learners can perform accurate mapping of geographic and geologic features of farmlands enabling scientists and farmers to create more effective and efficient farming techniques.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. The learner can evaluate and implement actions personally to combat hunger and promote sustainable agriculture using GIS. 2. The learner can evaluate, participate in and influence decision-making related to hunger and malnutrition and the promotion of sustainable agriculture. 3. The learner can take on critically their role as an active global citizen in the challenge of combating hunger. 4. The learner can change study production and consumption behaviour across the study area.

Suggested topics for SDG 2 "Zero Hunger."
1. Geospatial solutions to food insecurity, malnutrition, and climate change can be sustainably scaled to reach the most vulnerable in our food systems.
2. Food Security Assessment Based on GIS Spatial Analysis
3. Availability of food in local environments
4. Effects of climate change on agriculture and resources
5. The active planning, development, and management of food production on existing lands
6. Information and Early Warning System on Food and Agriculture
7. Monitoring major food crop conditions to assess future production.
8. Agricultural Geographic Information Systems using Geomatics Technology.
9. Enable the farmers to map and project current and future fluctuations in precipitation, temperature, crop output etc.

Examples of learning approaches and methods for SDG 2 "Zero Hunger."
1. Use of GIS in the assessment of the nutritional status of vulnerable society and to find out hotspot areas.
2. Carry out scenario development and analysis of local or national food production and consumption systems and/or about the impact of natural hazards and disasters on the food production systems
3. Carry out case study analyses of adequate and non-adequate public policies or management strategies of enterprises to combat hunger, reduce food waste and promote sustainable agriculture
4. Case studies, poster competition, essay writing on the causes, consequences and
5. impact of hunger and malnutrition

SDG 3 - GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

Teaching & Learning objectives for SDG 3 "Good Health & Well-being."

Teaching & Learning objectives for SDG 3 "Good Health & Well-being."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Subject: GIS for Public Health • Spatial Analysis of Health Data • Uses and application of Health GIS technology in disease management • Health Information System. • Basic GIS operations and Five Spatial Analysis for visualizations of health • data. Point pattern analysis for vector-borne disease data with examples. • Point pattern analysis for vector-borne disease data with examples. • Hot Spot analysis for Disease Data • GIS for Modeling of Vector-Borne Diseases • Analyzing Access to Health Services Using GIS
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. The learner knows conceptions of health and epidemiology. And well-being and can critically reflect on them, including an understanding of the spatial variation of the same. 2. Understand the public health infrastructure system and network of health facilities in India. 3. The learner knows relevant GIS technology for the prevention strategies to foster positive physical and mental health and well-being.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. critically evaluate recent developments in health from a spatial perspective. 2. Introduce the use of GIS-based analyses of health data. 3. GIS tools to identify spatial patterns in health and undertake an exploratory 4. analysis of potential explanatory factors. 5. Lain the influencing patterns of health and the role that GIS can play in exploring it.

Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 6. understand spatial-temporal variation in the region and assess the hotspot area that needs attention. 7. The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health and well-being for themselves, their families, and others, using GIS technology.

Suggested topics for SDG 2 "Zero Hunger."
8. Definition of Health GIS, Definition of epidemiology. Uses of epidemiology. Epidemiological 9. triad. Chain of infection. Modes of transmission of infection. Epidemiology of communicable 10. and non-communicable diseases. 11. Public health infrastructure system: Understanding of the network of health facilities in India. 12. Different types of Data are used in health GIS. Sources of Health and Disease data for GIS analysis. Health Information System. Integrated disease surveillance project (IDSP). Data are available in Public Domain. 13. Calculation of risk used to characterize overall health of Populations 14. Analyzing Spatial Clustering of Health Events. 15. Factors determining access to health care. Modelling and Approaches to accessibility to health care based on distance, time, and cost. Solutions to improve access to health care. 16. Mapping Service Locations, Mapping Health Care Needs and Services Assessing Potential access to Health Services, Analyzing Service Utilization. Locating Health Services.

Examples of learning approaches and methods for SDG 2 "Zero Hunger."
1. Lecture by use of boards/LCD projectors 2. Self- learning such as the use of NPTEL materials and websites, e.g., NRSC, NAASA, USGS 3. Interdisciplinary study, i.e., community medicine and Geospatial Technology.

