
BACHELORS IN PUBLIC HEALTH

(BPH)

CHOICE BASED CREDIT SYSTEM (CBCS)

Regulations and Curriculum



YENEPOYA

(DEEMED TO BE UNIVERSITY)

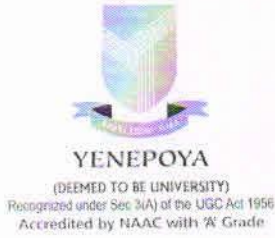
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Accredited by NAAC with 'A' Grade

DEPARTMENT OF PUBLIC HEALTH
YENEPOYA MEDICAL COLLEGE
YENEPOYA (DEEMED TO BE UNIVERSITY)
UNIVERSITY ROAD DERALAKATTE, MANGALORE-575018

ATTESTED

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NOTIFICATION – 34-ACM/2019 dtd.20.03.2019

Sub: Starting of Bachelors in Public Health (BPH) from the academic year 2019-20

Ref: Resolution of the Academic Council at its 34th meeting held on 08.02.2019 vide Agenda - 40

The Academic Council at its 34th meeting held on 08.02.2019 has approved the proposal to start 3 years Credit Based, Choice Based Continuous Assessment Patterned Education System of Bachelor of Public Health (BPH) course with an annual intake of 25 under Yenepoya (Deemed to be University).

The Regulations submitted by the Board of Studies, Public Health have been approved at the 34th meeting of Academic Council held on 08.02.2019 and subsequently at the 45th meeting of Board of Management.

This notification is issued for implementation with effect from the academic year 2019-20.


REGISTRAR
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To:

The Principal, Yenepoya Medical College

Copy to:

1. Professor & HoD, Department of Public Health
2. Controller of Examinations
3. File copy

SECTION- I

REGULATIONS

➤ **COURSE TITLE & SUMMARY:**

The course shall be called the “BPH - Bachelors in Public Health”.

The prescribed course will be an intensive full time program, which will include classroom lectures and practical training within campus and also in various Private and Government organization.

The programme will be conducted at Yenepoya Medical College, Yenepoya (Deemed to be University), Mangalore, Karnataka. Candidates shall abide by the stipulated timings, discipline, rules and regulations of the University.

1. ELIGIBILITY: To be eligible for admission a candidate shall have obtained:

A two year Secondary level or Pre University examination (10+2) or its equivalent as recognized by the University with any principle subjects of study.

OR

Pre -degree course from a recognized University / Board (two years after ten years of schooling).

OR

Candidates completing 2years Diploma in Allied health sciences after pre -university college (10+2) with 40%.

OR

Candidate needs to secure minimum 40% marks in 10+2 (SC/ST/OBC minimum 35% marks)

Age: 17 years as on 31st December of the year of admission.

2. REQUIREMENT:

- Application duly filled (hard copy or online)
- Marks cards
- Copy of 10th Or SSLC marks cards
- Copy of 12th or PUC (10+2) marks card
- Copy of degree certificates (if any)
- Academic transcript
- Transfer certificate
- Migration certificate
- Copy of internship certificate (where applicable)
- Copy of council registration (where applicable)
- Statement of Purpose

3. INTERNATIONAL STUDENTS:

International students are an important and integral part providing valuable perspectives and contributions. To comply with the government laws, applicants who are not citizens or permanent residents of India have to complete additional steps when applying to a program. As a result, it is extremely important for international applicants to submit their applications early.

- Application duly filled (hard copy or online) Application
- Marks cards
- Copy of 10th marks card
- Copy of 12th or PUC (10+2) marks card
- Copy of degree marks card (all years)
- Copy of Degree certificate
- Academic transcript
- Transfer certificate
- Migration certificate
- Copy of internship certificate (where applicable)
- Copy of council registration (where applicable)

- Nationality /citizenship certificate (translated in English)
- Eligibility certificate from RGUHS (Link for applying for eligibility certificate)
- Equivalence certificate from AIU (if required) (link for applying for equivalence certificate)
- Passport copy
- Demand draft of required fee (link to fee structure)
- Statement of purpose

4. INTAKE: Maximum 15 students

5. STATEMENT OF PURPOSE: (LINK TO STATEMENT OF PURPOSE):

The statement of purpose should be a concise, well-written essay about your educational background and reasons for pursuing a degree in public health, specifically the area of study you wish to follow. This essay should be approximately 1,500 words in length. You should give information about:

- Your background as it pertains to your academic and professional goals.
- Your future career goals and objectives.
- The motivating factors that stimulated interest in public health career
- Mention how advanced degree will help you to achieve your professional goals and objectives
- Statement of purpose

6. WHO SHOULD OPT?

- IDEAL CANDIDATES FOR THE COURSE WOULD TYPICALLY POSSESS:

- A passion to serve people.
- Dedication to and contribution towards disease control in the society.
- Interest in studying about the prevention and treatment of various communicable and non-communicable diseases.
- A patient and friendly nature.
- Good communication skills, as the line of work require them to work for the community and deal with a number of people.

