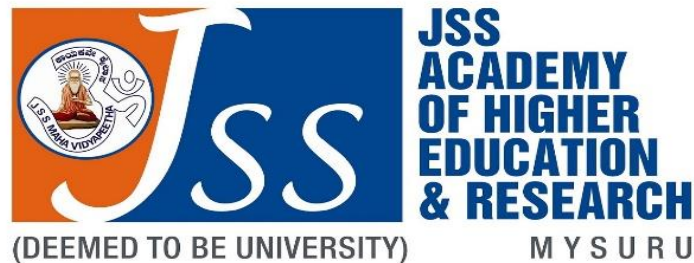




Education for



Sustainable Development Goals



**JSS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
**Teaching & Learning of Activities in Achieving UN**  
**Sustainable Development Goals**

Teaching & Learning Objective Handbook  
SDG-3-GOOD HEALTH AND WELLBEING

**2022**

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## PREFACE

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

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

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

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

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

**Dr.B.Suresh**  
**Pro Chancellor**  
**JSS Academy of Higher Education & Research, Mysuru &**  
**President, Pharmacy Council of India**  
**New Delhi**

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

## PREAMBLE



# Education for

# Sustainable Development Goals

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

Source: [The Sustainable Development Goals Report 2022](#)

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

[Access to Learning objectives for SDG-3](#)

[Education for Sustainable Development Goals: learning objectives - UNESCO Digital Library](#)

[United Nations, n.d.](#)

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

## SDG 3 - Good Health and Well-being



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

**Teaching & Learning objectives for SDG 3**

**“Good Health and Wellbeing”**

**Well-being** is a feeling of satisfaction with life, a state characterized by health, happiness, and prosperity. **Good health** concerns the care of the human body and everything that can be done to protect it from sickness and intoxication and enable access to care.

Education is key to educate people on drug and alcohol abuse and prevention as well as on mental health issues. It provides relevant knowledge and information about family planning, sex education and reproductive health. ([Access to Learning objectives for SDG-3](#))

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **JSS MEDICAL COLLEGE & HOSPITAL**

### **“Good Health and Wellbeing”**

Subject/ topic/ course in regular curriculum relating to SDG -3	All the pre, para, clinical and super speciality Departments in JSS Medical College
Cognitive Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> Professional year the learner should be able to,</b></p> <ol style="list-style-type: none"> <li>1. Define health and well-being, describe the concept of dimensions, determinants, and positive health</li> <li>2. Understands the anatomical, physiological, and biochemical basis of health and well-being.</li> </ol> <p><b>At the end of 2<sup>nd</sup> Professional year the learner should be able to,</b></p> <ol style="list-style-type: none"> <li>1. Understand the concept of disease and illness, natural history of disease, dynamics of disease transmission, concepts of prevention and control.</li> <li>2. Discuss the etiology and pathogenesis and diagnosis of various diseases</li> <li>3. Discuss the microbiological basis of causation of various communicable diseases and their diagnosis</li> <li>4. Describe the role of drugs/medicines in treatment of various diseases including their pharmaco-kinetics and pharmacodynamics.</li> </ol> <p><b>At the end of 3<sup>rd</sup> Professional year part -1, the learner should be able to,</b></p> <ol style="list-style-type: none"> <li>1. Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases</li> <li>2. Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.)</li> <li>3. Describe the current status and health problems of Reproductive, maternal, newborn and Child Health and various interventions and strategies to address these issues.</li> <li>4. Discuss objectives, scope, strategies and provisions under various national health programs and schemes against communicable, non communicable diseases in India.</li> <li>5. Understand the concept, evolution of primary health care, health care delivery system in India, international health</li> </ol>

	<p>regulations and role of international health organizations and NGOs in health care.</p> <p>6. Understand medico legal aspects in various circumstances associated with morbidities and mortalities</p> <p><b>At the end of 3<sup>rd</sup> Professional year part -2 the learner should be able to,</b></p> <ol style="list-style-type: none"> <li>1. Understand the risk factors, clinical assessment, laboratory investigations and management of various communicable and non-communicable diseases in all the age groups in a clinical setting</li> <li>2. Understand the guidelines and methods of providing mother and childcare services including family planning at health care facility setting</li> <li>3. Describe the basic surgical and orthopedic conditions which require specialized care to ensure well-being in patients</li> <li>4. Understand the detection and management of common mental and dermatological conditions of public health concern.</li> </ol>
Socio-emotional Teaching & learning objectives	<p><b>At the end of final year the learner should be able to</b></p> <ol style="list-style-type: none"> <li>1. Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behaviour at community setting</li> <li>2. Effectively communicate with patients attending the health centres with various illnesses</li> <li>3. Counsel the patients on treatment options, medication adherence, behavioral modifications and care during special circumstances</li> <li>4. Provide clinical care with compassion by applying the principles of ethics, empathy, humanism, altruism and professionalism</li> <li>5. Counsel the individuals and families on care during pregnancy, child care, infant feeding practices, family welfare services , care of elderly and other vulnerable individuals.</li> </ol>
Behavioural Teaching & learning objectives	<p><b>At the end of final year the learner should be able to</b></p> <ol style="list-style-type: none"> <li>1. Organize health education sessions at community settings on prevention and control of various predominant health problems in the community.</li> <li>2. Demonstrate the skills of history taking, clinical examination, diagnosis and management of various communicable and non-communicable diseases at primary, secondary and tertiary care settings.</li> <li>3. Demonstrate the skills in care of women during pregnancy, child birth and post-natal period including breast feeding and family planning</li> </ol>

	4. Exhibit the skills in managing health issues in special circumstances like disaster, outbreak, epidemic, pandemic, road traffic accidents etc.
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### Topics for SDG 3 “Good Health and Well-being”

1. Concept, dimensions, determinants of health and well being
2. Structure and functioning of human body, maintenance of milieu interior including biochemical basis of functions in human body.
3. Concepts of pathological and microbiological basis of disease causation
4. Concept of disease, natural history of diseases, dynamics of disease transmission, risk factors levels of prevention and modes of intervention for various communicable and non-communicable diseases
5. Concepts in pharmacological management of various diseases and their role in preventive domain.
6. Epidemiological and control measures including the use of essential laboratory tests at the for communicable diseases and non-communicable diseases including relevant national health programs.
7. Principles and practice of health education
8. Health care during special circumstances like disaster, epidemic, pandemic etc.
9. Concept, evolution of primary health care, health care delivery system in India, international health regulations and role of international health organizations and NGOs in health care.
10. History taking, clinical examination, laboratory diagnosis, treatment and prevention of various health problems at primary, secondary and tertiary care settings
11. Medico legal aspects associated with morbidities and mortality
12. Mother, new-born, childhood, adolescent health problems and their management at different levels of health care
13. Surgical and orthopedic conditions which require special care and management at health care setting
14. Health problems in elderly and their management
15. Health problems due to urbanization, globalization, climate change and ways to prevent them
16. Mental health
17. Problems of skin and appendages
18. Accidents and injuries
19. Attitudinal Ethics and Communication skills Modules



## Learning approaches and methods for SDG 3 “Good Health and Well-Being”

1. Videos, group discussion, role plays on various health problems and their prevention
2. Cadaveric dissection, group discussions, simulation exercises to understand human anatomy and physiology
3. Problem based learning, Team Based Learning, Community based learning sessions to understand the causation, diagnosis and prevention of various health problems in different age groups
4. Laboratory based exercises in identification of biochemical, pathological, microbiological basis of diseases.
5. Model making, animal simulation, drug stations and prescription analysis in understanding pharmacological aspects of treatment and prevention
6. Family health advisory survey to understand sociocultural, environmental, nutritional and epidemiological factors associated with health, well-being and diseases in community setting
7. Moot court, case vignettes, crime scene investigations and autopsy to understand medico legal aspects.
8. Case-based learning sessions on history taking, clinical examination, diagnosis, treatment and prevention of various communicable, non-communicable diseases including mother and childcare
9. Visit to primary health centres, community health centres, district hospitals, NGOs, Anganwadis to understand health care delivery system in India
10. Observation of days of public health importance like World Health Day, World Environment, TB, No Tobacco, Hypertension, Diabetes, Cancer, AIDS, Leprosy Days etc to create awareness about their importance
11. Reflective writing, portfolios, storytelling, case scenario based discussion, role plays, clinical encounters to impart attitudinal and communication skills including medical humanities
12. Skills and simulation lab based teaching of various clinical skills related to medicine, surgery, Obstetrics and Gynecology, Paediatrics, Orthopedics, emergency medicine etc.