SDG 4 - QUALITY EDUCATION

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

Teaching & Learning objectives for SDG 4 "Quality Education."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Conduct a case study on the spatial distribution of schools and hotspot areas. • Shortest path distance analysis to study accessibility to the educational institutes.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. The learner understands the important role of education and lifelong learning opportunities for all (formal, non-formal and informal learning) as the main drivers of sustainable development for improving people's lives and achieving the SDGs. 2. The learner understands education as a public good, a global common good, a fundamental human right and a basis for guaranteeing the realization of other rights. 3. The learner knows about inequality in access to and attainment of education, particularly between girls and boys and in rural areas, and about reasons for the lack of equitable access to quality education and lifelong learning opportunities. 4. The learner understands the important role of culture in achieving sustainability. 5. The learner understands that education can help create a more sustainable, equitable and peaceful world.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. raise awareness of the importance of quality education for all, a humanistic and holistic approach to education, and related approaches. 2. Analyse through participatory methods, to motivate and empower others to demand and use educational opportunities. 3. Recognize the intrinsic value of education and analyze and identify their own learning needs in their personal development. 4. Recognize the importance of their own skills for improving their life, employment and entrepreneurship. 5. Engage personally with ESD.

Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Contribute to facilitating and implementing quality education for all, ESD and related approaches at different levels. 2. Promote gender equality in education. 3. Publicly demand and support the development of policies promoting free, equitable and quality education for all, ESD and related approaches, as well as aiming at safe, accessible, and inclusive educational facilities. 4. Promote the empowerment of young people. 5. Use all opportunities for their own education throughout their life and apply the acquired knowledge in everyday situations to promote sustainable development.

Suggested topics for SDG 4 "Quality Education."
1. The Education 2030 agenda and innovative and successful case studies from across the globe 2. The relevance of inclusive and equitable quality education and lifelong learning opportunities for all (formal, non-formal and informal learning, including the use of ICT) and at all levels for improving people's lives and sustainable development 3. Reasons for lack of access to education (e.g. poverty, conflicts, disasters, gender inequality, lack of public financing of education, growing privatization) 4. Global attainment of literacy, numeracy and basic skills diversity and inclusive education 5. Basic skills and competencies needed in the 21st century 6. Knowledge, values, skills and behaviours needed to promote sustainable development 7. The concept of education for sustainable development (ESD), the whole-institution approach as a key strategy to scale up education for sustainable development, and pedagogy for developing sustainability competencies 8. Youth empowerment and empowerment of marginalized groups

Examples of learning approaches and methods for SDG 4 "Quality Education."
1. Lecture by use of boards/LCD projectors 2. Self- learning such as the use of NPTEL materials and websites, e.g., NRSC, NAASA, USGS 3. Interdisciplinary study, i.e., community medicine and Geospatial Technology.

SDG 6 - CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all

Teaching & Learning objectives for SDG 6 "Clean Water and Sanitation."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Subject: Geoinformatics for Hydrology • water quality monitoring through Remote Sensing. • Watershed Management using GIS and Remote Sensing
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Get knowledge on hydrology, scientific hydrology development, hydrological cycle etc. 2. Familiar with the application of GIS in water quality monitoring, water resource planning and management and Hydrologic Information System 3. Learn about Approaches to planning and development of water resources and methods to evaluate surface water resources and groundwater, policies and management. 4. Use of GIS for surface water modelling, groundwater modelling, and flood plain mapping.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 5. Deals with the basics of hydrology and also various remote sensing and GIS applications in the field of hydrology and water resources. 6. Understand the assessment of Basin and its hydrology using Geospatial technology. 7. Get exposure to the Groundwater and Watershed Management aspects of GIS. 8. Provide expected knowledge and skills to run water resources models.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Understand the importance of water management. 2. Contribute to water resources management at the local level. 3. Plan, implement, evaluate and replicate activities that contribute to increased water quality and safety using GIS technology. 4. Apply GIS to evaluate, participate in and influence decision-making on management strategies of local, national and international enterprises related to water pollution.