7. PROGRAM STRUCTURE AND COURSEWORK:

Bachelor of public health is a three years program during which students learn about epidemiology, social sciences and environmental health sciences, health policy and education. Biostatistics which is the application of statistics in biology is also an important part of a public health program curriculum. Students are taught to learn about people's attitudes towards health from an anthropological and psychological view point. Students learn to assess a community's health requirements, devise plans and policies and implement health programs.

8. CAREERS IN PUBLIC HEALTH:

A Bachelor of public health degree prepares graduates for entry level positions in the healthcare industry. Public health professionals are employed at Govt. and private health organizations hospitals, pharmaceutical companies. They can find jobs in the areas of health administration, research, education and policy development. Public health experts can work in roles such as health educator, public health specialist, social worker, epidemiologist, health program analyst and more. Salaries may vary depending on the specialization you choose within the public health sphere.

9. MEDIUM OF INSTRUCTION:

- English shall be the medium of instruction for the subjects of study as well as for the examination.

10. DURATION OF THE COURSE:

The Course shall extend over a period of three years. The duration of the course shall be on full time basis for a period of three years consisting of six semesters from the commencement of the academic term. Each semester would be of 6 months (duration twenty four weeks) including examination.

11. SCHEME OF EXAMINATION:

There shall be five examinations one at the end of each semester. The sixth semester would be exclusive for hands on training and project work.

The aggregate marks for the 6 semesters would be 2400. Semester I to V will have 4 papers, each of 100 marks. The last semester (VI) will include a project work of 100 marks, Grand Viva of 100, internal assessment 100 mark, field visit 50 marks and continuous assessment of the hands on training 50 extramural academic programs.

12. DISTRIBUTION OF TYPE OF QUESTIONS AND MARKS FOR VARIOUS SUBJECTS:

Type of question	Number of questions	No. of questions to be answered	Marks for each question
Long Essay	02	01	10×1=10
Short Essay	08	06	5×6=30
Short Note	12	10	2×10=20

13. ATTENDANCE:

Every candidate should have attended at least 80% of the total number of classes conducted in an academic year from the date of commencement of the term to the last working day as notified by university in each of the subjects prescribed for that year separately in theory and practical. Only such candidates are eligible to appear for the university examinations in their first attempt. A candidate lacking in prescribed percentage of attendance in any subjects either in theory or practical in the first appearance will not be eligible to appear for the University Examination in that subject.

14. INTERNAL ASSESSMENT (IA):

Theory - 60 marks.

Internal Assessment - 40 marks.

1. There shall be a minimum of two periodical tests for each subject in each semester. The average marks of the two tests will be calculated and reduced to 40. The marks of IA shall be communicated to the University as per the notification issued by the Registrar (Evaluation) before each university examination.
2. The marks of the internal assessment will be displayed on the notice board of the department.
3. If a candidate is absent for any one of the tests due to genuine and satisfactory reasons, such a candidate may be given a re-test within a fortnight.

15. SUBJECTS AND HOURS OF TEACHING

The number of hours for teaching theory and practical for main subject are shown in Table-I

Table - I Distribution of Teaching Hours in Subjects

Main Subjects:

Semester	Main Subjects	No of Hours Theory	No of Hours Practical Posting	Total
I Semester	BP01PH-1T1 Introduction to public health	80	120	440
	BP01PH-1T2 Human Biology	80		
	BP01PH-1T3 Demography	80		
	BP01PH-1T4-Basic Epidemiology	80		
II Semester	BP01PH-2T1 Principles of Nutrition	80	120	440
	BP01PH-2T2 Diagnostics of major PublicHealth in India	80		
	BP01PH-2T3 Fundamental Bio statistics	80		
	BP01PH-2T4-Research Project	80		
III Semester	BP01PH-3T1 Non- communicable diseases	80	120	440
	BP01PH-3T2 Health behavior and counseling	80		
	BP01PH-3T3 Public Health Internship	80		
	BP01PH-3T4 Social Epidemiology	80		
IV Semester	BP01PH-4T1 Infectious diseases	80	120	440
	BP01PH-4T2-Applied Research Methods	80		
	BP01PH-4T3- Environment health	80		
	BP01PH-4T4 Basic management of healthservice organizations evaluation	80		

V Semester	BP01PH-5T1-Health economics	80	120	440
	BP01PH-5T2- Analyzing Qualitative Data	80		
	BP01PH-5T3-Project management	80		
	BP01PH-5T4-Hospital hazards	80		
VI Semester	- Project Work		440	440
TOTAL HOURS		1600	1040	2640

Subsidiary Subjects:

Semester	Subject	No of Hours-Theory	Total
I Semester	English/Kannada	30	180
II Semester	Constitution of India	30	
III Semester	Computer Fundamentals	30	
IV Semester	Communication	30	
V Semester	Open Elective courses from SWAYAM /MOOC	30	
VI Semester	Open Elective courses from SWAYAM /MOOC	30	

16. SCHEME OF EXAMINATION

There shall be five examinations, one each at the end of each semester for the first five semesters. The sixth semester will have a viva voce for the project work and assessment of the hands on training.

