

JSS Dental College & Hospital
JSS Academy of Higher Education & Research

ISO 9001:2015 Certified, Accredited "A+" Grade by NAAC
JSS Medical Institution Campus, S.S. Nagar, Mysuru - 570015



Education for Sustainable Development Goals

**Teaching & Learning
Objective Handbook**



SUSTAINABLE DEVELOPMENT GOALS

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 of culture's contribution to sustainable development.

Source: United Nations, 2015





Preface / Foreword

An enormous shift is about to take place on a worldwide scale. To achieve a more wealthy, more egalitarian, and more secure world by the year 2030, the worldwide community has established the “17 Sustainable Development Goals” via the United Nations. With the SDGs, we can work to reduce poverty, hunger, health and well-being and gender equality as well as to improve water and sanitation as well as to reduce inequalities in the workplace as well as to improve sustainable cities as well as to reduce climate change as well as to promote peace and justice. Since the Sustainable Development Goals (SDGs) were incorporated into Indian policy, the Indian government has shown a strong commitment to the 2030 agenda, which includes the SDGs.

JSS Dental College & hospital, a member institution of the JSS Academy of Higher Education and Research, Mysuru has shown a strong commitment to helping the world meet the goals of the Sustainable Development Goals (SDGs) in every way possible. In order to attain academic excellence in medical and health professions education, the Institution relies on the efforts of high-quality teachers, a modern teaching environment, and research projects.

Realizing how important it is to accomplish sustainable development objectives, we are actively working to provide health care workers of the future with the necessary information, training, and support in these areas as part of their normal education. Undergraduate and graduate health science education programs use integrated strategy to help students gain knowledge and skills related to sustainable development objectives. Sustainable development objectives can only be achieved if young people are given the opportunity to learn about global issues and acquire a global attitude as a result of their education.

I really hope that this teaching learning objective guidebook will serve as a resource for all health care providers, both current and future, to better understand and execute SDG-centered teaching and learning practices.

Dr Ravindra S

Principal

JSS Dental College & Hospital



TABLE OF CONTENTS

CONTENTS	PAGE NUMBER
Goal-1: No Poverty	09
Goal-2: Zero Hunger	11
Goal-3: Good health and wellbeing	13
Goal-4: Quality Education	15
Goal-5: Gender equity	17
Goal-6: Clean water and sanitation	19
Goal-7: Affordable and Clean Energy	21
Goal-8: Decent Work and Economic Growth	23
Goal-9: Industry, Innovation and Infrastructure	25
Goal-10: Reduce inequality within and among countries	27
Goal-11: Sustainable Cities and Communities	29
Goal-12: Responsible Consumption and production	31
Goal-13: Climate Action	33
Goal-14: Life Below Water	35
Goal-15: Life on Land	37
Goal-16: Peace, Justice and Strong Institutions	39
Goal-17: Partnership for the Goals	41



INTRODUCTION

The Sustainable Development Goals – an ambitious and universal agenda to transform our world on 25th 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)

- 1 No Poverty – End poverty in all its forms everywhere
- 2 Zero Hunger – End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- 3 Good Health and Well-Being – Ensure healthy lives and promote well-being for all at all ages
- 4 Quality Education – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- 5 Gender Equality – Achieve gender equality and empower all women and girls
- 6 Clean Water and Sanitation – Ensure availability and sustainable management of water and sanitation for all
- 7 Affordable and Clean Energy – Ensure access to affordable, reliable, sustainable, and clean energy for all
- 8 Decent Work and Economic Growth – Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all
- 9 Industry, Innovation and Infrastructure – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- 10 Reduced Inequalities – Reduce inequality within and among countries
- 11 Sustainable Cities and Communities – Make cities and human settlements inclusive, safe, resilient and sustainable
- 12 Responsible Consumption and Production – Ensure sustainable consumption and production patterns
- 13 Climate Action – Take urgent action to combat climate change and its impacts
- 14 Life below Water – Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- 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
- 16 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
- 17 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>



4 QUALITY EDUCATION





4 QUALITY
EDUCATION





Teaching & Learning objectives for SDG 1 “No Poverty”

Subject/ topic/ course in regular curriculum relating to SDG 1	<ul style="list-style-type: none"> • Definition of poverty and poverty line • Social sciences and Health. (Poverty, health, and oral Health) • Strategies to reduce poverty at local and regional level 	<ul style="list-style-type: none"> • Dept Of Public health Dentistry • III BDS IV BDS INTERNS & PG’s
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands the concepts of extreme and relative poverty and can critically reflect on their underlying cultural and normative assumptions and practices. • The learner knows about the local, national and global distribution of extreme poverty and extreme wealth. • 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. • The learner understands how extremes of poverty and extremes of wealth affect basic human rights and needs. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can collaborate with others to empower individuals and communities to affect change in the distribution of power and resources in the community and beyond. • The learner can raise awareness about extremes of poverty and wealth and encourage dialogue about solutions. • The learner can show sensitivity to the issues of poverty as well as empathy and solidarity with poor people and those in vulnerable situations.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can plan, implement, evaluate, and replicate activities that contribute to poverty reduction. • The learner can evaluate, participate in and influence decision-making concerning poverty generation and eradication. • The learner can include poverty reduction, social justice and anti-corruption considerations in their consumption activities. • The learner can propose solutions to address systemic problems related to poverty.

Examples of learning approaches and methods for SDG 1 “No Poverty”

- Develop partnerships between schools and universities in different regions of the country/ world
- Plan and run an awareness campaign about poverty locally and globally Plan and run a student company selling fair trade products
- Plan and implement local service-learning and/or engagement opportunities for empowering poor people, reducing their vulnerability to different hazards and increasing their resilience – in collaboration with NGOs, the private sector and/or community groups, etc.
- Conduct a case study on poverty and wealth in selected countries (through desktop research) or at the local level (through excursions, doing interviews, etc.)
- Provide internships within organizations addressing poverty
- Develop an enquiry-based project around: “Is poverty increasing or decreasing?”

Suggested topics for SDG 1 “No Poverty” for students workshop

- Definitions of poverty – Learning exercise
- Reason for Global, national and local distribution of extreme poverty and extreme wealth Case study
- The interrelation of poverty, natural hazards, climate change and other economic, social and environmental shocks and stresses – Group exercise, debate, skits
- Work conditions related to poverty such as , child labour and modern slavery – Case study
- Consequences of poverty such as malnutrition, mortality, and violence - Essay & assignments
- Policy frameworks at the local, national and international levels, based on pro-poor and gender-sensitive development strategies – Reading and understanding



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 2	<ul style="list-style-type: none"> • Nutrition and Health • Nutritional Deficiency disorders in India • National Nutritional Program, • Strategies to reduce Nutritional Deficiency disorder at local and regional level. 	<ul style="list-style-type: none"> • Dept of Oral Pathology/ Oral Medicine & radiology/ Public health Dentistry & All other specialties • III BDS IV BDS INTERNS & PG’s
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner knows about hunger and malnutrition and their main physical and psychological effects on human life, and about specific vulnerable groups. • The learner knows about the amount and distribution of hunger and malnutrition locally, nationally and globally, currently as well as historically. • The learner knows the main drivers and root causes for hunger at the individual, local, national and global level. • The learner understands the need for sustainable agriculture to combat hunger and malnutrition worldwide and knows about other strategies to combat hunger, malnutrition and poor diets 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can communicate on the issues and connections between combating hunger and promoting sustainable agriculture and improved nutrition. • The learner can create a vision for a world without hunger and malnutrition. • The learner can reflect on their own values and deal with diverging values, attitudes, and strategies in relation to combating hunger and malnutrition and promoting sustainable agriculture. • The learner can feel empathy, responsibility, and solidarity for and with people suffering from hunger and malnutrition.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can evaluate and implement actions personally to combat hunger and to promote sustainable agriculture. • The learner can evaluate, participate in and influence decision-making related to hunger and malnutrition and the promotion of sustainable agriculture. • The learner can take on critically their role as an active global citizen in the challenge of combating hunger. • The learner can change their production and consumption practices in order to contribute to the combat against hunger and the promotion of sustainable agriculture.