Suggested topics for SDG 6 "Clean Water and Sanitation."
5. Hydrologic Cycle, Hydrological parameters, porosity, permeability, specific yield, types of aquifers. Watershed Management, Watershed characterization, watershed problems and management strategy. Geoinformatics approach for watershed prioritization. 6. Subsurface Water Exploration: Application of remote Sensing in hydro- geomorphological interpretation for groundwater exploration, water quality monitoring through remote Sensing. 7. Geoinformatics based Runoff and hydrological modelling, flood Hazards modelling, snowmelt runoff modelling.

Examples of learning approaches and methods for SDG 6 "Clean Water and Sanitation."
1. Case Studies: Hydro-geomorphological mapping in Plateau region, Flood Prone zone mapping in Indo-Gangetic Plains, Water harvesting Initiatives in Urban built-up area. 2. Use of models and visual teaching aids in teaching the importance of water and watershed management. 3. Self- learning such as the use of NPTEL materials and websites, e.g. NRSC, NAASA, USGS

SDG 7 - AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and clean energy for all

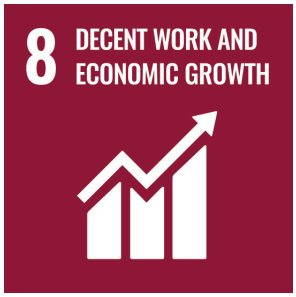
Teaching & Learning objectives for SDG 7 "Affordable and Clean Energy."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Site suitability for wind and solar energy plant using Geospatial Technology. • Spatial-Temporal analysis of the temperature.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. know the concept of affordable and Clean Energy. 2. Learn application of GIS in finding suitable areas of sustainable and clean energy.s 3. to analyze areas that have the potential to generate ocean current energy 4. Analyse of the Suitability Level of Solar Panel and windmill Locations using Remote Sensing Satellite Data. 5. Evaluate the overall spatiotemporal solar panel and windmill installation potential in the region. 6. Use the GIS technology that better identifies sites of maximum energy potential and optimized economic development while minimizing environmental impact.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. Communicate the need for energy efficiency and sufficiency. 2. Assess and understand the need for affordable, reliable, sustainable and clean energy for other people/other countries or regions. 3. Develop a vision of reliable, sustainable energy production, supply and usage in the region using GIS.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Apply GIS technology in order to increase energy efficiency and sufficiency and to increase the share of renewable energy in their local energy mix. 2. Apply basic principles to determine the most appropriate renewable energy strategy in a given situation. 3. Influence public policies related to energy production, supply and usage using a spatial decision support system.

Suggested topics for SDG 7 "Affordable and Clean Energy."
1. Affordable and Clean Energy through Geospatial Data
2. Use of GIS in finding suitable sites for new renewable energy sources.
3. Analysis of the Suitability Level of Solar Panel Locations using Remote Sensing Satellite Data.
4. evaluate the overall spatiotemporal solar panel installation potential in the region
5. GIS for innovative clean energy strategies.

Examples of learning approaches and methods for SDG 7 "Affordable and Clean Energy."
6. Case studies of research papers to understand the principles of energy and use of GIS.
7. Organize excursions to energy sites, including ethical discussions on the pros and cons of energy types and projects.
8. Conduct scenario analyses for future energy production, supply and usage.
9. Conduct an energy-saving campaign in one's own institution or at the local level.

SDG 8 - DECENT WORK AND ECONOMIC GROWTH



Promote sustained inclusive and sustainable economic growth, full a
nd productive employment, and decent work for all

Teaching & Learning objectives for SDG 8 "Decent Work and Economic Growth."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Spatial and temporal analysis of the population parameters, Economic indicators and spatial correlation.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Understands the concepts of sustained, inclusive and sustainable economic growth. 2. Use GIS for visualization, modelling, analysis, and collaboration. 3. Understand recording and presenting ecological and global geographical data that helps government and private professionals to make better decisions regarding the cities. 4. Compare Multiple Locations for Faster Decision Making.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner can discuss economic models and future visions of the economy and society critically and communicate them in public spheres. 2. The learner can collaborate with others to demand fair wages, equal pay for equal work and labour rights from politicians and from their employers. 3. The learner can understand how one's own consumption affects the working conditions of others in the global economy. 4. The learner can identify their individual rights and clarify their needs and values related to work.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. The learner can engage with new visions and models of a sustainable, inclusive economy and decent work. 2. The learner can facilitate improvements related to unfair wages, unequal pay for equal work and bad working conditions using GIS. 3. The learner can develop and evaluate the economic condition and its spatial variation using GIS.