## TEACHING & LEARNING OBJECTIVES FOR SDG 3 JSS DENTAL COLLEGE & HOSPITAL

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>● Epidemiology of common oral diseases</li> <li>● Concept of Health and disease</li> <li>● Prevention and management of oral diseases</li> <li>● Environment and Health</li> <li>● Health Care Delivery Systems</li> </ul>	<ul style="list-style-type: none"> <li>● All specialties in Dentistry</li> <li>● All undergraduate and post graduate students</li> </ul>
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> <li>● 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.</li> <li>● 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.</li> <li>● 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.</li> <li>● 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.</li> </ul>	
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>● The learner can interact with people suffering from illnesses and feel empathy for their situation and feelings.</li> <li>● The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>● The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>● The learner can create a holistic understanding of a life of health and well-being, and to clarify related values, beliefs, and attitudes.</li> <li>● 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.</li> </ul>	
Behavioural Teaching & learning objectives	<ul style="list-style-type: none"> <li>● The learner can include health promoting behaviours in their daily routines.</li> <li>● The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others.</li> <li>● The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>	

## 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 8<sup>TH</sup> 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?’

## TEACHING & LEARNING OBJECTIVES FOR SDG 3

### JSS COLLEGE OF PHARMACY-MYSORE

Subject/ topic/ course in regular curriculum relating to SDG 3	All Pharmacy Practice Subjects, Human anatomy & physiology, Biochemistry, Microbiology, Pharmaceutical formulations, Biopharmaceutics & pharmacokinetics
Cognitive Teaching & learning objectives	<p><b>On completion of the course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Define health and well-being, describe the concept of dimensions, determinants, and positive health</li> <li>• Understands the anatomical, physiological, and biochemical basis of health and well-being.</li> <li>• Understand the concept of disease and illness, natural history of disease, dynamics of disease transmission, concepts of prevention and control.</li> <li>• Discuss the etiology and pathogenesis and diagnosis of various diseases</li> <li>• Understand environmental problems and be motivated to participate in environment improvement and protection, as well as prevent environmental pollution.</li> <li>• Discuss the microbiological basis of causation of various communicable diseases and their diagnosis</li> <li>• Describe the role of drugs/medicines in the prevention &amp; treatment of various diseases including their pharmaco-kinetics and pharmacodynamics.</li> <li>• Formulate different dosage forms and evaluate them for their quality.</li> <li>• Understand the therapeutic approach to management of diseases referencing available evidence, prepare &amp; implement individualized therapeutic &amp; pharmaceutical care plans and monitor therapy.</li> <li>• Identify herbal drugs &amp; isolate the phytoconstituents, and understand the preparation &amp; development of herbal formulations.</li> <li>• Understand the pharmaceutical legislations for development &amp; marketing of pharmaceuticals &amp; regulatory agencies governing sale of pharmaceuticals, and the code of ethics for practice of pharmacy</li> <li>• Understand the various drug distribution methods &amp; manufacturing formulations in a hospital set-up, and professional management skills in a community pharmacy including stores management &amp; inventory control</li> <li>• Understand the drug development process and conduct clinical trials in accordance with regulatory and ethical requirements and promote quality clinical trials.</li> <li>• Discuss objectives, scope, strategies and provisions under various national health programs and schemes against communicable, non-communicable diseases in India.</li> </ul>

	<ul style="list-style-type: none"> <li>• Understand the different pharmacoepidemiologic and pharmaco-economic research methods and conduct such research to evaluate risk-benefit &amp; cost-benefit ratios</li> </ul>
Socio-emotional Teaching & learning objectives	<p><b>On completion of the course, the learner should be able to</b></p> <ul style="list-style-type: none"> <li>• Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behavior at community setting</li> <li>• Effectively communicate with patients attending the health centers with various illnesses</li> <li>• Counsel the patients on treatment options, medication adherence, behavioral modifications and care during special circumstances</li> <li>• Provide pharmaceutical care with compassion by applying the principles of ethics, empathy, humanism, altruism and professionalism</li> <li>• Counsel the individuals and families on care during pregnancy, child care, infant feeding practices, family welfare services, care of elderly and other vulnerable individuals.</li> </ul>
Behavioural Teaching & learning objectives	<p><b>On completion of the course, the learner should be able to</b></p> <ul style="list-style-type: none"> <li>• Organize health education sessions at community settings on prevention and control of various predominant health problems in the community.</li> <li>• Demonstrate the skills of medication history taking, treatment chart review, and provision of pharmaceutical care for various communicable and non-communicable diseases at any health care settings.</li> <li>• Demonstrate the skills in care of women during pregnancy, child birth and post-natal period including breast feeding and family planning</li> <li>• Exhibit the skills in managing health issues in special circumstances like disaster, outbreak, epidemic, pandemic, road traffic accidents etc.</li> <li>• Prepare and dispense medications with highest quality standards to safeguard the health of the public.</li> </ul>

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

1. Health Education
2. Structure and functioning of human body, including biochemical basis of functions in human body.
3. Concepts of pathological and microbiological basis of disease causation
4. Concept of disease, natural history of diseases, dynamics of disease transmission, risk factors levels of prevention and modes of intervention for various communicable and non-communicable diseases
5. Concepts in pharmacotherapeutic management of various diseases and their role in preventive domain.
6. Epidemiological and control measures including the use of essential laboratory tests at the for communicable diseases and non-communicable diseases including relevant national health programs.
7. Health care during special circumstances like disaster, epidemic, pandemic etc.
8. Hospital, Hospital Pharmacy & its organization, community pharmacy management, clinical pharmacy
9. Medication History Interview, Treatment Chart Review, laboratory diagnosis, treatment and prevention of various health problems at health care settings
10. Pharmacokinetics, bioavailability & bioequivalence
11. Drug Dosing in special populations
12. Health problems in elderly (Osteoarthritis, IHD etc.,) and their management
13. Environmental & nutritional diseases
14. Psychiatric disorders
15. Plant products
16. Communication skills
17. Guidelines in Clinical Research, Concept of risk and measurement of outcomes in pharmacoepidemiology

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

1. Videos, group discussion, role plays on various health problems and their prevention
2. Group discussions, simulation exercises to understand human anatomy and physiology
3. Problem based learning, Team Based Learning, Community based learning sessions to understand the causation, diagnosis and prevention of various health problems in different age groups
4. Laboratory based exercises in identification of biochemical, pathological, microbiological basis of diseases.
5. Model making, animal simulation, drug stations and prescription analysis in understanding pharmacological aspects of treatment and prevention
6. Problem based learning to develop individualized drug dosing regimens
7. Case-based learning sessions on history taking, clinical examination, diagnosis, treatment and prevention of various communicable, non-communicable diseases including mother and childcare
8. Visit to primary health centers, community health centers, district hospitals, NGOs, Anganwadi to understand health care delivery system in India
9. Observation of days of public health importance like World Health Day, World Environment, TB, Tobacco cessation day, Hypertension, Diabetes, Cancer, AIDS, Leprosy Days etc to create awareness about their importance
10. Reflective writing, portfolios, storytelling, case scenario-based discussion, role plays, clinical encounters to impart attitudinal and communication skills including medical humanities
11. Skills and simulation lab-based teaching of Basic life support and advanced cardiac life support.

## TEACHING & LEARNING OBJECTIVES FOR SDG 3 JSS COLLEGE OF PHARMACY, OOTY

<p>Subject/ topic/ course in regular curriculum relating toSDG 3</p>	<p>Course: M Pharmacy Year : I Sem: I Subject:Regulatory affairs Topics:Regulatory requirements for product approvals</p> <p><b>Cognitive Teaching &amp; learning objectives</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><b>Socio-emotional Teaching &amp; learning objectives</b></p> <ul style="list-style-type: none"> <li>The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>The learner can create a holistic understanding of a life of health and wellbeing, and to clarify related values, beliefs, and attitudes.</li> <li>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.</li> </ul> <p><b>Behavioral Teaching &amp; learning objectives</b></p> <ul style="list-style-type: none"> <li>The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul> <p>I MPharmacy Pharmaceutical production technology Air and water handling technology in pharma industries</p> <p><b>Cognitive Teaching &amp; learning objectives</b></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><b>Socio-emotional Teaching &amp; learning objectives</b></p> <ul style="list-style-type: none"> <li>The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>The learner can create a holistic understanding of a life of health and wellbeing, and to clarify related values, beliefs, and attitudes.</li> </ul>
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- 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.

**Behavioral Teaching & learning objectives**

- The learner has the capacity to perceive when others need help and to seek help for themselves and others.