Suggested topics for SDG 2 “Zero Hunger”

- Definition of the concept of hunger and malnutrition
- Groups that are particularly vulnerable to hunger and malnutrition
- Main drivers and root causes of hunger and malnutrition, including the relation between climate change and food security and the depletion of soil quality
- Consequences of hunger and malnutrition on the health and well-being of people, including practices like migration as adaptation
- Physical, emotional and socio-cultural functions of food Hunger in relation to food abundance, obesity and food waste
- Global food – import, export, cash crops, international taxes, subsidies, trading systems, merits, risks and challenges of utilising genetically modified organisms
- Institutions and movements related to hunger and sustainable agriculture like the UN’s Food and Agriculture Organization (FAO), Foodwatch, Slow Food, community-based agriculture, the international movement Via Campesina, etc.
- Concepts and principles of sustainable agriculture, including climate-resilient practices, organic farming, biodynamic farming, permaculture and agro-forestry
- Biodiversity of seeds, plants and animals, particularly in relation to wild species

Examples of learning approaches and methods for SDG 2 “Zero Hunger”

- Perform role-plays with small-scale producers versus big enterprises in a global market
- 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 in the food production systems
- 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
- Organize excursions and field trips to places where sustainable agriculture is practiced
- Follow food from farm to fork – growing, harvesting and preparing food, e.g. in urban or school gardening projects
- Engage students in efforts to connect leftover food with people in need Conduct a Life





Teaching & Learning objectives for SDG 3 “Good Health & Well being”

<p>Subject/ topic/ course in regular curriculum relating to SDG 3</p>	<ul style="list-style-type: none"> • Epidemiology of common oral diseases • Concept of Health and disease • Prevention and management of oral diseases • Environment and Health • Health Care Delivery Systems 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
<p>Cognitive Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner knows conceptions of health, hygiene and well-being and can critically reflect on them, including an understanding of the importance of gender in health and well-being. • The learner knows facts and figures about the most severe communicable and non- communicable diseases, and the most vulnerable groups and regions concerning illness, disease, and premature death. • The learner understands the importance of mental health. The learner understands the negative impacts of behaviours like xenophobia, discrimination and bullying on mental health and emotional well-being and how addictions to alcohol, tobacco or other drugs cause harm to health and well-being. • The learner knows relevant prevention strategies to foster positive physical and mental health and well-being, including reproductive health and information as well as early warning and risk reduction. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can interact with people suffering from illnesses and feel empathy for their situation and feelings. • The learner can communicate about issues of health, including reproductive health, and well-being • The learner can encourage others to decide and act in favour of promoting health and well-being for all. • The learner can create a holistic understanding of a life of health and well-being, and to clarify related values, beliefs, and attitudes. • The learner can develop a personal commitment to promoting health and well-being for themselves, their family, and others, including considering volunteer or professional work in health and social care.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can include health promoting behaviours in their daily routines. • The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others. • The learner has the capacity to perceive when others need help and to seek help for themselves and others.

Suggested topics for SDG 3 “Good Health and Well-being”

- Define : Severe communicable and non-communicable diseases
- Health problems of vulnerable groups and in the most vulnerable regions, and an understanding of how gender inequalities may affect health and well-being
- Direct strategies to promote health and well-being, e.g. vaccines, healthy food, physical activity, mental health, medical consultation, education, reproductive health education including education about pregnancy and safer sex and family planning . (FOR HIGHER CLASSES ABOVE 8TH GRADE – Depending on the country’s cultural and religious interest)
- Indirect strategies (public health) to promote health and well-being: e.g. political programs for health insurances, affordable prices of medicine, health services including reproductive health care services, drug prevention, transfer of knowledge and technology, reduction of pollution and contamination, early warning and risk reduction
- Philosophical and ethical conceptions of life quality, well-being, and happiness
- Discriminatory attitudes towards people living with HIV, other illnesses, or mental disorders Road traffic accidents
- Overweight and obesity, insufficient physical activity, and unhealthy food
- Chemicals, greenhouse gases, pollution and contamination of air, water, and soil

Examples of learning approaches and methods for SDG 3 “Good Health and Well-Being”

- Set up an information stand in the city, e.g. on “World AIDS Day” (December 1)
- Watch videos that show health promoting behaviours (e.g. saying “No” to drug offers)
- Participate in ethical, reflective essay writing and/or discussions about what a life of health and well-being means
- Engage with storytelling by people with severe diseases, drug addictions, etc.
- Organize training on health promotion and illness prevention strategies (e.g. participating in physical activities, preparing healthy food, installing a mosquito net, detecting and managing sources of waterborne diseases)
- Conduct projects epidemic and endemic disease – success vs. challenges (Corona , Malaria, Zika, Ebola, etc.)
- Develop an enquiry-based project, ‘Is living longer a good thing?’



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”

<p>Subject/ topic/ course in regular curriculum relating to SDG 4</p>	<ul style="list-style-type: none"> • Fundamentals in Research methodology • Aesthetic dentistry and Implantology • Insight into advanced imaging modalities • Management of Medical Emergencies in Dental Practice 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
<p>Cognitive Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner understands the important role of education and lifelong learning opportunities for all (formal, non-formal and informal learning) as main drivers of sustainable development, for improving people’s lives and in achieving the SDGs. • 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. • 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 a lack of equitable access to quality education and lifelong learning opportunities. • The learner understands the important role of culture in achieving sustainability. • The learner understands that education can help create a more sustainable, equitable and peaceful world. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can raise awareness of the importance of quality education for all, a humanistic and holistic approach to education, and related approaches. • The learner is able through participatory methods to motivate and empower others to demand and use educational opportunities. • The learner can recognize the intrinsic value of education and to analyse and identify their own learning needs in their personal development. • The learner can recognize the importance of their own skills for improving their life, for employment and entrepreneurship. • The learner can engage personally with ESD.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can contribute to facilitating and implementing quality education for all, ESD and related approaches at different levels. • The learner can promote gender equality in education. • The learner can 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. • The learner can promote the empowerment of young people. • The learner can use all opportunities for their own education throughout their life, and to apply the acquired knowledge in everyday situations to promote sustainable development.

Suggested topics for SDG 4 “Quality Education”

- The Education 2030 agenda, and innovative and successful case studies from across the globe
- 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
- Reasons for a lack of access to education (e.g. poverty, conflicts, disasters, gender inequality, lack of public financing of education, growing privatization)
- Global attainment of literacy, numeracy and basic skills Diversity and inclusive education
- Basic skills and competencies needed in the 21st century
- Knowledge, values, skills and behaviours needed to promote sustainable development
- The concept of education for sustainable development (ESD), whole-institution approach as a key strategy to scale up education for sustainable development, and pedagogy for developing sustainability competencies
- Youth empowerment and empowerment of marginalized groups

Examples of learning approaches and methods for SDG 4 “Quality Education”

- Develop partnerships between schools, universities and other institutions offering education in different regions of the world
- Plan and run a quality education awareness campaign
- Conduct a case study on the education system and access to education (e.g. enrolment in primary education) in selected communities or countries
- Plan and run a project at a school or university, or for the local community on quality education
- Celebrate UN World Youth Skills Day, International Literacy Day or World Teachers’ Day; or take part in Global Action Week for Education
- Organize ESD days at local, regional, and national level
- Develop an enquiry-based project: “What is a sustainable school?”



SDG 5

GENDER EQUALITY



ACHIEVE GENDER EQUALITY AND EMPOWER ALL WOMEN AND GIRLS

Teaching & Learning objectives for SDG 5 “Gender Equality”

Subject/ topic/ course in regular curriculum relating to SDG 5	<ul style="list-style-type: none"> Child abuse and Neglect Domestic violence Oral Health for pregnant and Lactating Mothers Demographics and Family Planning 	<ul style="list-style-type: none"> All specialties in Dentistry All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> The learner understands the concept of gender, gender equality and gender discrimination and knows about all forms of gender discrimination, violence and inequality and understands the current and historical causes of gender inequality. The learner understands the basic rights of women and girls, including their right to freedom from exploitation and violence and their reproductive rights. The learner understands levels of gender equality within their own country and culture in comparison to global norms (while respecting cultural sensitivity), including the intersectionality of gender with other social categories such as ability, religion and race. The learner knows the opportunities and benefits provided by full gender equality and participation in legislation and governance, including public budget allocation, the labour market and public and private decision-making. The learner understands the role of education, enabling technology and legislation in empowering and ensuring the full participation of all genders 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can recognize and question traditional perception of gender roles in a critical approach, while respecting cultural sensitivity. • The learner can identify and speak up against all forms of gender discrimination and debate the benefits of full empowerment of all genders. • The learner can connect with others who work to end gender discrimination and violence, empower those who may still be disempowered and promote respect and full equality on all levels. • The learner can reflect on their own gender identity and gender roles. • The learner can feel empathy and solidarity with those who differ from personal or community gender expectations and roles.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can take the measure of their surroundings to empower themselves or others who are discriminated against because of their gender. • The learner can evaluate, participate in and influence decision-making about gender equality and participation. • The learner can support others in developing empathy across genders and breaking down gender discrimination and violence. • The learner can observe and identify gender discrimination. • The learner can plan, implement, support and evaluate strategies for gender equality.