Suggested topics for SDG 8 are "Decent Work and Economic Growth."
1. Principles of Economic Gardening Help Local Businesses Thrive using GIS.
2. The Right Location for business, Location-Based Problem.
3. Reforming Economic Development and Fighting Sprawl with Effective Maps.
4. Using Esri Business Analyst for planning project.
5. Compare Multiple Locations for Faster Decision Making.
6. Mapping Urban Inequalities with GIS.

Examples of learning approaches and methods for SDG 8 "Decent Work and Economic Growth."
1. Plan and implement entrepreneurial and social entrepreneurial projects Run student internships in conjunction with local businesses.
2. Explore the needs and perspectives of employers and employees through interviews. Map out multiple life and career paths.
3. Engage with employers in classroom activities.
4. Develop an enquiry-based project: "What can my career contribute to sustainable development?"

SDG 9 - INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build infrastructure, promote inclusive and sustainable industrialization and foster innovation
Teaching & Learning objectives for SDG 9 "Industry, Innovation and Infrastructure."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Site suitability analysis for establishing industries. • Network analysis for urban planning • GIS for Transportation Infrastructure Management • GIS For Infrastructure Planning And Development • GIS and BIM Integration in Infrastructure Design and Construction
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. understands the concepts of sustainable infrastructure and industrialization and society's needs for a systemic approach to their development. 2. Apply geospatial technology to achieve sustainability in infrastructure and industrialization. 3. Analysis of site suitability for industrial establishments, urban planning and transportation system.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner can propose a plan for sustainable, resilient and inclusive infrastructure in their local area using GIS. 2. The learner can encourage their communities to shift their infrastructure and industrial development toward more resilient and sustainable forms. 3. The learner can find collaborators to develop sustainable and contextual industries that respond to our shifting challenges and reach new markets. 4. The learner can recognize and reflect on the use of geospatial technology to Build infrastructure, promote inclusive and sustainable industrialization and foster innovation.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. The learner can identify opportunities in their own culture and nation for greener and more resilient approaches to infrastructure, understanding their overall benefits for societies, especially with regard to disaster risk reduction. 2. The learner can evaluate various forms of industrialization and compare their resilience using GIS. 3. The learner can work with decision-makers to improve the uptake of sustainable infrastructure by offering a spatial decision support system.

Suggested topics for SDG 9 "Industry, Innovation and Infrastructure."
1. GIS and BIM Integration in Infrastructure Design and Construction
2. Building Information Modeling in Construction and Design
3. The relation between quality infrastructure and the achievement of social, economic, and political goals
4. Utility GIS for basic infrastructures like roads, information and communication technologies, sanitation, electrical power, and water
5. The sustainability of transport infrastructure using GIS
6. Support and promote projects that create quality, reliable, sustainable, and resilient infrastructure.

Examples of learning approaches and methods for SDG 9 "Industry, Innovation and Infrastructure."
1. Engage students in developing GIS methodology for selection of location for the industry setup
2. Develop an inquiry-based project by integrating GIS and BIM.
3. ESRI GIS MOOC courses from the online portals
4. IIRS-EDUSAT programs for skill development

SDG 10 - REDUCED INEQUALITIES

Promote sustained inclusive and sustainable economic growth, full a
nd productive employment, and decent work for all
Teaching & Learning objectives for SDG 8 "Decent Work and Economic Growth."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Thematic map preparation using GIS • Spatial-temporal analysis of the index of inequality. • Spatial-temporal analysis of working and non-working population
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. knows different dimensions of inequality, their interrelations, and applied statistics. 2. Understands indicators that measure and describe inequalities and understand their relevance for decision-making. 3. Study and analysis of Geographic aspects of inequality and poverty 4. Calculate environmental equity for public policy.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner can raise awareness about inequalities. 2. The learner can feel empathy for and show solidarity with people who are discriminated against. 3. The learner can negotiate the rights of different groups based on shared values and ethical principles. 4. The learner becomes aware of inequalities in their surroundings as well as in the wider world and can recognize the problematic consequences. 5. The learner can maintain a vision of a just and equal world.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Evaluate inequalities in their local environment in terms of quality (different dimensions, qualitative impact on individuals) and quantity (indicators, quantitative impact on individuals). 2. Identify or develop an objective indicator to compare different groups, nations, etc., with respect to inequalities. 3. Identify and analyze different types of causes and reasons for inequalities. 4. Plan, implement and evaluate strategies to reduce inequalities. 5. Engage in the development of public policies and corporate activities that reduce inequalities.