Duration of the examination and distribution of marks are shown in Table – II

Table - II Duration of the examination and distribution of marks in Subjects.

S.I no.	Main Subjects	Written Paper		IA	Total
		Duration	Marks	Marks	
FIRST SEMESTER					
1	BP01PH-1T1 -Introduction TO public health	3 Hours	60	40	100
2	BP01PH-1T2 Human Biology	3 Hours	60	40	100
3	BP01PH-1T3 Demography	3 Hours	60	40	100
4	BP01PH-1T4 Basic Epidemiology	3 Hours	60	40	100
	TOTAL				400
SECOND SEMESTER					
6	BP01PH-2T1 Principles of Nutrition	3 Hours	60	40	100
7	BP01PH-2T2-Diagnostics of majorPublic Health in India	3 Hours	60	40	100
8	BP01PH-2T3-Fundamental Bio statistics	3 Hours	60	40	100
9	BP01PH-2T4-Research Project	3 Hours	60	40	100
	TOTAL				400
THIRD SEMESTER					
11	BP01PH-3T1- Non-communicable diseases	3 Hours	60	40	100
12	BP01PH-3T2- Health behavior and counseling	3 Hours	60	40	100
13	BP01PH-3T3- -Public Health Internship	3 Hours	60	40	100
14	BP01PH-3T4- -Social Epidemiology	3 Hours	60	40	100
	TOTAL				400
FOURTH SEMESTER					

16	BP01PH-4T1- Infectious diseases	3 Hours	60	40	100
17	BP01PH-4T2- Applied Research Methods	3 Hours	60	40	100
18	BP01PH-4T3- Environment health	3 Hours	60	40	100
19	BP01PH-4T4 -Basic management of health service organizations evaluation	3 Hours	60	40	100
TOTAL					400
FIFTH SEMESTER					
21	BP01PH-5T1-Health economics	3 Hours	60	40	100
22	BP01PH-5T2- Analyzing QualitativeData	3 Hours	60	40	100
23	BP01PH-5T3-Project management	3 Hours	60	40	100
24	BP01PH-5T4- Hospital hazards	3 Hours	60	40	100
TOTAL					400
SIXTH SEMESTER					
	Project work				100
	Grand viva		Grading		100
	Internal assessment		System		100
	Field visit				50
	Hands on training				50
GRAND TOTAL (400+400+400+400+400+150)					2400
SUBSIDIARY SUBJECTS:					
1	English/Kannada	3 Hours	60	40	100

2	Constitution of India	3 Hours	60	40	100
3	Computer Fundamentals	3 Hours	60	40	100
4	Communication	3 Hours	60	40	100
5	Open Elective courses from SWAYAM/MOOC	As per the SWAYAM/MOOC norms or guidelines			
6	Open Elective courses from SWAYAM / MOOC				

Note * I A = Internal Assessment

- Main Subjects shall have University Examination.
- There Shall be no University Practical Examination.

Subsidiary subjects: The examination for the subsidiary subject shall be held one month prior to the semester examination.

17. ELIGIBILITY FOR EXAMINATION

- A candidate shall register for all the subjects of the semester when he/she appears for the examination of that semester for the first time.
- Candidate should secure minimum of 40% in Internal Assessment in each subject to be eligible for the examination.
- 80% attendance in all the subjects is mandatory.

18. CRITERIA FOR PASS IN SUBJECTS

18.1.

- a) **Main Subjects:** A candidate is declared to have passed in a subject, if He / she secures, 50% of marks in University Theory exam and Internal assessment added together.
- b) **Subsidiary Subjects:** The minimum prescribed marks for a pass in subsidiary subject shall be 35% of the maximum marks prescribed for a subject. The marks obtained in the subsidiary subjects shall be communicated to the University before the commencement of the University examination

It is mandatory to pass in all the subsidiary subjects but the marks will not be added to the grand total

18.2. Final Semester

Candidate has to submit a project report and make a presentation of his/her project. The minimum pass is 50% of the marks for the report and viva voce together.

Hands on training: The candidate will have to undergo 6 months of rotational training in relevant departments of the hospital and NGO's. The assessment will be on grading system.

19. CARRY OVER BENEFIT FOR FIRST YEAR

A candidate needs to mandatorily pass in minimum 3 papers out of the 4 papers in each semester to be permitted to attend the next semester. Failed candidates shall be permitted to appear in the failed subject in the following semester. However, he/she shall clear all failed subjects to become eligible to undertake the project work and hands on training in the final semester.