Suggested topics for SDG 5 “Gender Equality”

- Gender as a social and cultural construct
- Gender inequality, traditional gender roles and structural discrimination Gender equality and participation in decision-making
- Gender and labour, including pay disparity and recognition of unpaid work
- Gender and education, including gender equality in achieving primary, secondary and tertiary levels of education
- Gender and poverty, including food security and financial dependence
- Gender in community dynamics (decision-making, governance, child care, education, conflict resolution, disaster risk reduction and climate change adaptation)
- Exploitation and trafficking of women and girls
- The intersectionality of gender with other social categories such as ability, religion and race

Examples of learning approaches and methods for SDG 5 “Gender Equality”

- Celebrate the International Day for the Elimination of Violence Against Women
- Invite speakers who have experienced violence based on gender identity or orientation
- Perform role-play games that explore inclusion and identity based on gender roles
- Partner with groups from other parts of the world where the approach to gender may be different Spend a day working in traditional women’s or men’s work (swap work)
- Explore how natural hazards and disasters affect women, girls, men and boys differently
- Develop an enquiry-based project: “What is the difference between equality and equity and how does it apply to the world of work?”



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 6	<ul style="list-style-type: none"> • Environment and Health (potable water, water borne diseases, water purification) • Biomedical Waste Management • Infection control and Asepsis • Health Education on importance of clean water and sanitation 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands water as a fundamental condition of life itself, the importance of water quality and quantity, and the causes, effects and consequences of water pollution and water scarcity. • The learner understands that water is part of many different complex global interrelationships and systems. • The learner knows about the global unequal distribution of access to safe drinking water and sanitation facilities. • The learner understands the concept of Integrated Water Resources Management (IWRM) and other strategies for ensuring the availability and sustainable management of water and sanitation, including flood and drought risk management. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can participate in activities of improving water and sanitation management in local communities. • The learner can communicate about water pollution, water access and water saving measures and to create visibility about success stories. • The learner can feel responsible for their water use. • The learner can see the value in good sanitation and hygiene standards. • The learner can question socio-economic differences as well as gender disparities in the access to safe drinking water and sanitation facilities.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can cooperate with local authorities in the improvement of local capacity for self-sufficiency. • The learner can contribute to water resources management at the local level. • The learner can reduce their individual water footprint and to save water practicing their daily habits. • The learner can plan, implement, evaluate and replicate activities that contribute to increasing water quality and safety. • The learner can 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”

- The global water cycle and water distribution
- The importance of equitable access to safe and affordable drinking water (achieving water security under climate change: e.g. coping with social and economic pressure caused by frequent waves of droughts and hence water shortages, and by floods and hence too much water)
- The importance of adequate and equitable sanitation and hygiene, water quality and quantity parameters for health
- The human right to water and water as a global common good
- Impacts of pollution, dumping and release of hazardous chemicals and materials on water quality
- Water scarcity and water use efficiency
- Importance of water-related ecosystems
- Water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies, water patents, landscaping for groundwater recharge as well as integrated water resources management
- Water exports (virtual water)
- Water and sustainable development (e.g. water and gender, water and inequality, water and health, water and cities, water and energy, water and food security, water and disaster risk reduction, water and climate change, water and the green economy, water and jobs)

Examples of learning approaches and methods for SDG 6 “Clean Water and Sanitation”

- Calculate one’s own water footprint (WF)⁴
- Develop a concept for local sustainable water use and supply based on success stories Develop school partnerships between schools in regions with abundance or scarcity of water
- Organize excursions and field trips to local water infrastructures, and monitor water quality at school and home Plan and run an awareness campaign or youth action project on water and its importance
- Develop a project work on the invisible water, e.g. how much water in a litre of beer, a kilo of beef, a teeshirt, etc.
- Develop an enquiry-based project: “What human activity can happen without water?”



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”

<p>Subject/ topic/ course in regular curriculum relating to SDG 7</p>	<ul style="list-style-type: none"> • Radiation Protection • Air and Water pollution and its impact on environment • Application of renewable energy in dental care – Ecofriendly Dental Practice 	<ul style="list-style-type: none"> • Oral Medicine and Radiology, Public Health Dentistry & Dental Mechatronics • All undergraduate and post graduate students
<p>Cognitive Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner knows about different energy resources – renewable and non-renewable – and their respective advantages and disadvantages including environmental impacts, health issues, usage, safety and energy security, and their share in the energy mix at the local, national and global level. • The learner understands the concept of energy efficiency and sufficiency and knows socio-technical strategies and policies to achieve efficiency and sufficiency. • The learner understands how policies can influence the development of energy production, supply, demand and usage. • The learner knows about harmful impacts of unsustainable energy production, understands how renewable energy technologies can help to drive sustainable development and understands the need for new and innovative technologies and especially technology transfer in collaborations between countries. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can communicate the need for energy efficiency and sufficiency. • The learner can assess and understand the need for affordable, reliable, sustainable and clean energy of other people/other countries or regions. • The learner can cooperate and collaborate with others to transfer and adapt energy technologies to different contexts and to share energy best practices of their communities. • The learner can clarify personal norms and values related to energy production and usage as well as to reflect and evaluate their own energy usage in terms of efficiency and sufficiency. • The learner can develop a vision of a reliable, sustainable energy production, supply and usage in their country.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can apply and evaluate measures in order to increase energy efficiency and sufficiency in their personal sphere and to increase the share of renewable energy in their local energy mix. • The learner can apply basic principles to determine the most appropriate renewable energy strategy in a given situation. • The learner can influence public policies related to energy production, supply and usage. • The learner can compare and assess different business models and their suitability for different energy solutions and to influence energy suppliers to produce safe, reliable and sustainable energy.

Suggested topics for SDG 7 “Affordable and Clean Energy”

- Different energy types, especially renewable energies like solar, wind, water, geothermal, tidal Energy production, supply, demand and usage of different countries
- Energy efficiency and sufficiency in energy usage
- Strategies: Centralized versus decentralized energy production; energy self-sufficiency, e.g. via local energy supply companies (LESCOs)
- Political, economic and social dimensions of energy and linkages to power constellations, e.g. in mega energy projects like large scale solar farms or dam projects – potential conflict of interests (political and economic power (across borders), rights of especially indigenous people)
- Environmental impacts and issues of energy production, supply and usage (e.g. climate change, grey energy)
- The role of the public and private sectors in ensuring the development of low carbon energy solutions Peak of oil production and energy security – (over)dependence on non-renewable energies like oil Bridging technologies and technology for a ‘cleaner’ use of fossil fuels
- Gender issues related to energy production, supply and usage

Examples of learning approaches and methods for SDG 7 “Affordable and Clean Energy”

- Experiment with renewable energy technologies
- Reflect on and discuss own energy usage, e.g. ranking reasons for energy usage on a (subjective) dimension of “for fulfilling basic needs” (e.g. energy for cooking) to “for a luxury lifestyle” (e.g. energy for a swimming pool)
- Organize excursions to energy sites including ethical discussions with pros and cons of energy types and projects
- Conduct scenario analyses for future energy production, supply and usage Conduct an energy saving campaign in one’s own institution or at the local level
- Run a group project on how much energy is required to produce our daily needs, e.g. loaf of bread, cereal, etc.
- Develop an enquiry-based project: “How are energy and human well-being linked?”



SDG 8

DECENT WORK AND ECONOMIC GROWTH



PROMOTE SUSTAINED INCLUSIVE AND SUSTAINABLE ECONOMIC GROWTH, FULL AND 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 8	<ul style="list-style-type: none"> • Health Policies and management • Dental Practice management • Health Administration • Ergonomics in Dentistry • Dental Ethics • Webinars on career guidance 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands the concepts of sustained, inclusive and sustainable economic growth, full and productive employment, and decent work, including the advancement of gender parity and equality, and knows about alternative economic models and indicators. • The learner has knowledge about the distribution of formal employment rates per sector, informal employment, and unemployment in different world regions or nations, and which social groups are especially affected by unemployment. • The learner understands the relation between employment and economic growth and knows about other moderating factors like a growing labour force or new technologies that substitute jobs. • The learner understands how innovation, entrepreneurship and new job creation can contribute to decent work and a sustainability-driven economy and to the decoupling of economic growth from the impacts of natural hazards and environmental degradation. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can discuss economic models and future visions of economy and society critically and to communicate them in public spheres. • The learner can collaborate with others to demand fair wages, equal pay for equal work and labour rights from politicians and from their employer. • The learner can understand how one’s own consumption affects working conditions of others in the global economy. • The learner can identify their individual rights and clarify their needs and values related to work. • The learner can develop a vision and plans for their own economic life based on an analysis of their competencies and contexts.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can engage with new visions and models of a sustainable, inclusive economy and decent work. • The learner can facilitate improvements related to unfair wages, unequal pay for equal work and bad working conditions. • The learner can develop and evaluate ideas for sustainability-driven innovation and entrepreneurship. • The learner can plan and implement entrepreneurial projects. • The learner can develop criteria and make responsible consumption choices to support fair working conditions and efforts to decouple production from the impact of natural hazards and environmental degradation.