Suggested topics for SDG 10 "Reduced Inequalities."
1. Social, economic and political inclusion versus inequalities (on national and global levels) – typical discriminatory categories 2. Different indicators to measure inequality 3. The meaning of rights to land, property and natural resources for equality and the impact of inequalities on vulnerabilities and capacities 4. Monitoring intra-urban inequalities with GIS-based indicators 5. Geographic aspects of inequality and poverty 6. Policy mapping - Improve newborn health 7. use of GIS and indicators to monitor intra-urban inequalities

Examples of learning approaches and methods for SDG 10 "Reduced Inequalities."
1. Case studies on GIS and inequality 2. Develop an inquiry-based project: "How GIS can be used to reduce inequalities?" 3. IIRS EDUSAT Programs and video tutorials

SDG 11 - SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable.
Teaching & Learning objectives for SDG 11 "Sustainable Cities and Communities."

Subject/ topic/ course in regular curriculum relating to SDG 1	• GIS for smart city, urban planning, • Transport planning, disaster management, and Solid waste management using GIS. • Urban flood, pollution, crime analysis using GIS. • rainwater harvesting and drainage planning in urban
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Understand the importance of GIS in Sustainable Urban Planning and Management. 2. Understands the role of local decision-makers and participatory governance and the importance of GIS in planning and policy for their area.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner can connect with and help community groups locally and online in developing a sustainable future vision of their community. 2. The learner can reflect on their region in the development of their own identity, understanding the roles that the natural, social and technical environments have had in building their identity and culture. 3. The learner can contextualize their needs within the needs of the greater surrounding ecosystems, both locally and globally, for more sustainable human settlements. 4. The learner can feel responsible for the environmental and social impacts of their own individual lifestyle.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. plan & participate in community-based sustainability projects. 2. Participate in decision processes about their community. 3. Co-create an inclusive, safe, resilient and sustainable community. 4. Study and resource needs, plan efficient land use and protect the environment by guaranteeing the survival of future generations.

. Suggested topics for SDG 11 "Sustainable Cities and Communities."
1. GIS in Sustainable Urban Planning and Management - OAPEN Management and use of natural resources (renewables and non-renewables)
2. GIS for Sustainable Energy (residential energy use, renewable energies, community energy schemes) and transportation
3. Sustainable food, climate change, and GIS
4. Human-Animal conflict using GIS and Remote Sensing.
5. Sustainable, resilient buildings and spatial planning (building materials, energy-saving, planning processes) Waste generation and management (prevention, reduction, recycling, reuse) using GIS
6. Water cycle and restoring groundwater through urban design (Green Roofs, rainwater harvesting, daylighting old riverbeds, sustainable urban drainage)
7. GIS for disaster preparedness and resilience, resilience to weather problems and in the future and a culture of prevention and preparedness.
8. Land use and urban sustainability assessment

Examples of learning approaches and methods for SDG 11 "Sustainable Cities and Communities."
1. Case Studies: GIS for smart cities and planning
2. Mapping projects: map the area to note where there is a good use of public open space, human-scale planning, areas where the needs of the community are addressed, green spaces, etc. This can also map the areas that need to be improved, such as areas most exposed to natural hazards.
3. Develop an enquiry-based project: "Would it be more sustainable if we all lived cities?"

SDG 12 - RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Teaching & Learning objectives for SDG 12 "Responsible Consumption and Production."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Solid Waste Management using GIS • Site suitability for agriculture and crops. • Spatial-Temporal analysis of the deforestation, forestation
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Understands how individual lifestyle choices influence social, economic and environmental development. 2. Understands production and consumption patterns and value chains and the interrelatedness of production and consumption (supply and demand, toxins, CO2 emissions, waste generation, health, working conditions, poverty, etc.). 3. Knows the roles, rights and duties of different actors in production and consumption (media and advertising, enterprises, municipalities, legislation, consumers, etc.). 4. Knows about strategies and practices of sustainable production and consumption.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. Communicate the need for sustainable practices in production and consumption. 2. Encourage others to engage in sustainable practices in consumption and production. 3. Differentiate between needs and wants and reflect on their own individual consumer behaviour considering the needs of the natural world, other people, cultures and countries, and future generations
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Plan, implement and evaluate consumption-related activities using existing sustainability criteria & GIS. 2. Ealuate, participate in and influence decision-making processes about acquisitions in the public sector. 3. Promote sustainable production patterns. 4. Able to take on critically their role as an active stakeholder in the market. 5. Challenge cultural and societal orientations in consumption and production.