Course: M Pharmacy

Year: I

Subject: Clinical Research Regulations

Topics: Ethics in Clinical Research, Regulations governing Clinical Trial

**Cognitive Teaching & learning objectives**

- The learner understands the etics in treating humans and also various laws and regulations pertaining to use of human beings in clinical trials.

**Socio-emotional Teaching & learning objectives**

- The learner can conduct an ethical way of clinical research
- The learner can make understand the rules and regulations pertaining to ethical way of conducting clinical research to his colleagues and other employees.

**Behavioral Teaching & learning objectives**

- The learner has the capacity to make decisions with regulatory agencies and indutries on various aspects of clinical research.

**I Pharm.D**

**Subject: Medicinal Biochemistry**

**Topic: Biomolecules:** Introduction, classification, chemical nature and biological role of carbohydrate, lipids, amino acids and proteins.

**Cognitive Teaching & learning objective:**

- Learners will understand that overweight and obesity, insufficient physical activity, and unhealthy food.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about a balanced diet.

**Behavioural Teaching & learning objectives:**

- Learners will give some solutions to reduce obesity and overweight and also they will highlight the importance of physical activity, unhealthy foods among the society.

**I B.Pharm**

**Subject: Biochemistry**

**Topic: Biomolecules:** Introduction, classification, chemical nature and biological role of carbohydrate, lipids, amino acids and proteins.

**Cognitive Teaching & learning objective:**

- Learners will understand that overweight and obesity, insufficient physical activity, and unhealthy food.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about a balanced diet.

**Behavioural Teaching & learning objectives:**

- Learners will give some solutions to reduce obesity and overweight and also they will highlight the importance of physical activity, unhealthy foods among the society.

**I Pharm.D****Subject: Pharmaceutical Inorganic Chemistry**

**Topic: Antacids, Dentifrices, cathartics, antimicrobials, expectorants, radio pharmaceuticals :** Introduction, general methods of preparation, storage condition and medicinal uses of compounds belonging to the following classes of drugs.

**Cognitive Teaching & learning objective:**

- Learners get the knowledge about medicinal uses of various inorganic compounds for maintaining good health.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about various classes of drugs.

**Behavioural Teaching & learning objectives:**

- Learners will provide general awareness among the public regarding medicinal properties and uses of various classes of inorganic compounds in maintaining good health and hygiene.

**I B.Pharm****Subject: Biochemistry**

**Topic: Biomolecules:** Introduction, classification, chemical nature and biological role of carbohydrate, lipids, amino acids and proteins.

**Cognitive Teaching & learning objective:**

- Learners will understand that overweight and obesity, insufficient physical activity, and unhealthy food.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about a balanced diet.

**Behavioural Teaching & learning objectives:**

- Learners will give some solutions to reduce obesity and overweight and also they will highlight the importance of physical activity, unhealthy foods among the society.

**II D.Pharm****Subject: Biochemistry and Clinical Pathology**

**Topic: Brief chemistry and role of Biomolecules:**

**Cognitive Teaching & learning objective:**

- Learners will understand that overweight and obesity, insufficient physical activity, and unhealthy food.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about a balanced diet.

**Behavioural Teaching & learning objectives:**

- Learners will give some solutions to reduce obesity and overweight and also they will highlight the importance of physical activity, unhealthy foods among the society.

### **III Pharm D**

**Subject:** Medicinal Chemistry

**Topic:**

Medicinal chemistry provides pharmacy students with a thorough understanding of drug mechanisms of action, structure-activity relationships (SAR), acid-base and physicochemical properties, and absorption, distribution, metabolism, excretion, and toxicity (ADMET) profiles.

**Cognitive Teaching & learning objective:**

- The learners understand knowledge of the connection between the structural features of the drugs and their physico-chemical characteristics, mechanism of action and use.

**Socio-emotional Teaching & learning objectives:**

- The learner know the social and economic teaching and learning to achieving long and healthy lives.

**Behavioural Teaching & learning objectives:**

- The learner can know the importance of medicinal chemistry as a mandatory discipline to the pharmacist's graduation and successful practice should provide specific knowledge beyond drug design and discovery skills and should be linked to clinical content that will distinguish the pharmacist from other health care professionals.

### **II D.Pharm**

**Subject: Pharmaceutical Chemistry II**

**Topics:** Antiseptics and disinfectants, sulphonamides, Antileprotic drugs, antitubercular drugs, antiameobics and anthelmintics, antibiotics, antifungals, antimalarials, tranquilizers, hypnotics, general anesthetics, antidepressants, analeptics, adrenergic and antiadrenergic drugs, cholinergics and anticholinergics, cardiovascular drugs, general and local anesthetics, NSAIDs, analgesics and antipyretics, thyroid and antithyroid drugs, diagnostic agents, steroidal drugs, anticancer drugs, anticonvulsants: Introduction, classification, chemical structures, physical and chemical properties, stability, storage conditions, uses, formulations and brand names.

**Cognitive Teaching & learning objective:**

- Learners will understand the chemical structures, various formulations, brand names and uses of various classes of drugs.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about medicinal uses of various classes of drugs.

**Behavioural Teaching & learning objectives:**

- Learners will be able to suggest or dispense drugs for minor ailments and also they will highlight the importance of these drugs among the society.

### **I B.Pharm**

**Subject: Biochemistry**

**Topic: Biomolecules:** Introduction, classification, chemical nature and biological role of carbohydrate, lipids, amino acids and proteins.

**Cognitive Teaching & learning objective:**

- Learners will understand that overweight and obesity, insufficient physical activity, and unhealthy food.

**Socio-emotional Teaching & learning objectives:**

- The learner can create awareness among the public about a balanced diet.

**Behavioural Teaching & learning objectives:**

- Learners will give some solutions to reduce obesity and overweight and also they will highlight the importance of physical activity, unhealthy foods among the society.

**I D Pharm**

**Subject:** Social Pharmacy

**Topic :**

Concept of Health - WHO definition, Different types of health, Health indicators

Causative agents, epidemiology and clinical presentations and Role of Pharmacists in educating the public in prevention of the following communicable diseases - Respiratory Infections, Intestinal Infections, Arthropod - borne infections, Surface infections, Sexually Transmitted Diseases.

Family Planning

National Health Programs

Oral Health and Hygiene

Personal Hygiene and Etiquettes

Various types of masks, PPE gear

Menstrual Hygiene and products used

Marketed preparations of disinfectants, antiseptics, fumigating agents and mosquito repellents

Tobacco cessation and counseling

**Cognitive Teaching & learning objectives:**

- 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.

**Socio-emotional Teaching & learning objectives:**

- 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 wellbeing, 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.

**Behavioural Teaching and Learning Objectives:**

- 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.

**II Pharm D**

**Subject:** Community Pharmacy

**Topic :**Health Education WHO Definition of health, and health promotion, care for children, pregnant & breast feeding women, and geriatric patients. Commonly occurring Communicable Diseases, causative agents, Clinical presentations and prevention of communicable diseases – Tuberculosis, Hepatitis, Typhoid, Amoebiasis, Malaria, Leprosy, Syphilis, Gonorrhoea and AIDS Balance diet, and treatment & prevention of deficiency disorders Family planning – role of pharmacist

Responding to symptoms of minor ailments Relevant pathophysiology, common drug therapy to, Pain, GI disturbances (Nausea, Vomiting, Dyspepsia, diarrhea, constipation), Pyrexia, Ophthalmic symptoms, worms infestations.

**Cognitive Teaching & learning objectives:**

- 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 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.

**Socio-emotional Teaching & learning objectives:**

- 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 wellbeing, 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.

**Behavioural Teaching & learning objectives:**

- 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.

**II Pharm D**

**Subject:** Pathophysiology

**Topic:**

- Basic principles of cell injury and adaptation
- Inflammation
- Diseases of immunity
- Cancer
- Shock
- Environmental and nutritional diseases
- Biological effects of radiation
- Pathophysiology of common diseases
- Infectious diseases

**Cognitive Teaching & learning objectives:**

- 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.

**Socio-emotional Teaching & learning objectives:**

- The learner can communicate about issues of health, including reproductive health, and well-being

**Behavioural Teaching & learning objectives:**

- 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.

**II Pharm D, I M Pharm-Pharmacy Practice**

**Subject:** Pharmacotherapeutics - I, Pharmacotherapeutics-II

**Topic:**

- Etiopathogenesis and pharmacotherapy of cardiovascular system, respiratory system, endocrine system, ophthalmology
- Rational drug use
- General prescribing guidelines for paediatrics, geriatrics, pregnancy and breastfeeding
- Etiopathogenesis & Pharmacotherapy of Neurological, Infectious, Renal, Gynecological & Oncology disorders

**Cognitive Teaching & learning objectives:**

- 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 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.