Suggested topics for SDG 8 “Decent Work and Economic Growth”

- The contributions of economies to human well-being, and the social and individual effects of unemployment
- Economic ethics
- Theoretical assumptions, models and indicators of economic growth (GDP, GNI, HDI)
- Alternative economic models and indicators: steady-state economies, common-welfare economies, de- growth, subsistence economies, Inclusive Wealth Index⁶, Global Hunger Index⁷
- Concepts and phenomena in financial systems and their influence on economic development (investments, credits, interests, banks, speculations on the stock exchange, inflation, etc.)
- Labour force (increase in population through birth rates, migration, etc.) Gender equality in the economy and the (economic) value of care work
- Inequalities in the labour market: representation and participation of different social groups, and different income/wages and weekly worktime between countries, sectors, social groups, genders
- Formal and informal labour, labour rights, especially for migrants and refugees, forced labour, slavery and human trafficking

Entrepreneurship, (social) innovation, new technologies and local economies for sustainable development

- Examples of learning approaches and methods for SDG 8 “Decent Work and Economic Growth”
- Plan and implement entrepreneurial and social entrepreneurial projects Run student internships in conjunction with local businesses
- Explore needs and perspectives of employers and employees through interviews Map out multiple life and career paths
- Engage with employers in classroom activities
- 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 9	<ul style="list-style-type: none"> • Dental Manpower planning • Industrial consultation/collaboration • IPR • Public Private Partnership in Oral health care delivery 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands the concepts of sustainable infrastructure and industrialization and society’s needs for a systemic approach to their development. • The learner understands the local, national and global challenges and conflicts in achieving sustainability in infrastructure and industrialization. • The learner knows the pitfalls of unsustainable industrialization and in contrast knows examples of resilient, inclusive, sustainable industrial development and the need for contingency planning. • The learner is aware of new opportunities and markets for sustainability innovation, resilient infrastructure and industrial development. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can argue for sustainable, resilient and inclusive infrastructure in their local area. • The learner can encourage their communities to shift their infrastructure and industrial development toward more resilient and sustainable forms. • The learner can find collaborators to develop sustainable and contextual industries that respond to our shifting challenges and to reach new markets. • The learner can recognize and reflect on their own personal demands on the local infrastructure such as their carbon and water footprints and food miles. • The learner can understand that with changing resource availability and other external shocks and stresses (e. g. natural hazards, conflicts) their own perspective and demands on infrastructure may need to shift radically regarding availability of renewable energy for ICT, transport options, sanitation options, etc.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • 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. • The learner can evaluate various forms of industrialization and compare their resilience. • The learner is able to access financial services such as loans or microfinance to support their own enterprises. • The learner can work with decision-makers to improve the uptake of sustainable infrastructure (including internet access).

Suggested topics for SDG 9 “Industry, Innovation and Infrastructure”

- The sustainability of information and communication technology (ICT) including supply chains, waste disposal and recycling
- The relation of quality infrastructure and the achievement of social, economic and political goals
- The need for basic infrastructure like roads, information and communication technologies, sanitation, electrical power and water
- Inclusive and sustainable innovation and industrialization Sustainable and resilient infrastructure development
- Sustainable electricity: national grids, feed-in tariffs, expanding sustainable renewable sources, conflicts The sustainable job market, opportunities and investments
- The sustainability of the internet – from green chat groups to the ecological footprint of search-engine servers
- The sustainability of transport infrastructure
- Alternative currencies as investment in local infrastructure

Examples of learning approaches and methods for SDG 9 “Industry, Innovation and Infrastructure”

- Role-play a day without access to electricity
- Develop a business continuity plan for a local enterprise after the impact of a natural hazard
Develop an energy descent action plan for your community
- Develop a vision for a world with fossil fuel free transport systems
- Develop a project exploring one form of either the physical or social infrastructure that underpins your community
- Engage students and young people in developing spaces for community get-togethers
Develop an enquiry-based project: “Is all innovation good?”





Teaching & Learning objectives for SDG 10 “Reduced Inequalities”

Subject/ topic/ course in regular curriculum relating to SDG 10	<ul style="list-style-type: none"> • Oral Health Care delivery for vulnerable populations (Urban Slums, Rural Areas, Tribal Areas, Old age homes, Orphanages, Schools for Differently abled) 	<ul style="list-style-type: none"> • Pediatric Dentistry and Public Health Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner knows different dimensions of inequality, their interrelations and applicable statistics. • The learner knows indicators that measure and describe inequalities and understands their relevance for decision-making. • The learner understands that inequality is a major driver for societal problems and individual dissatisfaction. • The learner understands local, national and global processes that both promote and hinder equality (fiscal, wage, and social protection policies, corporate activities, etc.). • The learner understands ethical principles concerning equality and is aware of psychological processes that foster discriminative behaviour and decision making. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can raise awareness about inequalities. • The learner can feel empathy for and to show solidarity with people who are discriminated against. • The learner can negotiate the rights of different groups based on shared values and ethical principles. • The learner becomes aware of inequalities in their surroundings as well as in the wider world and can recognize the problematic consequences. • The learner can maintain a vision of a just and equal world.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can evaluate inequalities in their local environment in terms of quality (different dimensions, qualitative impact on individuals) and quantity (indicators, quantitative impact on individuals). • The learner can identify or develop an objective indicator to compare different groups, nations, etc. with respect to inequalities. • The learner can identify and analyse different types of causes and reasons for inequalities. • The learner can plan, implement and evaluate strategies to reduce inequalities. • The learner can engage in the development of public policies and corporate activities that reduce inequalities

Suggested topics for SDG 10 “Reduced Inequalities”

- Social, economic and political inclusion versus inequalities (on national and global levels) – typical discriminatory categories
- Different indicators to measure inequality
- The meaning of rights to land, property and natural resources for equality and the impact of inequalities on vulnerabilities and capacities
- Fiscal, wage and social protection policies
- Global trade systems and regulations (including tax regimes) Labour standards
- Representation of different social groups/nations in governments/on boards of meaningful and powerful institutions
- The amount and effects of international development aid
- Historical roots of current inequalities (including the role of multinational companies) Migration and mobility of people

Examples of learning approaches and methods for SDG 10 “Reduced Inequalities”

- Play simple distribution games to discuss psychological effects of unfair and unequal treatment or the exacerbation of the impacts of natural hazards on a community due to inequality
- Analyse the share of different social categories in the own institution
- Plan an awareness or political campaign directed at inequalities in global trading systems
- Analyse one’s own personal history considering times where one was privileged or discriminated against Conduct interviews with people in vulnerability
- Develop a web page or a blog highlighting an understanding of the local migration and/or refugee situation
- Develop an enquiry-based project: “How does inequality influence people’s happiness?”



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 11	<ul style="list-style-type: none"> • Waste generation and management -Reduce Reuse Recycle Rethink • Health Planning • Environment and Health (Housing) • National Health Programs 	<ul style="list-style-type: none"> • Public Health Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands basic physical, social and psychological human needs and is able to identify how these needs are currently addressed in their own physical urban, peri-urban and rural settlements. • The learner can evaluate and compare the sustainability of their and other settlements’ systems in meeting their needs particularly in the areas of food, energy, transport, water, safety, waste treatment, inclusion and accessibility, education, integration of green spaces and disaster risk reduction. • The learner understands the historical reasons for settlement patterns and while respecting cultural heritage, understands the need to find compromises to develop improved sustainable systems. • The learner knows the basic principles of sustainable planning and building, and can identify opportunities for making their own area more sustainable and inclusive. • The learner understands the role of local decision-makers and participatory governance and the importance of representing a sustainable voice in planning and policy for their area. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can connect with and help community groups locally and online in developing a sustainable future vision of their community. • 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. • The learner can contextualize their needs within the needs of the greater surrounding ecosystems, both locally and globally, for more sustainable human settlements. • The learner can feel responsible for the environmental and social impacts of their own individual lifestyle.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can plan & participate in community-based sustainability projects. • The learner can participate in decision processes about their community. • The learner can co-create an inclusive, safe, resilient and sustainable community. • The learner can promote low carbon approaches at the local level.