Suggested topics for SDG 12 "Responsible Consumption and Production."
1. A GIS-Based Simulation Method for Regional Food Potential
2. GIS is used for the study of resource needs, plan efficient land use and protect the environment by guaranteeing the survival of future generations
3. investigate regional food consumption and production potential

Examples of learning approaches and methods for SDG 12 "Responsible Consumption and Production."
4. Calculate and reflect on one's individual ecological footprint
5. Analyze and investigate regional food consumption and production potential of the region using GIS.
6. Perform role plays dealing with different roles in a trading system (producer, advertiser, consumer, waste manager, etc.)
7. Case studies on GIS application on consumption and production.
8. IIRS EDISAT online programs and ESRI MOOCs.

SDG 12 - RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns

Teaching & Learning objectives for SDG 12 "Responsible Consumption and Production."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Subject: Geoinformatics for Natural Resource Management • Subject: Geoinformatics for Hydrology • Practical: Spatial-Temporal Analysis of the Climate change, • Land Surface Temperature and Urban Heartland. • Sea Surface temperature analysis using GIS & Remote Sensing. • Flood prediction, drought evaluation, snow cover mapping • Climate Indices using Geoinformatics • Climate Risk and Mitigation for sustainable development using GIS.
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. understands the greenhouse effect as a natural phenomenon caused by an insulating layer of greenhouse gases. 2. Knows about GIS application in prevention, mitigation and adaptation strategies at different levels (global to individual) and for different contexts and their connections with disaster response and disaster risk reduction. 3. Perform climate mapping and prediction for future projected changes in climate by using GIS data 4. Apply the GIS decision support system to study spatial-temporal analysis of the climate elements
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. explain ecosystem dynamics and the environmental, social, economic and ethical impact of climate change. 2. Encourage others to protect the climate. 3. Collaborate with others and develop agreed-upon strategies commonly to deal with climate change. 4. Understand their personal impact on the world's climate, from a local to a global perspective.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. act in favour of people threatened by climate change. 2. Anticipate, estimate and assess the impact of personal, local and national decisions or activities on other people and world regions. 3. Promote climate-protecting public policies. 4. Support climate-friendly economic activities.

Suggested topics for SDG 13 "Climate Action."
1. Uses of GIS & RS in Climate Change Detection
2. Climate Wizard Delivers Climate Change Data and Models
3. Assessing Economic Biomass Resources
4. Automated GIS Process Is Creating a Snapshot of Biomass and Carbon in the forest.
5. Mapping the Solar Potential of Rooftops
6. Harvesting Efficiently Using Mobile GIS
7. National Carbon Sequestration (NatCarb)
8. GIS and the Science Behind Tapping Wind Power Offer Insight on the Resource's Feasibility

Examples of learning approaches and methods for SDG 13 "Climate Action."
1. Climate change education (CCE)
2. Analyze different climate change scenarios concerning their assumptions, consequences and their preceding development paths
3. Develop and run an action project or campaign related to climate protection using GIS
4. Develop a web page or blog for group contributions related to climate change issues
5. Develop a study case about how climate change could increase the risk of disasters in a local community
6. Develop an enquiry-based project investigating the statement "Those who caused the most damage to the atmosphere should pay for it."
7. Carry out seminars and workshops

SDG 12 - RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns
Teaching & Learning objectives for SDG 12 "Responsible Consumption and Production."