**Socio-emotional Teaching & learning objectives:**

- The learner can communicate about issues of health, including reproductive health, and well-being

**Behavioural Teaching & learning objectives:**

- 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.

**IV B Pharm - VIII Semester**

**Subject: Social and Preventive Pharmacy**

**Topic: Concept of health and disease:** Definition, concepts and evaluation of public health. Understanding the concept of prevention and control of disease, social causes of diseases and social problems of the sick

**Topic: Preventive medicine:** General principles of prevention and control of diseases such as cholera, SARS, Ebola virus, influenza, acute respiratory infections, malaria, chicken guinea, dengue, lymphatic filariasis, pneumonia, hypertension, diabetes mellitus, cancer, drug addiction-drug substance abuse

**Topic: National health programs, its objectives, functioning and outcome:** HIV AND AIDS control programme, TB, Integrated disease surveillance program (IDSP), National leprosy control programme, National mental health program, National 158 programme for prevention and control of deafness, Universal immunization programme, National programme for control of blindness, Pulse polio programme.

**Topic: National health intervention programme** for mother and child, National family welfare programme, National tobacco control

programme, National Malaria Prevention Program, National programme for the health care for the elderly, Social health programme; role of WHO in Indian national program

**Cognitive Teaching & learning objectives:**

- 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.

**Socio-emotional Teaching & learning objectives:**

- 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 wellbeing, 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.

**Behavioural Teaching and Learning Objectives:**

- 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.

**IV Pharm D**

**Subject: Hospital Pharmacy**

**Topic:** Hospital Infection control committee, Pharmacy & Therapeutics Committee

**Cognitive Teaching & learning objectives:**


- 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



	<p>vulnerable groups and regions concerning illness, disease, and premature death.</p> <ul style="list-style-type: none"><li>• 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.</li></ul> <p><b>Socio-emotional Teaching &amp; learning objectives:</b></p> <ul style="list-style-type: none"><li>• The learner can communicate about issues of health, including reproductive health, and well-being</li></ul> <p><b>Behavioural Teaching &amp; learning objectives:</b></p> <ul style="list-style-type: none"><li>• The learner can include health promoting behaviours in their daily routines.</li><li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others.</li></ul>
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# TEACHING & LEARNING OBJECTIVES FOR SDG 3

## FACULTY OF HEALTH SYSTEM MANAGEMENT STUDIES

<p>Subject/ topic/ course in regular curriculum relating to SDG 3</p>	<ul style="list-style-type: none"> <li>• Introduction to Healthcare System/concept of Health/Semester-5-BBAHSM</li> <li>• Epidemiology/Health Education/ Semester-3-MBAHA</li> <li>• Pharmacoepidemiology/Occupational Health/Semester-3-MBAPA</li> <li>• Hospital Planning/ Various clinical departments/ Semester-3-MBAHA</li> <li>• Hospital Support Service/Various support &amp; utility services of the hospital /Semester-3-MBAHA</li> <li>• Basic Health Sciences/ Body structure and organizations/Semester-3-MBAHA and MBAPA</li> <li>• Patient Safety &amp; Risk Management/ Occupational hazards/ Semester4 MBAHA</li> <li>• Medical Insurance Management/ Various health insurance schemes/ Semester4 MBAHA</li> </ul>
<p>Cognitive Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• The learner can understand the basic concepts of health and disease</li> <li>• The learner will be able to understand the overview of various components of health and healthcare systems</li> <li>• The learners know about hospital and various clinical, support and utility services of the hospital.</li> <li>• The learners will learn about various organ systems that make up human body, their structure, and their significant functioning</li> <li>• Learners will also understand about various occupational hazards and methods for prevention of those hazards at workplace</li> </ul> <p style="text-align: center;"><b><u>Hand Hygiene Day Celebrations</u></b></p> 
<p>Socio-emotional Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• The learner can gain the knowledge about national health programs and population policy</li> <li>• Learning of these concepts empower the learner with the knowledge required on various public health schemes funded by national and international organizations</li> <li>• Learners can play an active role in offering health care services at various cadres/ levels in the healthcare system</li> </ul> <p style="text-align: center;"><b><u>Community Health Awareness Program</u></b></p>



Behavioural  
Teaching & learning  
objectives

- The learner can understand various health care policies, epidemiologic terminologies and measurement of health and disease.
- Upon understanding the concepts and terminologies of healthcare, learner can demonstrate the knowledge to help others in gaining access to healthcare
- The learner can aid the communities and societies in awareness about various healthcare programs, promotes the healthcare services of a facility and plays his/ her actively role in the spread of health and wellbeing.

**NSS activities**



**Sports Events**



# TEACHING & LEARNING OBJECTIVES FOR SDG 3

## FACULTY OF LIFE SCIENCES

### SCHOOL OF LIFE SCIENCES ,OOTY

<p>Subject/ topic/ course in regular curriculum relating to SDG 3</p>	<ul style="list-style-type: none"> <li>• Course: BSc Food, Nutrition and Dietetics <ul style="list-style-type: none"> <li>○ Introduction to Food Science</li> <li>○ Bascis of Nutrition and Dietetics</li> <li>○ Community Nutrition</li> <li>○ Public Health and Community Nutrition</li> <li>○ Personalized Nutrition</li> <li>○ Nutraceuticals and Functional Foods</li> <li>○ Food Quality Control</li> </ul> </li> <li>• Course: BSc Biotechnology <ul style="list-style-type: none"> <li>○ Health and Wellness</li> <li>○ Nutraceutical Biotechnology</li> </ul> </li> </ul>
<p>Cognitive Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
<p>Socio-emotional Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• The learner can interact with people suffering from illnesses and feel empathy for their situation and feelings.</li> <li>• The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>• The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>• The learner can create a holistic understanding of a life of health and well-being, and to clarify related values, beliefs, and attitudes.</li> <li>• 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.</li> </ul>
<p>Behavioural Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• The learner can include health promoting behaviours in their daily routines.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others.</li> <li>• The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>

## 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?’

[Identify healthy and traditional foods for good health and its practice](#)

## 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 8<sup>TH</sup> 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

[Food is medicine - Importance of nutraceuticals and functional foods for good health and from preventing diseases](#)

[Prevention is better than cure. Different ways to ensure good health](#)

[Balanced diet and malnutrition](#)



# TEACHING & LEARNING OBJECTIVES FOR SDG 3

## SCHOOL OF LIFE SCIENCE, MYSORE

### DEPARTMENT OF MICROBIOLOGY

<b>Subject/ topic/ course in regular curriculum relating to SDG 3</b>	<ul style="list-style-type: none"><li>• Clinical Microbiology (BSc IV Sem)</li><li>• Medical Microbiology; Antimicrobial Resistance (BSc VI Sem)</li><li>• Pharmaceutical Microbiology (MSc II Sem)</li><li>• Medical Microbiology &amp; Immunology; Disease Diagnostic Technology; Industrial Microbiology &amp; Fermentation technology (MSc III Sem)</li></ul>
<b>Cognitive Teaching &amp; learning objectives</b>	<ul style="list-style-type: none"><li>• Concepts of health, hygiene and well-being of an individual and understands.</li><li>• Consequences of severe communicable and non-communicable diseases, among most vulnerable &amp; non vulnerable populations.</li><li>• Aspects of mental health and negotiable socio-economical impacts of alcohol consumption, tobacco or other drugs addictions on health and well-being.</li></ul>
<b>Socio-emotional Teaching &amp; learning objectives</b>	<ul style="list-style-type: none"><li>• Exposed to the health issues viz., critical and infectious diseases and interact with the section of population of illnesses, counsel and educate the advanced diagnostics and therapeutics ; communicate to encourage on the aspects of good clinical health and hygiene practices; create awareness on the emergence of antimicrobial resistance and their impacts on the livelihood of the people.</li></ul>
<b>Behaviorial Teaching &amp; Learning objectives</b>	<ul style="list-style-type: none"><li>• The learner can get experienced through good hygienic practices towards critical and infectious diseases and anti-microbial agents.</li><li>• The learner can promote good health practices and behaviors in the daily routines. The good hygienic and health practices can be evaluated, planned, implemented, executed and shared the same among the family, in-turn to the surroundings and finally to the society.</li></ul>

**Learning approaches  
and methods for  
SDG 3**

- Define infectious and non infectious diseases
- Role of gut microbiota in non-communicable inflammatory diseases such as allergy, obesity, asthma; metabolic health
- Develop probiotics to improve health
- Tackling AMR and lower respiratory infections, diarrheal, HIV/AIDS, tuberculosis