Suggested topics for SDG 11 “Sustainable Cities and Communities”

- The need for shelter, safety and inclusiveness (human needs, contextualizing our different individual and collective wants and needs according to gender, age, income and ability)
- Management and use of natural resources (renewables and non-renewables)
- Sustainable energy (residential energy use, renewable energies, community energy schemes) and transportation
- Sustainable food (agriculture, organic agriculture and permaculture, community supported agriculture, foodshed8, food processing, dietary choices and habits, waste generation)
- Urban ecology and how wildlife is adapting to humanity’s settlements
- Sustainable resilient buildings and spatial planning (building materials, energy saving, planning processes) Waste generation and management (prevention, reduction, recycling, reuse)
- Communities and their dynamics (decision-making, governance, planning, conflict resolution, alternative communities, healthy communities, inclusive communities, ecovillages, transition towns)
- Water cycle and restoring ground water through urban design (Green Roofs, rainwater harvesting, daylighting old river beds, sustainable urban drainage)
- Disaster preparedness and resilience, resilience to weather problems and in the future and a culture of prevention and preparedness

Examples of learning approaches and methods for SDG 11 “Sustainable Cities and Communities”

- Excursions to ecovillages and other “living laboratories”, to waste water treatment plants and other service centres to show current and best practice
- Develop and run a (youth) action project on sustainable cities and communities
- Invite older generations in to talk about how the settlement has changed over time. Ask them about their connection to the bioregion. Use art, literature and history to explore the settlement area and its changes
- Build a community garden
- Mapping projects: map the area to note where there is 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
- Develop a two-minute video clip on an example of a sustainable urban community Develop an enquiry-based project: “Would it be more sustainable if we all lived in cities?”





Teaching & Learning objectives for SDG 12 “Responsible Consumption and Production”

<p>Subject/ topic/ course in regular curriculum relating to SDG 12</p>	<ul style="list-style-type: none"> • Diet Counselling and Nutrition • Life style and oral health • Tobacco Cessation Education / Counselling • Waste generation and management 	<ul style="list-style-type: none"> • Oral Medicine & Radiology, Public health Dentistry & Pediatric and preventive Dentistry • All undergraduate and post graduate students
<p>Cognitive Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner understands how individual lifestyle choices influence social, economic and environmental development. • The learner understands production and consumption patterns and value chains and the interrelatedness of production and consumption (supply and demand, toxics, CO2 emissions, waste generation, health, working conditions, poverty, etc.). • The learner knows roles, rights and duties of different actors in production and consumption (media and advertising, enterprises, municipalities, legislation, consumers, etc.). • The learner knows about strategies and practices of sustainable production and consumption. • The learner understands dilemmas/trade-offs related to and system changes necessary for achieving sustainable consumption and production. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can communicate the need for sustainable practices in production and consumption. • The learner can encourage others to engage in sustainable practices in consumption and production. • The learner can differentiate between needs and wants and to reflect on their own individual consumer behaviour considering the needs of the natural world, other people, cultures and countries, and future generations. • The learner can envision sustainable lifestyles. • The learner can feel responsible for the environmental and social impacts of their own individual behaviour as a producer or consumer.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can plan, implement and evaluate consumption-related activities using existing sustainability criteria. • The learner can evaluate, participate in and influence decision-making processes about acquisitions in the public sector. • The learner can promote sustainable production patterns. • The learner is able take on critically on their role as an active stakeholder in the market. • The learner can challenge cultural and societal orientations in consumption and production.

Suggested topics for SDG 12 “Responsible Consumption and Production”

- Advertising, peer-pressure, belonging and identity-creation
- Production and consumption history, patterns and value chains, and management and use of natural resources (renewables and non-renewables)
- Environmental and social impacts of production and consumption
- Energy production and consumption (transport, commercial and residential energy use, renewable energies)
- Food production and consumption (agriculture, food processing, dietary choices and habits, waste generation, deforestation, overconsumption of food and hunger)
- Tourism
- Waste generation and management (prevention, reduction, recycling, reuse) Sustainable lifestyles and diverse practices of sustainable production and consumption Labelling systems and certificates for sustainable production and consumption
- Green economy (cradle-to-cradle, circular economy, green growth, regrowth)

Examples of learning approaches and methods for SDG 12 “Responsible Consumption and Production”

- Calculate and reflect on one’s individual ecological footprint
- Analyse different products (e.g. cell phones, computers, clothes) using Life Cycle Analysis (LCA)
- Run a student company producing and selling sustainable products
- Perform role plays dealing with different roles in a trading system (producer, advertiser, consumer, waste manager, etc.)
- Screening of short films/documentaries to help the learners understand production and consumption patterns (e.g. Story of Stuff by Annie Leonard)
- Develop and run a (youth) action project related to production and consumption (e.g. fashion, technology, etc.) Develop an enquiry-based project: “Is sustainability about giving things up?”





Teaching & Learning objectives for SDG 13 “Climate Action”

<p>Subject/ topic/ course in regular curriculum relating to SDG 13</p>	<ul style="list-style-type: none"> • Disaster Management • Global Warming • Environment and health – Air, Water & Soil pollution control 	<ul style="list-style-type: none"> • Public health Dentistry • Forensic Odontology • All undergraduate and post graduate students
<p>Cognitive Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner understands the greenhouse effect as a natural phenomenon caused by an insulating layer of greenhouse gases. • The learner understands the current climate change as an anthropogenic phenomenon resulting from the increased greenhouse gas emissions. • The learner knows which human activities – on a global, national, local and individual level – contribute most to climate change. • The learner knows about the main ecological, social, cultural and economic consequences of climate change locally, nationally and globally and understands how these can themselves become catalyzing, reinforcing factors for climate change. • The learner knows about 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. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can explain ecosystem dynamics and the environmental, social, economic and ethical impact of climate change. • The learner can encourage others to protect the climate. • The learner can collaborate with others and to develop commonly agreed-upon strategies to deal with climate change. • The learner can understand their personal impact on the world’s climate, from a local to a global perspective. • The learner can recognize that the protection of the global climate is an essential task for everyone and that we need to completely re-evaluate our worldview and everyday behaviours in light of this.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can evaluate whether their private and job activities are climate friendly and – where not – to revise them. • The learner can act in favour of people threatened by climate change. • The learner can anticipate, estimate and assess the impact of personal, local and national decisions or activities on other people and world regions. • The learner can promote climate-protecting public policies. • The learner can support climate-friendly economic activities.

Suggested topics for SDG 13 “Climate Action”

- Greenhouse gases and their emission
- Energy, agriculture and industry-related greenhouse gas emissions
- Climate change-related hazards leading to disasters like drought, weather extremes, etc. and their unequal social and economic impact within households, communities and countries and between countries
- Sea-level rise and its consequences for countries (e.g. small island states) Migration and flight related to climate change
- Prevention, mitigation and adaptation strategies and their connections with disaster response and disaster risk reduction
- Local, national and global institutions addressing issues of climate change Local, national and global policy strategies to protect the climate
- Future scenarios (including alternative explanations for the global temperature rise) Effects of and impacts on big eco-systems like forests, oceans, glaciers and biodiversity
- Ethics and climate change

Examples of learning approaches and methods for SDG 13 “Climate Action”

- Perform a role-play to estimate and feel the impact of climate change related phenomena from different perspectives
- Analyse different climate change scenarios concerning their assumptions, consequences and their preceding development paths
- Develop and run an action project or campaign related to climate protection Develop a web page or blog for group contributions related to climate change issues Develop climate friendly biographies
- Develop a study case about how climate change could increase the risk of disasters in a local community
- Develop an enquiry-based project investigating the statement “Those who caused the most damage to the atmosphere should pay for it”



SDG 14

LIFE BELOW WATER



CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT

Teaching & Learning objectives for SDG 14 “Life below Water”

Subject/ topic/ course in regular curriculum relating to SDG 14	<ul style="list-style-type: none"> • Sewage treatment to prevent pollution of water bodies 	<ul style="list-style-type: none"> • Public Health Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands basic marine ecology, ecosystems, predator-prey relationships, etc. • The learner understands the connection of many people to the sea and the life it holds, including the sea’s role as a provider of food, jobs and exciting opportunities. • The learner knows the basic premise of climate change and the role of the oceans in moderating our climate. • 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. • The learner knows about opportunities for the sustainable use of living marine resources. 	

