

BANGALORE UNIVERSITY

THREE YEAR UNDERGRADUATE PROGRAMME

(Courses effective from Academic Year 2014-15)



SYLLABUS OF COURSES TO BE OFFERED

Foundation Course: **Environment and Public Health**

Overview

The physical environment in which people live is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects. Environmental health is a component of the public health system and is committed to protecting the health of the public and enhancing quality of life by assessing, correcting, controlling, and preventing those factors in the environment that can adversely affect human health. The prevention of injury, disease and death that may result from interactions of people with their environment is the goal of the environmental health program. Responsible citizens owe it to our government to keep the environment pristine as much as possible. Our per capita energy consumption also has to match the energy demands for sustainable development. The curriculum aims at providing solutions to some of the grand challenges facing the nation.

Objectives and Expected outcome

- Awareness of public health hazards posed by our environment, including physical features such as global warming, chemical features such as automobile emissions, contaminants in drinking water, and biological features such as putrefying organic matter.
- Impact of governmental policies and urbanization on degradation of the environment.
- Education, public- private partnership, corporate social responsibility (CSR) and change in management as way forward towards improving the Public Health thresholds.
- Educating the students on environmental policies with respect to water, air, forest and wildlife of the country.

Every Semester, teaching will be spread over 16 weeks including two weeks for review.

BANGALORE UNIVERSITY
FOUNDATION COURSE CBSS SYLLABUS FOR ALL UNDER GRADUATE
PROGRAMME

EPH: ENVIRONMENT AND PUBLIC HEALTH

General Course: UG

Course Structure: CBSS

Course: Foundation Course

Code Course Title: EPH : **Environment and Public health**

Scheme of Examination and Credits
Foundation Course (I.II.III and IV Sem)

Paper No	Title of the paper	Type of paper	Hour/ week	Duration of exam in hrs	Exam Marks	IA Marks	Total Marks	Credits
EPH	Environment and Public health	T	3	3	70	30	100	1
	Total marks and credits for I Sem						100	1

Scheme of Internal Assessment

Marks assigned	30
Tests	10
Assignments/Field work	15
Attendance	05

The internal assessment marks shall be based on tests, assignments/field work and attendance

CBSS SYLLABUS FOR ENVIRONMENT AND PUBLIC HEALTH

1 Credits/Week= 3hrs/Week, 40hrs/semester

70 Marks

Unit I - Linkages between Environment and Health

Hours

Understanding linkages between Environment and Public Health: Effect of quality of air, water and soil on health. Perspective on Individual health: Nutritional, socio-cultural and developmental aspects, Dietary diversity for good health; Human developmental indices for public health.

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Unit II - Climate Change and Implications on Public Health

Global warming - Agricultural practices (chemical agriculture) and Industrial technologies (use of non-biodegradable materials like plastics, aerosols, refrigerants, pesticides); Manifestations of Climate change on Public Health- Burning of Fossil fuels , automobile emissions and Acid rain.

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Unit III – Diseases in Contemporary Society

Definition- need for good health- factors affecting health. Types of diseases - deficiency, infection, pollution diseases- allergies , respiratory, cardiovascular, and cancer Personal hygiene- food - balanced diet. Food habits and cleanliness, food adulterants, avoiding smoking, drugs and alcohol.

Communicable diseases: Mode of transmission -epidemic and endemic diseases. Management of hygiene in public places - Railway stations, Bus stands and other public places. Infectious diseases: Role of sanitation and poverty case studies on TB, diarrhea, malaria, viral diseases .Non-communicable diseases: Role of Lifestyle and built environment. Diabetes and Hypertension.

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Unit IV - Perspectives and Interventions in Public Health

Epidemiological perspectives — Disease burden and surveillance; Alternative systems of medicine - Ayurveda, Yoga, Unani, Siddha and Homeopathy (AYUSH); Universal Immunization Programme (UIP); Reproductive health-Youth Unite for Victory on AIDS (YUVA) programme of Government of India. Occupational health hazards-physical-chemical and biological. Occupational diseases- prevention and control.

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Unit V - Environmental Management Policies and Practices

Municipal solid waste management: Definition, sources, characterization collection and transportation and disposal methods. Solid waste management system in urban and rural areas. Municipal Solid waste rules.

Policies and practices with respect to Environmental Protection Act, Forest Conservation Act, Wild life protection Act, Water and Air Act, Industrial, Biomedical and E waste disposal rules.