Subject/ topic/ course in regular curriculum relating to SDG 1	• Geoinformatics For Hydrology • Groundwater and Watershed Management aspects of GIS. • water resources models • application of GIS in water quality monitoring, water resource planning and management and Hydrologic Information System • planning and development of water resources and methods to evaluate surface water resources and groundwater, policies, and management. • Use of GIS for surface water modelling, groundwater modelling, and flood plain mapping. • Subsurface Water Exploration: Application of remote Sensing in hydro- geomorphological interpretation for groundwater exploration, water quality monitoring through remote Sensing
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. The learner understands basic marine ecology, ecosystems, predator-prey relationships, etc. 2. understands the use of GIS Methodology to Measure Eutrophication Using Satellite Data 3. study information about chlorophyll and potential fishing zones using GIS 4. The learner understands threats to ocean systems such as pollution and overfishing and recognizes and can explain the relative fragility of many ocean ecosystems, including coral reefs and hypoxic dead zones. 5. The learner knows about opportunities for the sustainable use of living marine resources.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. The learner understands basic marine ecology, ecosystems, predator-prey relationships, etc. 2. understands the use of GIS Methodology to Measure Eutrophication Using Satellite Data 3. study information about chlorophyll and potential fishing zones using GIS 4. The learner understands threats to ocean systems such as pollution and overfishing and recognizes and can explain the relative fragility of many ocean ecosystems, including coral reefs and hypoxic dead zones. 5. The learner knows about opportunities for the sustainable use of living marine resources.

Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. research their country's dependence on the sea. 2. Debate sustainable methods such as strict fishing quotas and moratoriums on species in danger of extinction. 3. Able to identify, access, and buy sustainably harvested marine life, e.g. ecolabel certified products. 4. Campaign for expanding no-fish zones and marine reserves and for their protection on a scientific basis.

Suggested topics for SDG 14 "Life Below Water."
1. The hydrosphere: The water cycle, cloud formation, water as the great climate regulator 2. Management and use of marine resources (renewables and non-renewables): global commons and overfishing, quotas and how they are negotiated, aquaculture, seaweed, mineral resources using GIS 3. GIS for Coral reefs, coasts, mangroves and their ecological importance 4. GIS for Sea level rise and countries that will experience total or partial loss of land; climate refugees, and what a loss of sovereignty will mean 5. The oceans and international law: international waters, territory disputes, flags of convenience and their related issues 6. Remote Sensing is used for the study of ocean pollutants: plastics and microbeads. 7. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Examples of learning approaches and methods for SDG 14 "Life Below Water."
1. Develop and run a (youth) action project related to life below water 2. Conduct a case study about cultural and subsistent relationships to the sea in different countries. Conduct lab experiments to provide students with evidence of ocean acidification 3. Develop an inquiry-based project: "Do we need the ocean, or does the ocean need us?"

SDG 15 - 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

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

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 1. 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. 2. 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. 3. 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	At the end of final year the student should be able to 1. argue against destructive environmental practices that cause biodiversity loss. 2. Connect with their local natural areas and feel empathy with non-human life on Earth. 3. Question the dualism of human/nature and realizes that we are a part of nature and not apart from nature. 4. 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 1. effectively use GIS to study wildlife through the establishment of wildlife corridors, agro-environmental schemes, restoration ecology and more. 2. Highlight the importance of soil as our growing material for all food and the importance of remediating or stopping the erosion of our soils. 3. 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."
4. 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.) 5. GIS for restoration of wildlife and seeing humans as a healing force 6. 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) 7. Land Degradation Assessment & SDG monitoring in GIS 8. Desertification, deforestation and efforts to combat them

Examples of learning approaches and methods for SDG 15 "Life on Land."
9. Map the local area, mark areas of various wildlife populations as well as barriers, such as dispersal barriers like roads and invasive species populations 10. Perform an annual day when the community comes together to map as many different species in their area as possible 11. Run a composting workshop and show the organic material formation 12. Take an excursion to a nearby parkland for cultural purposes, e.g. recreation, meditation, or art. 13. 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. 14. Develop an enquiry-based project: "Why is biodiversity important?"