<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can speak for sustainable fishing practices. • The learner can show people the impact humanity is having on the oceans (biomass loss, acidification, pollution, etc.) and the value of clean healthy oceans. • The learner can influence groups that engage in unsustainable production and consumption of ocean products. • The learner can reflect on their own dietary needs and question whether their dietary habits make sustainable use of limited resources of seafood. • The learner can empathize with people whose livelihoods are affected by changing fishing practices.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can research their country’s dependence on the sea. • The learner can debate sustainable methods such as strict fishing quotas and moratoriums on species in danger of extinction. • The learner is able to identify access and buy sustainably harvested marine life, e.g. ecolabel certified products. • The learner can contact their representatives to discuss overfishing as a threat to local livelihoods. • The learner can 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”

- The hydrosphere: The water cycle, cloud formation, water as the great climate regulator
- Management and use of marine resources (renewables and non-renewables): global commons and overfishing, quotas and how they are negotiated, aquaculture, seaweed, mineral resources
- Sustainable Marine Energy (renewable energies, wind turbines and their controversy) Marine ecology – the food web, predators and prey, competition, collapse
- Coral reefs, coasts, mangroves and their ecological importance
- Sea level rise and countries that will experience total or partial loss of land; climate refugees and what a loss of sovereignty will mean
- The oceans and international law: international waters, territory disputes, flags of convenience and their related issues
- Ocean pollutants: plastics, microbeads, sewage, nutrients and chemicals The deep ocean and deep-sea creatures
- Cultural relationships to the sea – the sea as a source of cultural ecosystem services such as recreation, inspiration and building of cultural identity

Examples of learning approaches and methods for SDG 14 “Life below Water”

- Develop and run a (youth) action project related to life below water Do excursions to coastal sites
- Debate sustainable use and management of fishery resources in school Role-play islanders moving country because of sea-level rise
- 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
- Develop an enquiry-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 15	<ul style="list-style-type: none"> Genetics and oral health Ethics in dental profession Occupational health and Hazards 	<ul style="list-style-type: none"> All specialties in Dentistry All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> 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 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • 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.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • 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?”



SDG 16 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.

Teaching & Learning objectives for SDG 16 “Peace, Justice and Strong Institutions”

Subject/ topic/ course in regular curriculum relating to SDG 16	<ul style="list-style-type: none"> • Jurisprudence • Consumer protection act • Prevention of ragging in institution • Role of Institutional ethical committee • Women Grievances in work place 	<ul style="list-style-type: none"> • Public Health Dentistry, Forensic Odontology, Internal Complaints Committee • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands concepts of justice, inclusion and peace and their relationship to law. • The learner understands their local and national legislative and governance systems, how they represent them and that they can be abused through corruption. • The learner is able to compare their system of justice with those of other countries. • The learner understands the importance of individuals and groups in upholding justice, inclusion and peace and supporting strong institutions in their country and globally. • The learner understands the importance of the international human rights framework. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can connect with others who can help them in facilitating peace, justice, inclusion and strong institutions in their country. • The learner can debate local and global issues of peace, justice, inclusion and strong institutions. • The learner can show empathy with and solidarity for those suffering from injustice in their own country as well as in other countries. • The learner can reflect on their role in issues of peace, justice, inclusion and strong institutions. • The learner can reflect on their own personal belonging to diverse groups (gender, social, economic, political, ethnical, national, ability, sexual orientation etc.) their access to justice and their shared sense of humanity.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can critically assess issues of peace, justice, inclusion and strong institutions in their region, nationally and globally. • The learner can publicly demand and support the development of policies promoting peace, justice, inclusion and strong institutions. • The learner can collaborate with groups that are currently experiencing injustice and/or conflicts. • The learner can become an agent of change in local decision-making, speaking up against injustice. • The learner can contribute to conflict resolution at the local and national level.

Suggested topics for SDG 16 “Peace, Justice and Strong Institutions”

- Definitions of justice: retributive and rehabilitative
- Crime and punishment, comparing laws and punishments across the globe
- Trade Justice
- Child labour and exploitation of children
- Global treaties and agreements related to war, peace and refugees
- Corruption and how to measure it
- The illegal weapons trade
- Drug abuse and its trade
- The international criminal court and its role

Examples of learning approaches and methods for SDG 16 “Peace, Justice and Strong Institutions”

- Perform a role-play about different people from around the world who are victims of injustice
- Have interfaith dialogues in schools and college campuses about justice and equality
- Organize an excursion to a local court or police station
- Design a poster “What is fair/just” at school
- Debate issues of justice of historical and cultural context, e.g. the disappeared in Argentina, Apartheid in South Africa, etc. and how these justice issues have developed
- Celebrate the International Day of Peace (September 21)
- Develop an enquiry-based project: “What would a peaceful world look like?”



SDG 17

PARTNERSHIPS FOR THE GOALS



**STRENGTHEN THE IMPLEMENTATION AND
REVITALIZE THE GLOBAL PARTNERSHIP
FOR SUSTAINABLE DEVELOPMENT**

Teaching & Learning objectives for SDG 17 “Partnerships for the Goals”

Subject/ topic/ course in regular curriculum relating to SDG 17	<ul style="list-style-type: none"> • Importance of industry academia collaboration • Research, Engage and Enrich 	<ul style="list-style-type: none"> • All specialties in Dentistry • All undergraduate and post graduate students
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> • The learner understands global issues, including issues of financing for development, taxation, debt and trade policies, and the interconnectedness and interdependency of different countries and populations. • The learner understands the importance of global multi-stakeholder partnerships and the shared accountability for sustainable development and knows examples of networks, institutions, campaigns of global partnerships. • The learner knows the concepts of global governance and global citizenship. • The learner recognizes the importance of cooperation on and access to science, technology and innovation, and knowledge sharing. • The learner knows concepts for measuring progress on sustainable development. 	



<p>Socio-emotional Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can raise awareness about the importance of global partnerships for sustainable development. • The learner can work with others to promote global partnerships for sustainable development and demand governments’ accountability for the SDGs. • The learner can take ownership of the SDGs. • The learner can create a vision for a sustainable global society. • The learner can experience a sense of belonging to a common humanity, sharing values and responsibilities, based on human rights.
<p>Behavioural Teaching & learning objectives</p>	<ul style="list-style-type: none"> • The learner can become a change agent to realize the SDGs and to take on their role as an active, critical and global and sustainability citizen. • The learner can contribute to facilitating and implementing local, national and global partnerships for sustainable development. • The learner can publicly demand and support the development of policies promoting global partnerships for sustainable development. • The learner can support development cooperation activities. • The learner can influence companies to become part of global partnerships for sustainable development.

Suggested topics for SDG 17 “Partnerships for the Goals”

- Global partnerships between governments, the private sector and civil society for sustainable development, their shared accountability and possible conflicts between the different actors
- Local, national and global systems, structures and power dynamics
- Global governance and policies and the global market and trading system in the light of sustainable development
- The prisoner’s dilemma¹¹ and tragedy of the commons as challenges for creating global governance and markets promoting sustainable development
- Global citizenship and citizens as change agents for sustainable development
- Cooperation on and access to science, technology and innovation, and knowledge sharing Global distribution of access to the internet
- Development cooperation, development assistance, and additional financial resources for developing countries from multiple sources
- Capacity-building to support national plans to implement all the SDGs Measurements of progress on sustainable development

Examples of learning approaches and methods for SDG 17 “Partnerships for the Goals”

- Develop partnerships or global web-based distance education experiences between schools, universities or other institutions in different regions of the world
- Analyse the development and implementation of global policies on climate change, biodiversity, etc.
- Analyse the progress in implementing the SDGs globally and at the national level, and determine who is accountable for progress or lack thereof
- Plan and implement an SDGs awareness campaign
- 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
- Develop an enquiry-based project: “Together we can....Explore this commonly used phrase and how it applies to the SDGs”



CONCLUSIONS

Developing cross-cutting sustainability competencies to address sustainability concerns and connect SDGs is one way to work toward achieving the Sustainable Development Goals (SDGs). Dental Students may be taught at educational institutions the cognitive, emotional, and behavioral skills necessary to accomplish each of the Sustainable Development Goals.

Every dental educational institution in the world has to pay attention to the issues surrounding sustainable development, cultivate sustainable development competencies, and generate learning outcomes that are relevant to each Sustainable Development Goal (SDG). Pedagogy that is action-oriented and transformative is required to be included in curricula that are connected to the SDGs.

The dental education system has to be rethought in order for the Sustainable Development Goals (SDGs) to be met by the target date of 2030. This document defines the sustainable competences as well as the cognitive, social, emotional, and behavioural learning goals that are crucial to achieve the Sustainable Development Goals via education.

Sustainable development Goals : Teaching learning objectives

The Sustainable Development Goals (SDGs) encourage individuals to become agents of change in the area of sustainability. For sustainable development to occur, one must have the necessary abilities, knowledge, beliefs, and attitudes. Education for Sustainable Development teaches our students with the knowledge and skills they need to make responsible decisions, contribute to a fair society for both current and future generations, and preserve both the environment and the economy at the same time.