If a candidate fails in Subsidiary subject in any semester, he/she shall be permitted to carry over the subject, but has to clear all failed subjects before appearing for the final semester examination.

20. ELIGIBILITY FOR THE AWARD OF DEGREE

A candidate shall have passed in all the subjects of all five semesters and should successfully complete the hands on training and project work in the sixth semester to be eligible for award of degree.

21. QUALIFICATION & EXPERIENCE REQUIRED FOR APPOINTMENT AS TEACHERS ON FULL TIME BASIS FOR BPH COURSE:

21.1. Tutor:

Qualification: A pass in Bachelors Degree in Public Health.

21.2. Lecturer:

Qualification: A pass either in Masters program in Public Health/ MSc. in Epidemiology /Global health from an institution affiliated a to University established under law.

Or

Masters in Public Health degree from an institution recognized from an institution affiliated a to University established under law.

For a Tutor and Lecturer to be permitted as examiner a minimum of 3 years of teaching experience is a must.

14.3. Assistant Professor:

For non medical teachers: qualification and experience: the qualification required shall be as that of Lecturer. The experience required shall be three years of teaching experience as a lecturer in an institution conducting full time Masters course in Public Health or equivalent affiliated to an university established under law or three years of Public health/field experience in a any Institution/Organization.

Teachers having post graduate medical qualification such as MD in Community medicine from an institution recognized by Medical Council of India, may be appointed as Assistant Professor with minimum of three years of teaching or field experience.

14.4. Associate Professor:

Three years of teaching experience as Assistant Professor or 7 years of field experience, with qualification such as MD Community medicine, Masters course in Public Health or equivalent affiliated to an university established under law.

14.5. **Professor:** Four years of teaching experience as Associate Professor.

14.6. **Principal:** A person having qualification and teaching experience required for professor can hold the post of Principal.

15. COURSE OF STUDY:

The course shall be pursued on full time basis. No candidate shall be permitted to work in a health care facility or a related organization or laboratory or any other organizations outside the institution while studying the course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of study.

Main Subjects: (Total credits-15+15+12+15+15+12=84 credits)

Subsidiary and Open Electives: (credits - 10+10+10+10+4+4=48)

Subject code	Subject name	C Hr	Credits		
			Theory	Practical	Total
	1 Semester				
BP01PH-1TI	BPH-101- Introduction to publichealth	6	2	2	4
BP01PH-1T2	BPH-102-Human Biology	4	4		4
BP01PH-1T3	BPH-103-Demography	2	2		2
BP01PH-1T4	BPH-104-Basic Epidemiology	5	5		5
BP01PH-1L1	English/Kannada				10
	2 Semester				
BP01PH-2TI	BPH-201-Principles of Nutrition	4	4		4
BP01PH-2T2	BPH-202- Diagnostics of majorPublic Health in India	2		1	1
BP01PH-2T3	BPH-203-Fundamental Bio statistics	5		5	5
BP01PH-2T4	BPH-204-Research Project	5		5	5
BP01PH-2T5	Constitution of India				10
	3 Semester				
BP01PH-3TI	BPH 301- Non- communicable diseases	3		3	3
BP01PH-3T2	BPH 302- Health behavior and counseling	5		5	5
BP01PH-3T3	BPH-303-Public Health Internship	2	2		2
BP01PH-3T4	BPH 304 -Social Epidemiology	2	2		2
BP01PH-3T5	Computer Fundamentals				10
	4 Semester				
BP01PH-4TI	BPH-401- Infectious diseases		2	2	4
BP01PH-4T2	BPH-402- Applied Research Methods		4		4
BP01PH-4T3	BPH 403- Environment health		2		2

BP01PH-4T4	BPH-404-Basic management of health service organizations evaluation		5		5
BP01PH-4T5	Communication				10
	5 Semester		Theory	Practical	Total
BP01PH-5T1	BPH-501-Health economics		2	2	4
BP01PH-5T2	BPH-502-Analyzing Qualitative Data		4		4
BP01PH-5T3	BP-503-Project management		2		2
BP01PH-5T4	BP-504- Hospital hazards		5		5
BP01PH-5T5	Open Elective SWAYAM/MOOC				4
BP01PH-6T1	6 Semester BPH-601- Project work Grand viva, Field work, Extramuralactivities, Hands on training				12
BP01PH-6T2	Open Elective SWAYAM/MOOC				4
	Total credits				132

FIRST SEMESTER

BP01PH-1T1 Introduction to public health: This course has 2 classroom-based credits (MPH 1.11 Introduction to public health concepts and issues), and is supported with 2 credits of field-based learning. The field based courses aim at introducing students to the organizational structure and the functions of the public health system and an understanding of community demographics, socioeconomic status, types and distribution of diseases and disorders in a community, and a community perspective of the factors determining utilization of health services.