SDG 17 - PARTNERSHIPS FOR THE GOALS

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 1	• GIS for planning and management • GIS for implementing policies • Utility mapping and urban developement • GIS for spatial discion support system
Cognitive Teaching & learning objectives	At the end of 2nd year the learner should be able to 1. Understands global issues, including issues of financing for development, taxation, debt and trade policies, and the interconnectedness and interdependency of different countries and populations. 2. Understands the importance of global multi-stakeholder partnerships and the shared accountability for sustainable development and knows examples of networks, institutions, and campaigns of global partnerships. 3. Knows the concepts of global governance and global citizenship. 4. Recognizes the importance of cooperation on and access to science, technology and innovation, and knowledge sharing. 5. Knows concepts for measuring progress on sustainable development.
Socio-emotional Teaching & learning objectives	At the end of final year the student should be able to 1. Raise awareness about the importance of global partnerships for sustainable development. 2. Work with others to promote global partnerships for sustainable development and demand governments' accountability for the SDGs. 3. Take ownership of the SDGs. 4. Create a vision for a sustainable global society. 5. Experience a sense of belonging to common humanity, sharing values and responsibilities based on human rights.
Behavioural Teaching & learning objectives	At the end of the program the learner should be able to 1. Become a change agent to realize the SDGs and take on their role as an active, critical and global and sustainable citizen. 2. Contribute to facilitating and implementing local, national and global partnerships for sustainable development. 3. Publicly demand and support the development of policies promoting global partnerships for sustainable development. 4. Support development cooperation activities. 5. Influence companies to become part of global partnerships for sustainable development.

Suggested topics for SDG 17 "Partnerships for the Goals."
1. Global partnerships between governments, the private sector and civil society for sustainable development, their shared accountability and possible conflicts between the different actors 2. Global governance and policies and the global market and trading system in the light of sustainable development 3. Global citizenship and citizens as change agents for sustainable development 4. Cooperation on and access to science, technology and innovation, and knowledge sharing Global distribution of access to the internet 5. Development cooperation, development assistance, and additional financial resources for developing countries from multiple sources 6. Capacity-building to support national plans to implement all the SDGs. Measurements of progress on sustainable development using GIS

Examples of learning approaches and methods for SDG 17 "Partnerships for the Goals."
1. Develop partnerships or global web-based distance education experiences between schools, universities or other institutions in different regions of the world 2. Analyze the development and implementation of global policies on climate change, biodiversity, etc. 3. Analyze the progress in implementing the SDGs globally and at the national level, and determine who is accountable for progress or lack thereof 4. Plan and implement an SDGs awareness campaign 5. Perform simulation games related to global conference negotiations (e.g. National Model United Nations). Plan and run a (youth) action project on the SDGs and their importance 6. Develop an enquiry-based project: "Together we can….Explore this commonly used phrase and how it applies to the SDGs."\

CONCLUSIONS

Institutions & individuals can contribute to achieving the SDGs by developing cross-cutting sustainability competencies that are needed to deal with many different sustainability challenges and to relate the different SDGs to each other. The institution can equip learners with the specific cognitive, socio-emotional and behavioural learning outcomes that enable them to deal with the particular challenges of each SDG.

To make it possible for everyone around the world to take action in favour of the SDGs, all educational institutions must consider it their responsibility to deal intensively with sustainable development issues, foster the development of sustainability competencies and develop the specific learning outcomes related to all SDGs. Therefore it is vital not only to include SDG-related content in the curricula but also to use action-oriented transformative pedagogy.

Education officials, policy-makers, educators, curriculum developers and others are called upon to rethink education in order to contribute to the achievement of the SDGs within their timeframe, between now and 2030. This guidance provides an orientation to the sustainability competencies and specific cognitive, socio-emotional and behavioural learning outcomes that are relevant to this goal, and it outlines what is needed to implement learning for the SDGs through Educational Institutions.

Education for Sustainable Development Goals - Teaching & Learning Objectives

To create a more sustainable world and to engage with issues related to sustainability as described in the Sustainable Development Goals (SDGs), individuals must become sustainability change-makers. They require the knowledge, skills, values and attitudes that empower them to contribute to sustainable development. Education is thus crucial for the achievement of sustainable development, and Education for Sustainable Development is particularly needed because it empowers learners to take informed decisions and act responsibly for environmental integrity, economic viability and a just society for present and future generations.

This handbook guides readers on how to use education, especially to achieve the SDGs. It identifies teaching & learning objectives, suggests topics and learning activities for each SDG, and describes implementation at different levels, from course design to national strategies. The document aims to support policy-makers, curriculum developers and educators in designing strategies, curricula and courses to promote learning for the SDGs.

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'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 resources. 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, restorationrestoration of temples and historical monuments.

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