This manual demonstrates how to make dental educational resources work for the achievement of global goals. The Sustainable Development Objectives (SDGs) are broken down into teaching and learning goals, as well as subjects and activities for learning. This document provides recommendations for policymakers, curriculum developers, and educators in dental sciences about learning methodologies, curricula, and courses relevant to the Sustainable Development Goals (SDG).



Learning objectives for teachers to promote SDG

- Know about sustainable development, the different SDGs and the related topics and challenges
- Understand the discourse on and the practice of in local, national and global context
- Develop their own integrative view of the issues and challenges of sustainable development by considering the social, ecological, economic and cultural dimensions from the perspective of the principles and values of sustainable development, including that of intergenerational and global justice
- Take disciplinary, interdisciplinary and transdisciplinary perspectives on issues of global change and their local manifestations
- Reflect on the concept of sustainable development, the challenges in achieving the SDGs, the importance of their own field of expertise for achieving the SDGs and their own role in this process
- Understand how cultural diversity, gender equality, social justice, environmental protection and personal development are integral elements of ESD and how to make them a part of educational processes
- Practice an action-oriented transformative pedagogy that engages learners in participative, systemic, creative and innovative thinking and acting processes in the context of local communities and learners' daily lives
- Act as a change agent in a process of organizational learning that advances their school towards sustainable development
- Identify local learning opportunities related to sustainable development and build cooperative relationships
- Evaluate and assess the learners' development of cross-cutting sustainability competencies and specific sustainability-related learning outcomes

Key elements for whole-institution approaches

- An institution-wide process that enables all stakeholders
- leadership, teachers, learners, administration – to jointly develop a vision and plan to implement ESD in the whole institution.
- Technical and financial support to the institution to support its reorientation, including for instance the provision of relevant good practice examples, training for leadership and administration, the development of guidelines and associated research.
- Inter-institutional networks that facilitate mutual support such as peer-to-peer learning on a whole-institution approach, and increase the visibility of the approach to promote it as a model for adaptation.

Key methods for learning for the SDGs

Collaborative real-world projects, such as service-learning projects and campaigns for different SDGs

- Vision-building exercises such as future workshops, scenario analyses, utopian/dystopian story-telling, science-fiction thinking, and forecasting and back casting
- Analyses of complex systems through community-based research projects, case studies, stakeholder analysis, actors' analysis, modelling, systems games, etc.
- Critical and reflective thinking through fish-bowl discussions, reflective journals, etc.



REFERENCE

1. Park K. Park's textbook of preventive and social medicine. 25th ed Jabalpur. Banarasidas Bhanot. 2019
2. Essentials of Public Health Dentistry (Community Dentistry) by Soben Peter 5th Edition.
3. WHO, Health research Methodology – A guide for training in research methods 2nd ed
4. C R Khotari, Research methodology, methods and techniques, 2nd ed
5. B K Mahajan Text book of preventive and social medicine
6. S S Hiremath, text book of public health Dentistry, 3rd edition
7. Bird, robinson Modern Dental Assisting, 11th ed,
8. Dean, J. A. McDonald and Avery's dentistry for the child and adolescent, tenth edition [Text] / J.A. Dean // 2015
9. Pediatric Dentistry: Infancy Through Adolescence. United States: Elsevier, 2019.
10. Human Rights and the 2030 Agenda for Sustainable Development <http://www.ohchr.org/EN/Issues/MDG/Pages/The2030Agenda.aspx>
11. OECD and the Sustainable Development Goals: Delivering on universal goals and targets <https://www.oecd.org/dac/sustainable-development-goals.htm>
12. SDG Indicators <http://unstats.un.org/sdgs/indicators/indicators-list/>
13. The Guardian: Sustainable development goals: all you need to know <https://www.theguardian.com/global-development/2015/jan/19/sustainable-development-goals-united-nations>
14. The UN Sustainable Development Knowledge Platform sustainabledevelopment.un.org <https://sustainabledevelopment.un.org/topics/sustainabledevelopmentgoals>
15. UNESCO and Sustainable Development Goals <http://en.unesco.org/sdgs>
16. UN Sustainable Development / SDGs <http://www.un.org/sustainabledevelopment> <http://www.un.org/sustainabledevelopment/sustainable-development-goals>
17. World Economic Forum: What are the Sustainable Development Goals? <https://www.weforum.org/agenda/2015/09/what-are-the-sustainable-development-goals>
18. British Council: Sustainable Development Goals resource https://schoolsonline.britishcouncil.org/sites/default/files/sdg_education_pack_v3.pdf
19. Gaia Education's Design for Sustainability E-learning Programme <http://www.gaiaeducation.org/index.php/en/online>
20. GlobalGiving: Crowdfunding for the SDGs <https://www.globalgiving.org/sdg/>
21. Green Pack: Teaching material on sustainability issues <http://education.rec.org/green-pack.html>
22. OpenLearn. The Open University: Material for self-study on all kinds of topics <http://www.open.edu/openlearn/>
23. OXFAM: A selection of suggested teaching ideas around the SDGs <https://www.oxfam.org.uk/education/resources/sustainable-development-goals>
24. Sustainability Gamepedia: A database of games related to sustainability <http://www.games4sustainability.org/gamepedia/>
25. Teaching and Learning for a Sustainable Future: Resources for teachers about teaching approaches as well as classroom activities on diverse topics related to sustainability http://www.unesco.org/education/tlsf/mods/theme_gs.html
26. Teach UNICEF: Collection of teacher resources on the SDGs <https://teachunicef.org/teaching-materials/topic/sustainable-development-goals>
27. The Goals.org: Free global education and learning portal on sustainable development solutions



- <http://www.thegoals.org>
28. The Lazy Person's Guide to Saving the World <http://www.un.org/sustainabledevelopment/take-action>
 29. The Story of Stuff: An online resource that investigates the humanity's unsustainable use of materials <http://storyofstuff.org>
 30. The World We Want. A Guide to the Goals for Children and Young People http://www.unicef.org/agenda2030/files/TWWW_A4_Single_Page_LowRes_English.pdf
 31. The Youth resource pack from MYCI: Methodologies for introducing the SDGs to young people in an engaging and informative manner [http://www.youth.ie/sites/youth.ie/files/SDGs_Youth_Resource%20 Pack.pdf](http://www.youth.ie/sites/youth.ie/files/SDGs_Youth_Resource%20Pack.pdf)
 32. UNESCO: Good Practices in Teacher Education Institutions [http:// unesdoc.unesco.org/images/0015/001524/152452eo.pdf](http://unesdoc.unesco.org/images/0015/001524/152452eo.pdf)
 33. World's Largest Lesson: Find everything you need to introduce the SDGs to young people, take part and take action [http:// worldslargestlesson.globalgoals.org](http://worldslargestlesson.globalgoals.org)
 34. Young Masters Programme on Sustainable Development: Online courses and international exchange between students on sustainable development <http://www.goymp.org/en/frontpage>
 35. YUNGA Challenge Badges: Developed in collaboration with UN agencies, civil society and other organizations, YUNGA Challenge Badges aim to raise learners' awareness, educate and motivate them to change their behaviour and become active agents
 36. of change in their local community. The series can be used by teachers in school classes as well as by youth leaders. <http://www.fao.org/yunga/resources/challenge-badges/en/>
 37. Organizations and initiatives
 38. Eco-Schools Networks <http://www.ecoschools.global>
 39. Food and Agriculture Organization of the United Nations (FAO) [http:// www.fao.org/home/en/](http://www.fao.org/home/en/)
 40. GAIA Education <http://www.gaiaeducation.org>
 41. Global Ecovillage Network <http://www.gen.ecovillage.org> Global Footprint Network <http://www.footprintnetwork.org/en/>
 42. [index.php/GFN/](http://www.footprintnetwork.org/en/index.php/GFN/)
 43. Higher Education Sustainability Initiative (HESI) [https:// sustainabledevelopment.un.org/sdianaction/hesi](https://sustainabledevelopment.un.org/sdianaction/hesi)
 44. ICLEI: Local Governments for Sustainability <http://www.iclei.org> International Institute for Sustainable Development
 45. <http://www.iisd.org>
 46. Sustainable Development Solutions Network <http://unsdsn.org> UNESCO ASPnet schools [http://www.unesco.org/new/en/education/ networks/global-networks/aspnet](http://www.unesco.org/new/en/education/networks/global-networks/aspnet)
 47. [networks/global-networks/aspnet](http://www.unesco.org/new/en/education/networks/global-networks/aspnet)
 48. United Nations Development Programme <http://www.undp.org/> United Nations Environment Programme <http://www.unep.org> World Federation of UNESCO Clubs, Centres and Associations
 49. (WFUCA) <http://wfuca.org/>
 50. World Health Organization <http://www.who.int/en/>
 51. Education for Sustainability Starter Kit <http://www.sustainableschoolsproject.org/tools-resources/starter-kit>
 52. Education for Sustainable Development Toolkit <http://www.esdtoolkit.org/>
 53. German Curriculum Framework Education for Sustainable Development [http://ensi.org/global/downloads/Publications/418/ Curriculum%20Framework%20ESD%20final%201.pdf](http://ensi.org/global/downloads/Publications/418/Curriculum%20Framework%20ESD%20final%201.pdf)