**Suggested topics for  
students workshop for  
SDG 3**

- Organize training on managing food-borne and waterborne diseases
- Conduct projects on epidemic and endemic disease
- Develop Probiotics and fermented foods
- Project on health benefits of gut microbes

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DEPT. OF ENVIRONMENTAL SCIENCES**

Course Name in curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Environmental Pollution and Health (DSC 04)</li> <li>• Eco-toxicology (DSC 09)</li> <li>• Environmental Monitoring and Techniques (DSC 10)</li> </ul>
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner knows conceptions of health, hygiene, water borne diseases, water and sanitation and well-being and can critically reflect on them, including an understanding of the importance of gender in health and well-being.</li> <li>• 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.</li> <li>• The learner understands the importance of environmental health. The learner understands the negative impacts of environmental pollution, climate change, contaminated water, etc.</li> <li>• The learner knows relevant prevention strategies to conservation and management of environment for good health and wellbeing.</li> </ul>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can interact with people suffering from illnesses and feel empathy for their situation and feelings in connection with environmental quality and climate change consequences.</li> <li>• The learner can communicate about issues of environmental health, including waterborne diseases, heat shocks, etc.</li> <li>• The learner can encourage others to decide and act in favor of promoting health and well-being for all.</li> <li>• The learner can create a holistic understanding of a life of health and well-being, and clarify related values, beliefs, and attitudes.</li> <li>• 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 environmental health and social care.</li> </ul>
Behavioral Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can include health-promoting behaviors in their daily routines.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, and well-being for themselves, their families, and others by improving the environmental quality.</li> <li>• The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>



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

- Define: Severe communicable and non-communicable diseases which are influenced by climate change and environmental quality
- Health problems of vulnerable groups and in the most vulnerable regions, and an understanding of how environmental quality may affect health and well-being
- Direct strategies to promote health and well-being, e.g. quality fresh water, healthy food without contamination, good environment, environmentally friendly practices, etc.
- Indirect strategies (public health) to promote health and well-being: e.g. transfer of knowledge and technology which are environmentally friendly, reduction of pollution and contamination
- Philosophical and ethical conceptions of life quality, well-being, and happiness through environmentalism approaches
- Overweight and obesity, insufficient physical activity, and unhealthy food due to environmental pollution
- 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 environment day, world water day”, etc.
- Watch videos that show health-promoting behaviors in connection with environment health and conservation
- 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 health impact through climate change and environmental contamination.
- Organize training on health promotion and illness prevention strategies (e.g. participating in physical activities in ecosystem, preparing healthy food, detecting and managing sources of waterborne diseases)
- Conduct projects on health consequences by climate change and contamination of ecosystem
- Develop an enquiry-based project, ‘Is living longer need quality environment?’

## TEACHING & LEARNING OBJECTIVES FOR SDG 2 DEPT. OF NUTRITION & DIETETICS

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• The Course MSc in Nutrition &amp; Dietetics.</li> <li>• All the course units &amp; topics.</li> <li>• The course content aims at rejuvenation and restoration of normal health &amp; nutritional status among health and disease conditions of all age groups.</li> <li>• The course enables learners to aim at ensuring healthy lives and promote well-being for all, at all ages.</li> </ul>
Cognitive Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Know concepts of good health, hygiene and well-being.</li> <li>• Understand the importance of balanced nutrition during life cycle and factors contributing to inter-generation vicious cycle of malnutrition.</li> <li>• Understand the demographic prevalence, and trend analysis of various communicable and non- communicable diseases.</li> </ul> <p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Understands the inter relation between of mental, physical and physiological health &amp; well being.</li> <li>• Know about relevant prevention strategies to foster positive physical and mental health and well-being, including preventive and management methods.</li> </ul>
Socio-emotional Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Educate and create awareness on proper diet &amp; nutrition, physical activity, WASH &amp; lifestyle practices.</li> <li>• Counsel people with empathy and provide achievable targets for achieving good health or to overcome/manage illnesses.</li> <li>• Communicate about issues of health, including reproductive health, pediatric and geriatric population.</li> </ul> <p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Can plan and provide a holistic approach for tackling health issues and improve health /disease related knowledge, attitude and practices among people.</li> <li>• Can develop professional commitment towards promoting health and well-being for persons needing specific attention, helping improve their QOL.</li> </ul>
Behavioural Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Reach the unreachable, to be part of planning, implementation &amp; policy making process at all hierarchies.</li> </ul> <p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p>

	<ul style="list-style-type: none"> <li>• Can plan and help implementing health promoting behaviors &amp; lifestyle in people.</li> <li>• Can plan, implement, evaluate and replicate nutritional &amp; lifestyle strategies suitable for specific age, disease conditions.</li> <li>• Develop professional skills, understand &amp; map the achievable targets for target people which is imperative for achieving the goal of good health &amp; well being.</li> </ul>
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### Suggested topics for SDG 3 “Good Health and Well-being”

- Identifying gender related nutrition & health issues and planning of nutrition intervention strategies targeting the vulnerable population.
- Health problems of vulnerable groups and in the most vulnerable regions, and an understanding of how gender inequalities may affect health and well-being
- Reducing food fads & promote healthy eating habits among young generation.
- Reduce triple burden of malnutrition & physical inactivity

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

- Commemoration & celebrating food & nutrition day/week, reaching the unreachable to promote good health and overall well being.
- Develop professional commitment towards promoting health and well-being for target population helping improve their quality of life.

## MSc Sports Nutrition & Management

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Advance Nutrition; Human physiology; Bioenergetics; Nutritional and Functional Foods; Molecular Nutrition; Clinical Sports Nutrition; Sports Specific Diet and Counseling; Nutrition In Cancer and Inflammation; Nutrition for Gut and Brain Health</li> </ul>
Cognitive Teaching & learning objectives	<p>At the end of 1<sup>st</sup> Professional year, the learner should be able to</p> <ul style="list-style-type: none"> <li>• Know conceptions of health, hygiene and well-being and can critically reflect on them, including an understanding of the importance of health and well-being.</li> <li>• Knows fact and figures about the functions of nutrients and their effect on severe communicable and non- communicable diseases, most vulnerable groups and strategies to prevent and cure them.</li> </ul> <p>At the end of 2<sup>st</sup> Professional year, the learner should be able to</p> <ul style="list-style-type: none"> <li>• Understand the importance of health. The learner understands the effect of drug and nutrient interaction on the functionality of the vital organs of the body and their relation to health and well-being.</li> <li>• Gain knowledge on the assessment and counseling aspects of nutrition specific to sports and also in general to promote overall health and performance..</li> </ul>
Socio-emotional Teaching & learning objectives	<p>At the end of the program, the student should be able to</p> <ul style="list-style-type: none"> <li>• Interact with people suffering from illnesses and feel empathy for their situation and feelings.</li> <li>• Communicate about issues of health, including, nutrients, their function, importance in maintaining physical, mental and reproductive health, and well-being</li> <li>• Encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>• Create a holistic understanding of a life of health and well-being, and to establish relationship between health and importance of nutrition and indicators in identifying malnutrition.</li> <li>• 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.</li> </ul>
Behavioural Teaching & learning objectives	<p>At the end of the program, the student should be able to</p> <ul style="list-style-type: none"> <li>• Include health promoting behaviours in their daily routines.</li> <li>• Appreciate the role of nutrition, develop skills on diet counseling and designing sports food formulations to improve overall health and performance</li> <li>• Have the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>

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

- Role of functional foods in maintain health and wellness
- 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., healthy food, physical activity, mental health,
- Philosophical and ethical conceptions of life quality, well-being, and happiness
- Discriminatory attitudes towards people living with mental disorders
- Overweight and obesity, insufficient physical activity, and unhealthy food

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

- Watch videos that show health-promoting behaviors
- 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, and the importance of nutrition in brain health, etc.
- Organize training on nutrition promotion and illness prevention strategies (e.g. participating in physical activities, preparing healthy food,)
- Develop an enquiry-based project, ‘living healthy with good nutrition?’