BP01PH-1T2 Human Biology is aimed at providing knowledge on the functioning of the human body, and the human life cycle.

BP01PH-1T3 Demography is an introductory course to population sciences.

BP011PH-1T4 and MPH 1.5 Basic Epidemiology and Fundamental Bio statistics courses will involve theoretical as well as practical training. Bio statistics course includes computer-based work, which will provide students the opportunity to use various epidemiological and statistical software.

Students opting for **Community Nutrition** specialization will take two additional courses (MNS 1. 5 Basic Nutrition and MNS 1.6 Applied Nutrition) from the Nutrition Sciences programme.

BP01PH-1T1- Introduction to Public Health **Public Health Concepts and Issues**

Course Objective :

- To introduce students to the field of public health
- To give an overview of the determinants and measures of health
- Status of health and disease: global and national

Learning Outcomes:

Course

1. Definition and determinants of health
2. Public Health: Evolution of the science of public health

3. Prevention
4. Determinants of Health –
 - Nutrients
 - Lifestyle
 - Socio – economic
 - Genetic
5. Epidemiological Transition
6. Global Health
7. Functional organization of the public health system in India and categorical health services, overview of national health and family welfare programmes
8. Primary Health Care
9. Millennium Development Goals
10. India : health indicators, urban-rural profile, National Rural Health Mission

Public Health concepts and issues: Practical exercises Course Objective:

- To introduce students to the field of public health and its various activities
- Sources of health data
- Understanding of health disparities
- Contemporary issues in public health
- To understand socio -economic and demographic characteristics of the community and the distribution and types of disease in the community.

Course:

The course will involve field study, data collection, analysis and reporting of:

1. Community perceptions on health and disease
2. Sources of health data –
 - Birth and Death Registries
 - Disease Registries
 - Population – based data, eg. NFHS data
3. Sources of Global Health Data
4. Comparison of health indicators of selected developed and developing countries
5. Functional organization of the public health system –
 - Primary Health Centers (PHCs)
 - Sub – Centers (SCs)
6. Data Collection so as to provide an insight into community demographics, socio – economic status, types and distribution of diseases and disorders in the community

Suggested texts:

- 1) Class handouts
- 2) Oxford textbook of Public Health Ed. Roger Detels, James McEwen, Robert Beaglehole, and Heizo Tanaka Oxford University Press (OUP) 4th Edition: 2002.
- 3) Public Health at the Crossroads – Achievements and Prospects. Robert Beaglehole and Ruth Bonita 2nd Edition Cambridge University Press
- 4) Maxcy-Rosenau-Last Public Health & Preventive Medicine, Fourteenth Edition Ed Robert Wallace, MD, et al.
- 5) Epidemiology and Management for Health Care: Sathe , P.V. Sathe, A.P., Popular Prakashan, Mumbai, 1991.
- 6) International Public Health: Diseases, Programs, Systems, and Policies by Michael Merson, Robert E Black, Anne J Mills - Jones and Bartlett Publishers.
- 7) Preventive and Social Medicine, K Park, Bansaridas Bhanot Publishing House.

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BP01PH-1T2- Human Biology**Course Objective:**

- To provide an understanding about the structure and function of the human body

Course :

- Human life cycle
- Structure and function of organs and systems o Digestive
- Respiratory o Excretory
- Circulatory and lymphatic
- Endocrine
- Musculo-skeletal
- Nervous
- Reproductive

Suggested Texts:

1. Guyton Arthur C., 1991, Textbook of Medical Physiology, A Prism Book Pvt. Ltd. Bangalore
2. Horton Casey, 1994, Atlas of Anatomy, Marshall Cavendish Books, London.
3. Keele, Neil et.al, 1991, Samson Wright's Applied Physiology, Oxford University Press, Delhi.
4. Winwood R.S, J.L.Smith, 1985, Anatomy and Physiology for Nurses, Education Academic and Medicinal Publishing Division of Hodder and Stoughton, London.

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BP01PH-1T3-

Demography

Course Objective:

- To familiarize students on the fundamentals of population studies and its links with health, family planning, population policies and programmes.
- To know the source and types of data.
- To define the population trend by geographically.
- To discuss the population policy.