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Assignment /Field Work

- Examining local cuisines for dietary diversity.
- Examining National Health Survey data e.g. National Family Health Survey, Annual Health surveys.
- Survey of Immunization coverage in a particular area.
- To establish if there is a relation between GDP and life expectancies/Health parameters.
- Survey of Respiratory allergies.
- Examining household/institutional/market/neighborhood wastes and their disposal mechanism.
- Survey of households along the Arkavathi and Cauvery River for life expectancy and common ailments and diseases.
- Determine the extent of use of paper and suggest means of reducing the use of paper and paper products.
- Documentation of festival/fasting and mapping of agro-ecological cycles.
- Definitions of poverty - Governmental policies on poverty mitigation - facts and fiction.
- Health indicators vis- a-vis income groups.
- Deforestation and flooding - myth or fact?
- Smoking and Lung Cancer
- Estimation of water-demands of a city/town.
- Adapting water-harvesting technology - survey, sustainability.

- Quantitative relation between bio-resource and consumer products - bathing soap, paper, furniture & construction as related to trees.
- Differential access to water - demand and actual access.
- Transport losses in water supply.
- Storage losses in food grain.
- Study of sewage treatment plants.
- Social perspective - child-health and small scale industries.
- Document infant immunization.
- Studying effective programme implementation - Reproductive health.
- Opportunities of physical activities in neighborhood - Study of built environment - Land-use pattern in Urban Settlements.
- Air quality in Delhi.
- Changing transport means in Delhi - CNG.
- Rituals and environmental pollution e.g. water, noise, air.
- Dialogue with doctors and paramedics.
- Methods of consultation of doctors.
- Population pressure/growth and resource degradation.
- Nutritional disorders/deficiencies in different populations groups-surveys.
- Compose and enact street plays. Create posters/ audio-video materials/ greeting cards highlighting environmental issues.
- Collecting information on medicinal plants.
- Collecting information from elders and other prominent persons.
- Occupational hazards and health issues.
- Water-borne diseases - exacerbation by irrigation projects.
- Alternate medicines - use of therapies for different diseases categories.
- Lifestyle diseases.
- Pollutants in air/water/soil and their effect on health.
- FDI in specific manufacturing Industries and local health problems.
- Differential pricing policy of petroleum products and environmental pollution - case studies.
- Wildlife Protection Act - case studies.
- Bhopal Gas Tragedy- Science, Laws and Public Health
- Changing Human Development Indices over time – in India/other countries.
- Supply, demand and gap filling –role of ground water

References

1. Indian Academy of Paediatrics. (2011). *Guidebook on Immunization*. mfc bulletin, 45-50.
2. Nandini N, Sunitha N. and Sucharita Tandon, (2007), *Environmental Studies*, Sapna Book House, Bangalore
3. Michel, Mckinney, Robert and Logan (2007). *Environmental Science – Systems & Solutions*. Jones & Barlett Publishers, Canada.
4. Minkoff, E., & Baker, P. (2003). *Biology Today: An Issues Approach* (3 ed.).
5. Park, K. (2011). *Preventive and Social Medicine*. Benarsi Das Publications, (pp. 16- 19,24-27).
6. *Public Health Nutrition in Developing Countries Part-2*). Wood head Publishing India.
7. Sadgopal, M., & Sagar, A. (2007, July-September). Can Public Health open up to the AYUSH Systems and give space for People's views of health and disease?.
8. Sekhsaria, P. (2007). Conservation in India and the Need to Think Beyond 'Tiger vs. Tribal'. *Biotropica*, 39(5), 575-577.
9. Tyler Miller and Scott E. Spoolman 'Environmental Science' (2012) 13th edition First Indian Reprint Chapters 14-17 (total pages 108) Cengage Learning, New Delhi. www.cengage.co.
10. UNDP. (2013). *The Human Development Report, The Rise of the South: HumanProgress in Diverse World*. New York: UNDP, (also available in Hindi),
11. Wani, M., & Kothari, A. (2007, July 15). Protected areas and human rights India: the impact of the official conservation model on local communities. *Policy Matters*, 100-114.

E-resources:

1. www.traditionalmedicine.nic.in
2. www.moef.nic.in
3. www.iucn.org/india/
4. www.who.int
5. www.wwfindia.org
6. www.unep.org