## BSc Food, Nutrition & Dietetics

Subject/ topic/ course in regular curriculum relating to SDG 3	Introduction to Food Science/ Basics of Nutrition & Dietetics/ Health & Wellness/ Development of value enhanced products/
Cognitive Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> &amp; 2<sup>nd</sup> Professional year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>▪ Define health and well-being, describe the concept of dimensions, determinants, and positive health</li> <li>▪ Understands the physiological, and biochemical basis of health and well-being.</li> </ul> <p><b>At the end of 3<sup>rd</sup> Professional year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>▪ Understand the concept of disease and illness, natural history of disease, dynamics of disease transmission, concepts of prevention and control.</li> <li>▪ Discuss the etiology and pathogenesis and diagnosis of various diseases</li> <li>▪ Discuss the nutrition basis for the cause of various communicable diseases and their diagnosis</li> <li>▪ Describe the role of dietary strategies in treatment of various diseases</li> </ul> <p><b>At the end of final year, the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>▪ Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases</li> <li>▪ Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.)</li> <li>▪ Describe the current status and health problems of Reproductive, maternal, newborn and Child Health, care of elderly and other vulnerable individuals</li> </ul>

<p>Socio-emotional Teaching &amp; learning objectives</p>	<p><b>At the end of final year the learner should be able to</b></p> <ul style="list-style-type: none"> <li>▪ Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behaviour at community setting</li> <li>▪ Effectively communicate with individual attending the health centres with various illnesses</li> <li>▪ Understand the individual on treatment options, medication adherence, behavioral modifications and care during special circumstances</li> <li>▪ Provide nutrition care with compassion by applying the principles of ethics, empathy, humanism, and professionalism</li> <li>▪ Provide holistic understanding on health and well-being, and to clarify related values, beliefs, and attitudes through nutrition</li> </ul>
<p>Behavioural Teaching &amp; learning objectives</p>	<p><b>At the end of final year the learner should be able to</b></p> <p>Develop health promoting behaviors related to <b>nutrition practices</b> in their daily routines.</p> <p>Plan, implement, evaluate, and replicate <b>nutrition strategies</b> that promote health, including reproductive health, and well-being for themselves, their families, and others.</p> <ul style="list-style-type: none"> <li>▪ Organize health education sessions at community settings on prevention and control of various predominant health problems in the community.</li> <li>▪ Demonstrate the skills of history taking, clinical examination, diagnosis and management of various communicable and non-communicable diseases at primary, secondary and tertiary care settings.</li> <li>▪ Exhibit the skills in nutrition care towards managing health issues in special circumstances like febrile condition, metabolic issues, epidemic, pandemic, etc.</li> </ul>

## Suggested topics for SDG3 “Good Health and Well-being”

- Concept, dimensions, determinants of health and well being
- Structure and functioning of human body, maintenance of milieu interior including biochemical basis of functions in human body.
- Concept of disease, natural history of diseases, dynamics of disease transmission, risk factors levels of prevention and modes of intervention for various communicable and non-communicable diseases
- Epidemiological and control measures including the use of essential laboratory tests at the for communicable diseases and non-communicable diseases including relevant national health programs.
- Principles and practice of health education
- Health care during special circumstances like disaster, epidemic, pandemic etc.
- Concept, evolution of primary health care, health care delivery system in India, international health regulations and role of international health organizations and NGOs in health care.
- History taking, clinical examination, laboratory diagnosis, treatment and prevention of various health problems at primary, secondary and tertiary care settings
- Health problems in elderly and their management
- Health problems due to urbanization, globalization, climate change and ways to prevent them

## Examples of learning approaches and methods for SDG3 “Good Health and Well-Being”

- Videos, group discussion, role plays on various health problems and their prevention
- Problem based learning, Team Based Learning, Community based learning sessions to understand the causation, diagnosis and prevention of various health problems in different age groups
- Laboratory based exercises in identification of biochemical, pathological, microbiological basis of diseases.
- Model making, animal simulation, drug stations and prescription
- Family health advisory survey to understand sociocultural, environmental, nutritional and epidemiological factors associated with health, well-being and diseases in community setting
- Case-based learning sessions on history taking, clinical examination, diagnosis, treatment and prevention of various communicable, non-communicable diseases including mother and childcare
- Visit to primary health centres, community health centres, district hospitals, NGOs, Anganwadis to understand health care delivery system in India
- Observation of days of public health importance like World Health Day, World Environment, TB, No Tobacco, Hypertension, Diabetes, Cancer, AIDS, Leprosy Days etc to create awareness about their importance
- Reflective writing, portfolios, storytelling, case scenario based discussion, role plays, clinical encounters to impart attitudinal and communication skills including medical humanities
- Skills and simulation lab based teaching of various clinical skills related to medicine, surgery, Obstetrics and Gynecology, Paediatrics, Orthopedics, emergency medicine etc.



## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DIVISION OF BIOCHEMISTRY**

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Clinical Biochemistry</li> <li>• Biochemical Basis of Diseases</li> </ul>
Cognitive Teaching & learning objectives	<p>The aim of this course is to demonstrate how basic biochemistry and analytical chemistry can be applied to medical diagnosis, treatment, and management.</p> <p><b>At the end of the first unit, the learner will be able to</b></p> <ul style="list-style-type: none"> <li>• learn about different clinical disorders, the biochemical consequences of particular disease processes, and the response to therapy.</li> <li>• assess human physiology using biological fluid.</li> </ul> <p><b>At the end of the second, third, and fourth unit, the learner will be able to</b></p> <ul style="list-style-type: none"> <li>• illustrate the mechanism of metabolic disorders at the molecular level thereby facilitating employability in diagnostic and research institutes.</li> </ul> <p><b>In general the course aims to fulfill the following learning outcomes:</b></p> <ul style="list-style-type: none"> <li>• The learner knows conceptions of health and disease</li> <li>• 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.</li> <li>• 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 alcohol, tobacco or other drugs cause harm to health and well-being.</li> <li>• The learner knows relevant prevention strategies to foster positive physical and mental health and well-being, including reproductive health and their diagnosis and information as well as early warning and risk reduction.</li> </ul>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>• The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>• The learner can develop a personal commitment to promoting health and well-being for themselves, their family, and others, including considering healthy life style and frequent diagnosis during diseases condition.</li> </ul>
Behavioural Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can include health promoting behaviours in their daily routines.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive, and mental health.</li> <li>• The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>

## 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 diagnosis is important for the better treatment.

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.

Indirect strategies (public health) to promote health and well-being, 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

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?’

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DEPARTMENT OF NANOSCIENCE & TECHNOLOGY**

The use of nanotechnology in healthcare is opening new frontiers across the life sciences industry. With the ability to manipulate matters at atomic levels, nanotechnology has huge potential to revolutionize myriad aspects of medical care, including diagnostics, disease monitoring, surgical devices, regenerative medicine, vaccine development, and drug delivery. It is also opening doors to better treatment options for various diseases through advanced research tools that can be used for drug discovery.

Nanotechnology products have become increasingly useful in healthcare and have led to the advent of novel nano systems for the diagnosis, imaging, and treatment of various diseases, such as cancer, as well as cardiovascular, ocular, and central nervous system-related diseases. Nanomaterials integrate well into biomedical devices as most biological systems are also nanosized. In the field of drug delivery, nano systems offer the precise delivery of drugs to the target tissues or organs with a controlled release and enhanced retention time as compared to conventional techniques. Nano-liposomes are one of the best examples of the nano systems currently developed for targeted drug delivery to treat various types of cancers and cardiovascular diseases. Drug delivery to target tissue, good biocompatibility, and the control of drug flow in the bloodstream are the most significant reasons for the usage of nano-liposomes.

Advancement of technology has allowed for the development of smart pills for example PillCam which is a capsule with a miniature video camera, and dose-tracking pills along with more advanced ones like Atmo Gas Capsule', which when ingested, examines the gases in the human gut to report any disorders. Such nano sensor based application allow for improved healthcare through real time data monitoring of oxygen level, carbon dioxide and the presence of other harmful substances in the body. Such applications help in diagnosing gastrointestinal disorders, detecting malignant digestive organs, and tracking food sensitivities to enable personalized diet and nutrition plans, hence improving general well-being of patients.

At a more advanced level the development of nanobots have been revolutionary in the medical fields as they serve as miniature increasing the probability of success during surgery as they help eliminate human error. Such materials can be inserted in to the body to repair and replace intracellular structures. They can also replicate themselves to correct a deficiency in genetics or even eradicate diseases by replacing DNA molecules. Nanobots are currently being tested to perform eye surgery, through a microscopic needle inserted into the retina while on the other hand they are being used to clear artery blockages by drilling through them.

Due to the fast life that people live, the use of nano sensors in wearables is becoming increasingly very popular. The use of cloth-based nanotechnology in healthcare is a new yet popular form of remote patient monitoring. Such wearables have embedded nano sensors in the cloth that record medical data such as heartbeat, sweat components, and blood pressure. It helps save lives by alerting the wearer and medical professionals of any adverse changes faced by the body. Not only

is such an application medically beneficial in terms of data, it does tend to restore confidence in people indirectly improving their general well-being.