Course :

- -Methods of demographic data collection
- -Sources of data
- -Population

- -Population composition -World population growth -Growth of Indian population -- -
Fertility
-Mortality

- -Migration / urbanization -Population projections -Life tables -Population policy

Suggested texts:

- 1) Principles of population Studies: Asha Bhende and Tara Kanitkar, Himalaya Pub, Houses, Mumbai, 1996
- 2) Population: John Weeks, Wordsworth pub., California, USA,1994.
- 3) Population Transition In India: S.N.Singh, M.K.Premi, P.S.Bhatia, B.R.Publishing Corporation, Delhi, 1989.
- 4) Population in the context of India's development: P.B. Desai UGC – UNFPA project, Ahmedabad, 1987.
- 5) Demography: Peter Cox, Cambridge University Press, U.K., 1989.
- 6) Techniques of Demographic Analysis: K.B. Pathak, F. Ram, Himalaya Publishing Houses, Mumbai, 1992.
- 7) Health Monitor: Foundation for Research in Health S, Mumbai, 1990.
- 8) National Family Health Survey – 1, 2 and 3: International Institute for Population Sciences, Mumbai.
- 9) Basic Demographic Techniques and Applications – K. Srinivasan, Sage Publications, 1998
- 10) World Population Prospects, United Nations Population division, Department of Economic and Social Affairs.

BP01PH-1T4-
Basic Epidemiology

Course Objectives:

- To familiarize students on concepts and use of epidemiology, methods to measure and describe health of populations and risk measurement.
- Competent to apply concepts and principles associated with health and disease in the prevention & control of disease.
- Able to apply epidemiological principles.

Course:

- -Historical aspects, definition, aim and uses
- -Descriptive epidemiology
- -Determinants of disease, Natural history of disease
- -Epidemiological principles in prevention and control disease
- -Risk measurement, Measurement of morbidity and mortality: Incidence, Prevalence, Age-adjustment and survival analysis, use of morbidity and mortality
- -Epidemiological study designs
- -Bias, confounding and interaction
- -Causal association
- -Nutritional surveillance

Suggested texts:

1. Gordis Leon Epidemiology (3rd edition) ,W B Saunders and Co.
2. Beaglehole. R. Bonita, et. al Basic Epidemiology :, WHO Publication, Geneva, 1993.
3. David E., et. al. Foundations of Epidemiology : Oxford University Press, New York, 1984.
4. Barkar, D.J.P., Practical Epidemiology: Churchill pub, Livingstone, 1982.
5. Epidemiology in health care planning: E.A. Knox (ed), Oxford University Press, New York, 1979.
6. Katz Mitchell: Study Design and Statistical Analysis: A Practical Guide for Clinicians
7. ast, J.M., Spasoff, R.A. Harris, S. S. and Thuriaux, M.C. (Eds): A Dictionary of Epidemiology, Oxford University Press, New York, 4th Ed., 2001.
8. Mayer Dan Essential Evidence-Based Medicine Series: Essential Medical Texts for Students and Trainees
9. Silman and McFarland: Epidemiological Studies A Practical Guide 2nd Edition
10. Aschengrau and Seage: Essentials of Epidemiology in Public Health
11. Friis Robert: Epidemiology for Public Health Practice, Third Edition
12. Timmreck Thomas C: An Introduction to Epidemiology, Third Edition
2002
13. Szklo Moyses: Epidemiology: Beyond the Basics -
2003

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Second Semester

BP01PH-2T1- Principles of Nutrition

Principles of Human Nutrition

Course objectives:

- Understand the role of nutrients in the body.
- To enlist the public health nutrition problems.
- To enumerate and discuss the national programs on nutrition.
- To perform independent nutrition assessment.
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Course:

- -Introduction: the relationship between nutrition, health and disease -Proximate principles
- -Digestion absorption, metabolism of carbohydrates, proteins and lipids
- -Energy
- -Water

- -Minerals-Vitamins

- Concept of nutrition in Indian Systems of Medicine

Community Nutrition

Course objective :

- To understand the common nutritional disorders: physiological basis, measurement, interventions

Course:

- Recommended dietary allowances -Nutrition throughout life cycle -Malnutrition and Chronic Energy Deficit -Micro nutrient disorders

- Maternal and child nutrition
- Methods of promoting dietary change

Suggested texts:

- 1) Advanced textbook on food and Nutrition: Dr. M Swaminathan, The Bangalore Publishing Co. Ltd. Bangalore, 1974
- 2) Recent Trends in Nutrition: C Gopalan, Oxford University Press, New York 1993.
- 3) Nutrition for Developing Countries : E. Savage King , Oxford University Press, Oxford, 1992.
- 4) Nutrition problems and Programmes in South East Asia: Dr. C. Gopalan, World Health Organization, New Delhi, 1987.
- 5) Perspective in Nutrition: Gordon M. Wardlaw, Paul M. Injel, Time/Mosby College Publishing, St. Louis, 1990.
- 6) Fundamentals of food and Nutrition: Sumati R. Mudambi, M.V. Rajagopal, V.R. Damodharan, Wiley Eastern Ltd. New Delhi, 1982.