54. Guide to Education for Sustainability <http://sustainableschoolsproject.org/sites/default/files/EFS-Guide2015b.pdf>
55. Guide to Quality and Education for Sustainability in Higher Education <http://efsandquality.glos.ac.uk/>
56. Shaping the future we want. UN Decade of ESD. Final report <http://unesdoc.unesco.org/images/0023/002303/230302e.pdf>
57. UNESCO's Roadmap to ESD. Implementing the Global Action Programme <http://unesdoc.unesco.org/images/0023/002305/230514e.pdf>
58. UNESCO's Teaching and Learning for a Sustainable Future <http://www.unesco.org/education/tlsf/>
59. Vanderbilt University's Guide for Teaching Sustainability <https://cft.vanderbilt.edu/guides-sub-pages/teaching-sustainability>
60. Whole-school approaches to sustainability: A review of models for professional development in pre-service teacher education
61. (Australian Research Institute in Education for Sustainability) <http://aries.mq.edu.au/projects/pre-service/files/TeacherEduDec06.pdf>
62. Lotz-Sisitka, H., Wals, A. E., Kronlid, D. and McGarry, D. 2015. Transformative, transgressive social learning: rethinking higher education pedagogy in times of systemic global dysfunction. *Current Opinion in Environmental Sustainability*, Vol. 16, pp. 73–80.
63. McCormick, K., Muhlhauser, E., Norden, B., Hansson, L., Foug,
64. C., Arnfalk, P., Karlsson, M. and Pigretti, D. 2005. Education for sustainable development and the Young Masters Program. *Journal of Cleaner Production*, Vol. 13, No. 10-11, 1107-1112.
65. Mezirow, J. 2000. *Learning as transformation: critical perspectives on a theory in progress*. San Francisco, Jossey-Bass.
66. Organisation for Economic Co-operation and Development (OECD). 2009. *Green at Fifteen? How 15-year-olds Perform in Environmental Science in PISA 2006*. Paris, OECD.
67. Organisation for Economic Co-operation and Development (OECD). 2016. *Global competency for an inclusive world*. <https://www.oecd.org/pisa/aboutpisa/Global-competency-for-an-inclusive-world.pdf> (Accessed 29 October 2016)
68. Rauch, F., Steiner, R. 2013. Competences for education for sustainable development in teacher education. *CEPS Journal*, Vol. 3, No. 1, pp. 9–24
69. Rieckmann, M. 2012. Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? *Futures*, Vol. 44, No. 2, pp. 127–135.
70. Rychen, D.S. 2003. Key competencies: Meeting important challenges in life. Rychen, D.S. and Salganik, L.H. (eds). *Key competencies for a successful life and well-functioning society*. Cambridge, MA, Hogrefe and Huber, pp. 63–107.
71. Schulz, W., Ainley, J., Fraillon, J., Kerr, D. and Losito, B. 2010.
72. ICCS 2009 International Report: Civic knowledge, attitudes, and engagement among lower-secondary school students in 38 countries. Amsterdam, International Association for the Evaluation of Educational Achievement.
73. Slavich, G. M. and Zimbardo, P. G. 2012. Transformational Teaching: Theoretical Underpinnings, Basic Principles, and Core Methods. *Educational Psychology Review*, Vol. 24, No. 4, pp. 569–608.
74. Sleurs, W. 2008. Competencies for ESD (Education for Sustainable Development) teachers. A framework to integrate ESD in the curriculum of teacher training institutes. http://www.unecce.org/fileadmin/DAM/env/esd/inf.meeting.docs/EGonInd/8mtg/CSCT%20Handbook_Extract.pdf (Accessed 17 June 2016)



75. Tsuneki, H. and Shaw, R. (forthcoming): Current policy development regarding Education for Sustainable Development and Climate Change Education in Costa Rica. Kyoto, Kyoto University.
76. United Nations Economic Commission for Europe (UNECE) 2005. UNECE Strategy for Education for Sustainable Development. <https://www.unece.org/fileadmin/DAM/env/documents/2005/cep/ac.13/cep.ac.13.2005.3.rev.1.e.pdf> (Accessed 30 October 2016)
77. United Nations Economic Commission for Europe (UNECE). 2012. Learning for the Future: Competences in Education for Sustainable Development. http://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/Competences_Publication.pdf
78. (Accessed 17 June 2016)
79. UNESCO. 2009. Bonn Declaration. http://www.desd.org/ESD2009_BonnDeclaration080409.pdf (Accessed 30 October 2016)
80. UNESCO. 2014. Shaping the Future We Want. UN Decade of Education for Sustainable Development (2005-2014). Final Report. <http://unesdoc.unesco.org/images/0023/002301/230171e.pdf> (Accessed 14 June 2016)
81. UNESCO. 2014b. UNESCO Roadmap for Implementing the Global Action Programme on Education for Sustainable Development. <http://unesdoc.unesco.org/images/0023/002305/230514e.pdf> (Accessed 14 June 2016)
82. UNESCO. 2014c. EFA Global Monitoring Report 2013/4 – Teaching and Learning: Achieving quality for all. Paris, UNESCO. <http://www.uis.unesco.org/Library/Documents/gmr-2013-14-teachingand-learning-education-for-all-2014-en.pdf>
83. (Accessed 15 December 2016)
84. UNESCO. 2015a. Rethinking Education. Towards a global common good? <http://unesdoc.unesco.org/images/0023/002325/232555e.pdf> (Accessed 16 October 2016)
85. UNESCO. 2015b. Thematic Indicators to Monitor the Education 2030 Agenda. Technical Advisory Group Proposal. <http://www.uis.unesco.org/Education/Documents/43-indicators-to-monitor-education2030.pdf> (Accessed 29 October 2016)
86. UNESCO. 2016. Education 2030. Incheon Declaration and Framework for Action. Towards inclusive and equitable quality education and lifelong learning for all. Paris, UNESCO. <http://www.uis.unesco.org/Education/Documents/incheon-framework-for-action-en.pdf> (Accessed 16 October 2016)
87. United Nations. 2012. The future we want. Outcome document of the United Nations Conference on Sustainable Development, Rio de Janeiro, Brazil, 20–22 June 2012. <https://sustainabledevelopment.un.org/content/documents/733FutureWeWant.pdf> (Accessed 16 October 2016)
88. United Nations. 2015. Transforming our world: the 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015. http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (Accessed 16 October 2016)
89. Vare, P. and Scott, W., 2007. Learning for a Change: Exploring the Relationship between Education and Sustainable Development. *Journal of Education for Sustainable Development*. 1(2), 191–198.
90. Wals, A.E.J. 2015. Beyond unreasonable doubt. Education and learning for socio-ecological sustainability in the Anthropocene. Wageningen, Wageningen University. https://arjenwals.files.wordpress.com/2016/02/8412100972_rvb_inauguratie-wals_oratieboekje_v02.pdf (Accessed 14 June 2016)
91. Wiek, A./Withycombe, L./Redman, C.L. 2011. Key competencies in sustainability: a reference framework for academic program development. *Sustainability Science*, Vol. 6, No. 2, pp. 203–218





‘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 Sriksheethra, for centuries. This is also the philosophy for which the Mahavidyapeetha 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.

<https://jssonline.org/>



The following educational strategies will be adopted by the institution to deliver the contents specified under different SDG's.

- Camp/outreach programme
- Excursion / field visits
- Health talk
- Mind mapping
- Role plays/street play
- Short films / video clips
- Projects
- MCQ's
- Flip class
- Seminars
- Demonstrations
- Pedagogy
- Awareness Campaigns
- Walkathon
- Blogs
- Case study
- Debate
- Lab experiments
- Lectures
- Group Discussion
- ICT based discussion
- Cultural program
- Workshops
- Training programme
- Celebrating days of national importance
- Enquiry based project
- Reflection
- Action plan
- Conference participation
- Scientific deliberation
- Games
- Quiz
- Modeling
- Hand on exercise



- Simulation
- Problem solving
- Soft skill training