Currently, nanotechnology in healthcare still has a lot of hurdles to overcome. More research is needed on the long-term impact of nanotechnology, and its environmental implications. Nanotech-based devices are often highly-priced which hinders their mass manufacturing. Affordable production alternatives for these devices will aid in making this technology mainstream. However, there is an increasing sense of optimism that nanotechnology, when applied to healthcare, will be able to bring about significant advances in the diagnosis, treatment, and prevention of diseases. There is growing interest among innovators in the future applications of nanotechnology in healthcare, and how it can guide the industry into a new era of development.

<p>Cognitive Teaching &amp; learning objectives</p>	<ul style="list-style-type: none"> <li>• The learner knows conceptions of health, hygiene and well-being and can critically reflect on them.</li> <li>• The learner knows about diseases along with current diagnosis and treatment methods</li> <li>• The learner understands the various types and medical applications of nanomaterials (diagnosis, medicine, treatment, imaging)</li> <li>• The learner knows the risks and rewards of using nanotechnology for medical applications</li> <li>• The learner gets to know the most recent nano-based products in the market like medicine and nano sensor-based products</li> </ul>
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### Suggested topics for SDG - “Good Health and Well-being”

The following activities and projects are being carried out:

- Drug delivery systems for delivery to CVDs
- Pharmacogenomics for Black Box drugs
- Targeted drug delivery for neurodegenerative diseases.

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3** **DIVISION OF COGNITIVE NEUROSCIENCE AND PSYCHOLOGY**

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Health Psychology               <ul style="list-style-type: none"> <li>• To make awareness about the scope of health psychology, stress, and coping behavior and the role of Psychology in general health and chronic health problems.</li> <li>• Familiarize with the Rehabilitation on Bio Psychosocial model implement psychological intervention for the illness.</li> </ul> </li> </ul>
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can interact with people suffering from illnesses and feel empathy for their situation and feelings.</li> <li>• The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>• The learner can encourage others to decide and act in favour of promoting health and well-being for all.</li> <li>• The learner can create a holistic understanding of a life of health and well-being, and to clarify related values, beliefs, and attitudes.</li> <li>• 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.</li> </ul>
Behavioural Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can include health promoting behaviours in their daily routines.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others.</li> <li>• The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>

## 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?’

## 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 8<sup>TH</sup> 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

## TEACHING & LEARNING OBJECTIVES FOR SDG 3

### DIVISION OF MEDICAL PHYSICS

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Radiation biology</li> </ul>
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Discuss about the addictions to alcohol, tobacco or other drugs cause harm to health and well-being.</li> <li>• 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.</li> <li>• Discuss objectives, scope, strategies and provisions under various national health programs and schemes against cancer related diseases in India.</li> <li>• Understand medico legal aspects in various circumstances associated with morbidities and mortalities.</li> </ul>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behavior at community setting.</li> <li>• Effectively communicate with patients attending the health centres with cancer related illnesses.</li> </ul>
Behavioural Teaching & learning objectives	<ul style="list-style-type: none"> <li>• Demonstrate the skills of history taking, clinical examination, diagnosis and management of various cancer related diseases at primary, secondary and tertiary care settings.</li> </ul>



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

- Cancer is a 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 by Cellular effects of radiation-inactivation’s mitotic delay DNA damage chromosomal aberrations mutations and recombination’s.
- Direct strategies to promote health and well-being, e.g. healthy food, physical activity, mental health, medical consultation, reproductive health education including education about sexuality & pregnancy. Educating people of getting unnecessary exposure of radiation zone.
- 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 in order to prevent cancer growing among the population.
- Philosophical and ethical conceptions of life quality, well-being, and happiness
- Overweight and obesity. insufficient physical activity. and unhealthy food can lead to cancer growth

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

- Propagating the “**World cancer day**” (4<sup>th</sup> February) awareness.
- Watch videos that show health promoting behaviors (e.g. saying “No” tobacco & alcohol)
- Encourage students participating in ethical, reflective essay writing and/or discussions about what a life of health and well-being
- Engage with storytelling by people with severe diseases, drug addictions, related to cancer causing activities.
- 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 participating in cancer awareness programs).

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DIVISION OF MEDICAL STATISTICS**

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Statistical Epidemiology</li> <li>• Population and Health Data Management</li> <li>• Survival Data Analysis</li> </ul>
Cognitive Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner Gain Knowledge on different public health programmes and health services available at local and global level.</li> <li>• 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.</li> <li>• The learner understands Understand the different regression models pertaining to exposure of diseases.</li> <li>• The learner understands the concept of censoring, life distributions and ageing classes.</li> <li>• The learner learns the Natural history of disease.</li> </ul>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can communicate about issues of health, including reproductive health, and well-being</li> <li>• The learner can encourage others to decide and act in favor of promoting health and well-being for all.</li> <li>• The learner understands different models from Survival Analysis and different types of censoring, learn to estimate and interpret survival characteristics.</li> <li>• The learner can construct of parametric and non-parametric estimators of survival distributions, and probability density functions based on incomplete data</li> <li>• To learners can construct different population growth models.</li> </ul>
Behavioural Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can include health promoting behaviors in their daily routines.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health, and well-being for themselves, their families, and others.</li> <li>• The learner has the capacity to perceive when others need help and to seek help for themselves and others.</li> </ul>

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

- ✓ Epidemiology of policy, public health program, Health services etc.
- ✓ Roles of Genetic and Environmental Factors in Disease Causation
- ✓ Regression models and cox models related to survival analysis.
- ✓ Measures of diseases- odds ratio, relative risks, and so on

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

- ✓ To Participate in ethical, reflective essay writing and/or discussions about health-related issues.
- ✓ To do seminars and presentation related to Natural history of diseases.
- ✓ To 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 or dissertation, ‘Is living longer a good thing?’

## TEACHING & LEARNING OBJECTIVES FOR SDG 3 DIVISION OF GEOINFORMATICS

<p>Subject/ topic/ course in regular curriculum relating to SDG 1</p>	<ul style="list-style-type: none"> <li>• Subject: GIS for Public Health</li> <li>• Spatial Analysis of Health Data</li> <li>• Uses and application of Health GIS technology in disease management</li> <li>• Health Information System.</li> <li>• Basic GIS operations and Five Spatial Analysis for visualizations of health</li> <li>• data. Point pattern analysis for vector-borne disease data with examples.</li> <li>• Point pattern analysis for vector-borne disease data with examples.</li> <li>• Hot Spot analysis for Disease Data</li> <li>• GIS for Modeling of Vector-Borne Diseases</li> </ul>
<p>Cognitive Teaching &amp; learning objectives</p>	<p>At the end of 2nd year the learner should be able to</p> <ul style="list-style-type: none"> <li>• The learner knows conceptions of health and epidemiology. And well-being and can critically reflect on them, including an understanding of the spatial variation of the same.</li> <li>• Understand the public health infrastructure system and network of health facilities in India.</li> <li>• The learner knows relevant GIS technology for the prevention strategies to foster positive physical and mental health and well-being.</li> </ul>
<p>Socio-emotional Teaching &amp; learning objectives</p>	<p>At the end of final year the student should be able to</p> <ul style="list-style-type: none"> <li>• critically evaluate recent developments in health from a spatial perspective.</li> <li>• Introduce the use of GIS-based analyses of health data.</li> <li>• GIS tools to identify spatial patterns in health and undertake an exploratory</li> <li>• analysis of potential explanatory factors.</li> <li>• Lain the influencing patterns of health and the role that GIS can play in exploring it.</li> </ul>
<p>Behavioural Teaching &amp; learning objectives</p>	<p>At the end of the program the learner should be able to</p> <ul style="list-style-type: none"> <li>• understand spatial-temporal variation in the region and assess the hotspot area that needs attention.</li> <li>• The learner can plan, implement, evaluate, and replicate strategies that promote health, including reproductive health and well-being for themselves, their families, and others, using GIS technology.</li> </ul>

### **Suggested topics for SDG 2 “Zero Hunger.”**

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

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

- Lecture by use of boards/LCD projectors
- Self- learning such as the use of NPTEL materials and websites, e.g., NRSC, NAASA, USGS
- Interdisciplinary study, i.e., community medicine and Geospatial Technology.