- 7) Clinical Dietetics and Nutrition, F.P. Antia, Oxford University Press, Delhi, 1993.
 8) Human Nutrition and Dietetics, J.S. Garrods & W.P.T. James, Churchill Livingstone, London, 1993.
 9) Nutritional Sciences: Sreelakshmi

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BP01PH-2T2- Diagnostics of major public health problem in India :

Course objective:

- To demonstrate the diagnostic methods that are used for supporting disease control and environmental health activities and the underlying principles.
- Students will learn and will be able to identify the diagnostic for communicable diseases.
- To counsel the information about these diagnostics to the beneficiaries.

Course:

Demonstration/study of

- Diagnosis of tuberculosis – demonstration of diagnostic algorithm for detection of sputum positive and negative cases, laboratory demonstration of acid fast bacilli, culture and staining
- Diagnosis of malaria--- thick and thin film preparation, identification of parasites
- Study of entomological specimens
- General bacteriological methods—gram staining and antibiotic susceptibility testing
- Stool culture and selective and enrichment procedure for microorganisms
- HIV/AIDS – CD4 counts, ELISA and Western blotting
- Hematological methods
- Water testing

Suggested texts:

1. Textbook of Medical Laboratory Technology, P.B. Godkar, Balani publishing House Bombay.
2. Basic laboratory Methods in Medical Bacteriology, WHO, Geneva.
3. Basic laboratory Methods in Medical Parasitology, WHO, Geneva

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BP01PH-2T3 Fundamental Bio statistics

Principles of Biostatistics

Course Objective:

- To introduce students to the use of bio-statistics in health sciences.
- To apply bio statistics knowledge in public health project.
- To understand the types and use of bio-statistics in epidemiology.
- To document the data in SPSS software.

Course:

- Levels of measurement
- Measures of central tendency, Measures of variability, Skewness, Kurtosis
- Probability and Binomial, Poisson, Normal and t Distribution
- Sampling methods

- Confidence Intervals for mean(s) & proportion(s) -Test of Significance
- Non parametric tests

- Association and Causation -Correlation and regression -Analysis of Variance -
Multivariate analysis

Statistical Analysis**Course objectives:**

- To make students aware of pitfalls in statistical analysis
- To train students in presentation and interpretation of data
- To impart examples of utilization of data in decision making
- Training in usage of appropriated statistical software and in handling of large datasets

Course:

-Data entry, analysis, presentation -Training in statistical software SPSS

Suggested texts:

1. An Introduction to Bio statistics: A manual for students in Health Sciences: P.S.S. Sundar Rao, J. Richard Prentice Hall, New Delhi, 1996.
2. Bio-Statistics: A foundation for Analysis in the Health Sciences: Daniel, W.W., John Wiley and Sons Pub., Canada, 1991.
3. Bio-Statistics: A Manual of statistical methods for use in the Health, Nutrition and Anthropology: K. Vishwas Rao, Jaypee Brothers Medical Pub., New Delhi, 1996.
4. Bio-Statistics perspective in Health care research and practice: Verma, B.L., Shukla, G.D., et., al , C.B.S. Pub. New Delhi 1993.
5. Handbook of Statistics: Krishnaiah, P.K. Rao, C.R

BP01PH-2T4- Research project :**Credits: 5****Objective:**

- To train students in all aspects of executing a research project.
- Report research findings in written and verbal forms
- To perform and report the data independently.

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Course:

- To train students in execution of research projects through a small study
The course will include selection of a topic, selecting the research design, planning and implementation of the research project, analysis of the results and presentation of the work as a written dissertation.

Proposal Writing

Course objectives:

- To impart training in the methodology of developing a research proposal
- Funding agencies and their submission requirements

Course:

Development of a research proposal or fellowship application. Protocol to include ethical guidelines and other regulations.

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Third Semester

BP01PH-3T1-Non-communicable diseases

Course Objectives:

- To give an understanding of the patho-physiology of some common NCDs.
- To classify the major NCDs and their clinical manifestations, diagnosis and treatment.
- To understand the risk factors for common NCDs.
- To identify and counsel the methods of disease control and health promotion
- To give an understanding of the patho-physiology of some common mental health problems

Course:

Overview and introduction to NCDs, Patho-physiology (including biochemical and genetic parameters), cardinal signs, clinical and diagnostic features (with special emphasis on biochemical parameters), treatment (please emphasize pharmacological component) prevention and control

- a. Asthma
- b. Cancer
- c. Cardiovascular diseases
- d. Chronic rheumatic diseases
- e. Diabetes
- f. Tobacco/alcohol/substance-abuse related illnesses and their control Tobacco use Tobacco related illnesses and tobacco control
- g. Obesity

Epidemiology of NCDs, risk factors, global profile and predictions prevention and control of NCDs.

- Health promotion strategies, methods and activities.
- Role, nature and practice of advocacy in health promotion practice
- Mental Health : Classification, biochemistry, clinical manifestations, diagnosis and treatment and intervention and support services
- Concept of Mental Health Burden of Mental diseases: Depression, Schizophrenia, Alzheimer's, Parkinson's, Senile dementia, Suicides Substance Abuse
- National Mental Health Programme

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BP01PH-3T2- Health Behaviour and Counseling

Course objective:

Principles of health education and behavioral science as used in public health, emphasis on the primary social-psychological variables that may influence health and disease.