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DEPARTMENT OF YOGA**

Subject/ topic/ course in regular curriculum relating to SDG 3	<ul style="list-style-type: none"> <li>• Physiology, Anatomy, Biochemistry, Immunology &amp; Yoga, Human Nutrition &amp; Yoga, Yoga &amp; Food science, Fundamental of Yoga, Yoga &amp; Exercise therapy.</li> <li>• The course content aims at rejuvenation and restoration of normal health among health and disease conditions of all age groups.</li> </ul>
Cognitive Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Define health and well-being, describe the concept of positive health &amp; health according to Yoga.</li> <li>• Know the Anatomy, physiology &amp; Biochemistry of Human body, its basis on health and wellness &amp; its relation to Yoga.</li> <li>• Know concepts of good health, hygiene and well-being.</li> <li>• Understand the importance of Yoga on health &amp; wellbeing.</li> </ul> <p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Understands the inter relation between of mental, physical and physiological health &amp; well being.</li> <li>• Know about prevention management strategies to foster positive physical and mental health and well-being.</li> <li>• Understand the Lifestyle disorders diseases &amp; its management through Yoga.</li> <li>• Ensure healthy lives and promote well-being for all.</li> </ul>
Socio-emotional Teaching & learning objectives	<p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behaviour.</li> <li>• Provide Yoga care &amp; Counselling to all with compassion by applying the principles of empathy, professionalism and humanity.</li> <li>• Counsel people and provide achievable targets for managing health or to prevent illness through Yoga.</li> <li>• Communicate with individuals visiting health care centres with various health ailments.</li> </ul>
Behavioural Teaching & learning objectives	<p><b>At the end of 2<sup>nd</sup> year and course the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>• Organize Yoga sessions at community settings on prevention and control of various predominant health ailments.</li> <li>• Can plan and help implementing health promoting behaviors &amp; lifestyle in people.</li> <li>• Provide Yoga sessions to women in Pre &amp; post pregnancy period for improving QOL and help in problems faced during pregnancy.</li> <li>• Organize, implement &amp; evaluate different Yoga modules suitable for all age group like geriatric, childrens, women &amp; other specific disease conditions.</li> <li>• Develop professional skills, understand &amp; map the achievable targets for target people which is imperative for achieving the goal of good health &amp; well being.</li> </ul>

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

- Structure and functioning of human body, Concept of human body according to Yoga, biochemical & physiological basis of functions in human body.
- Concept of health and wellbeing according to Yoga.
- Concepts in Yoga management of various diseases and Yoga role as preventive medicine.
- Lifestyle disorders and management through Yoga.
- Health problems in different age group and its management through Yoga.
- Health care during special circumstances like pandemic.
- Holistic approach to balance body & mind.
- Yoga & Mental Health
- Yoga & Psychoneuroimmunology (PNI).

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

- Cadaveric dissection, small group discussions to understand human anatomy and physiology of human body.
- Laboratory based exercises in identification of biochemical basis of diseases.
- Observation of Important day of health importance like International Day of Yoga, World Heart Day, World Health Day, TB, No Tobacco, Hypertension, Diabetes, Cancer, to create awareness about their importance and its management through Yoga
- Promoting health awareness programme and well-being day for target population and helping improve their quality of life.
- Community based learning sessions to understand the causation & prevention of various health problems in different age groups & its management through Yoga.

## BSC Yoga

Subject/ topic/ course in regular curriculum relating to SDG 3	Biology of Human Body– (Basics of Anatomy & Physiology), Principles of Yoga,Basics of Biochemistry ,Yogic Psychology Rehabilitation Psychology ,Yoga and Mental Health, Hatha Yoga, Environmental Studies
Cognitive Teaching & learning objectives	<p><b>At the end of 1<sup>st</sup> &amp; 2<sup>nd</sup> Professional year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>▪ Define health and well-being, describe the concept of dimensions, determinants, and positive health</li> <li>▪ Understands the physiological, and biochemical basis of health and well-being.</li> </ul> <p><b>At the end of final year Professional year the learner should be able to,</b></p> <ul style="list-style-type: none"> <li>▪ Role of Yoga on mental health.</li> <li>▪ Discuss the etiology and pathogenesis and diagnosis of various diseases</li> <li>▪ Discuss the Yoga application for the cause of various Non communicable diseases.</li> <li>▪ Understand the concept of disease and illness, natural history of disease, dynamics of disease transmission, concepts of prevention and control.</li> <li>▪ Describe the role of Yoga in treatment of various diseases.</li> </ul>
Socio-emotional Teaching & learning objectives	<p><b>At the end of final year the learner should be able to</b></p> <ul style="list-style-type: none"> <li>▪ Effectively communicate with individual attending the health centres with various illnesses &amp; application of Yoga for society.</li> <li>▪ Communicate with individuals, families and communities on prevention of diseases, promotion of healthy lifestyles and enhance health seeking behaviour at community setting</li> <li>▪ Understand the individual on treatment options, medication adherence, behavioral modifications and care during special circumstances</li> <li>▪ Teach &amp; Educate Yoga with compassion by applying the principles of ethics, empathy, humanism, and professionalism</li> <li>▪ Provide holistic understanding on health and well-being, and to clarify related values, beliefs, and attitudes through nutrition</li> </ul>
Behavioural Teaching & learning objectives	<p><b>At the end of final year the learner should be able to</b></p> <ul style="list-style-type: none"> <li>• Develop Yoga for health &amp; awareness activities.</li> <li>▪ Organize health education sessions at community settings on prevention and control of various predominant health problems in the community.</li> </ul>



	<ul style="list-style-type: none"> <li>▪ Demonstrate the skills of history taking and management of various non-communicable diseases</li> <li>▪ Exhibit the skills &amp; role of yoga towards managing health issues in special circumstances pandemic etc.</li> </ul>
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### Suggested topics for SDG3 “Good Health and Well-being”

- Structure and functioning of human body, including biochemical & physiological basis of functions in human body.
- Concept, dimensions, determinants of health and well being
- Concept of disease, natural history of diseases.
- Principles and practice of Yoga & health education.
- Health care during special circumstances like disaster, epidemic, pandemic etc.
- Application of Yoga in Society.
- Health problems due to urbanization, globalization, climate change and ways to manage them through Yoga.

### Examples of learning approaches and methods for SDG3 “Good Health and Well-Being”

- Cadaveric dissection, small group discussions to understand human anatomy and physiology of human body.
- Laboratory based exercises in identification of biochemical basis of diseases.
- Observation of Important day of health importance like International Day of Yoga, World Heart Day, World Health Day, TB, No Tobacco, Hypertension, Diabetes, Cancer, to create awareness about their importance and its management through Yoga
- Promoting health awareness programme and well-being day for target population and helping improve their quality of life.
- Community based learning sessions to understand the causation & prevention of various health problems in different age groups & its management through Yoga.

## **TEACHING & LEARNING OBJECTIVES FOR SDG 3**

### **DIVISION OF LANGUAGES**

Cognitive Teaching & learning objectives	<p>1.The learner understands the importance of good mental health which is important for the wellbeing for the people of all ages.</p> <p>2.The learner understands the importance of good moral and ethical values and incorporates them into his academic and professional life.</p>
Socio-emotional Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can motivate partners to stand up for what is right and not to give up on life despite hurdles.</li> <li>• The learner understands the importance of family, relatives, and friends in helping achieve each other’s goals and turning dreams to reality.</li> <li>• The learner understands that leaving the familiar and going out and exploring the unknown will really show the importance in one’s destiny.</li> </ul>
Behavioral Teaching & learning objectives	<ul style="list-style-type: none"> <li>• The learner can raise awareness to stand by what is right, even fight for it.</li> <li>• The learner understands that a man who has the will can do great deeds even if he is handicapped.</li> <li>• The learner raises awareness on being a patriotic citizen and achieving goals through countless effort and hard work.</li> <li>• The learner understands the difference between self pity versus a positive attitude goes a long way in achieving goals.</li> </ul>

### Examples of learning approaches and methods

- ✓ Encourage learners to participate in debates on the topics like not to be swayed by greed, not giving up on life despite hurdles, half knowledge can be dangerous with special reference to events of the Mahabharata.
- ✓ Develop thought process and righteousness among the learners in implementing the life lessons learnt from the Mahabharata in their personal and professional life.

### Suggested topics for student workshops/training

- ✓ Conduct quiz competitions in the class on topics which would include Mahabharata, Indian scientists, and India's achievements in space and rocket technology.
- ✓ Events like plays, dramas to be organized as part of cultural events where students will depict key events from the Mahabharata.
- ✓ Conduct special lectures from scientists working at ISRO and IISc to create awareness among the students about the efforts of Indian scientists in achieving superiority in aeronautical, space and rocket technology.