Course:

Health education

1. Definitions & theory of health education
2. Practice of health education
3. Role of health education in health
4. Effectiveness of health education & Health communication
 - Theories related to health communication
 - Practice of health communication
 - Role of health communication in health promotion practice Health counseling: theories and practice
 - Stigma and discrimination: Definitions, context and role of stigma and discrimination in health and disease

BP01PH-3T3- Public Health Internship

Course objective:

- To provide an understanding of day to day activities.
- To understand the functions of professionals working in the public health system.

Course:

Six-weeks internship at a public health facility, (sub-centre to district level) or with a disease

control programme. Assessment through activity diary, journal and report submission and presentation. Report may be submitted in Semester III. This course is usually timed during the period between II and III Semester.

BP01PH-3T4 Social Epidemiology

Objectives:

- To orient students to theory and methods of social epidemiology.
- To understand social synergies contributing to current health and health care issues.

Course contents

- 1) Background and History of social epidemiology:
- 2) Issues: fundamental issues in / for social Epidemiology
- 3) Theories and constructs: fundamental to social epidemiology
- 4) Measurement: methods of social epidemiology
- 5) Design and Inferences:

Reading list:

1. Berkman, L.F. and Kawachi, I, Eds. 2000. Social Epidemiology. New York, Oxford University Press
2. Oakes, JM and JS Kaufman. 2006. Methods in Social Epidemiology. San Francisco: Jossey-Bass.
3. Krieger, N. 2001. Theories for social epidemiology in the 21st century: Aneco-social perspective International Journal of Epidemiology; 30:668-677
4. JE Elster, Jon. 1989. Nuts and Bolts for the Social Sciences. New York: Cambridge press
5. Porter D. 1999. Health, Civilization and the State: A History of Public Health from Ancient to Modern Times. London. Routledge.
6. Marmot, Michael. 2005. "Social Determinants of Health Inequalities." Lancet 365:1099 104.
7. Krieger, N. 2000. Epidemiology and Social Sciences: Towards a Critical Reengagement in the 21st Century. Epidemiologic Review, vol. 22-1: 155-63.
8. Oakes, J. M. and P. H. Rossi. 2003. "The measurement of SES in health research: current practice and steps toward a new approach." *Soc Sci Med* 56:769-84.
9. Kaplan, R.M., Sallis, J.F. Jr., & Patterson, T.L., Health and Human Behavior, New York: McGraw-Hill, Inc.,
10. Bird CI, Rieker PP. (1999). Gender matters: an integrated model for understanding men's and women's health. *Social Science and Medicine* 48: 745-755.

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Fourth Semester

BP01PH-4T1-Infectious diseases

Introduction to Microbial Pathogenesis

Course objective:

- To understand the biology of microbes and the mechanism of colonization and disease causation.
- To understand the disease pattern in developing countries.
- To understand the emerging diseases and its preventing measures.
- Students will be able to put their critical review on national disease control programmes.

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Course :

- Structure of prokaryotic cell -Pathogenic modifications –Mechanisms of breaching host defenses -Mechanisms of production of disease
- Anti-microbial agents, mode of action, drug resistance

Epidemiology and Control of Infectious Diseases

Course Objective:

- To understand the pathology, pathogenesis, clinical manifestation, mode of transmission, prevention and control of diseases of bacterial and viral etiology
- To orient students about the national disease control programmes,
- Critical evaluation of various disease control programmes
- To evaluate the impact of disease control programmes on epidemiology of the disease.

Course:

-General overview of infectious diseases and their impact in developing countries.

a. Biology,pathogenesis and pathology, clinical presentation, of common infections

- Vaccine preventable diseases: TB, polio, diphtheria, tetanus, and measles.

- Respiratory: Tuberculosis, leprosy, ARI's

b. Intestinal: Diarrhoea, typhoid, and worm infestations

c. Contact: STDs and AIDS

d. Vector borne: Plague, rabies, malaria and filaria, JE, dengue, leptospirosis.

- Classroom lectures to be supported by demonstration of slides and specimens as relevant.
- National disease control programmes for
- Vector Control
- Tuberculosis
- HIV/AIDS
- Diarrheal disease

- Leprosy
- Other national disease programmes

Suggested texts:

1. Duguid et al. Textbook of Medical microbiology
2. Greenwood et al. Medical microbiology
3. Mims C A: Medical microbiology
4. Javetz and Melnick : Adelbergs Medical Microbiology
5. William and Wilkins : Mechanisms of microbial disease
6. Sherris: Medical Microbiology
7. World Health Organization: Report on infectious diseases, and Report on Multidrug resistance , World Health Organization, Geneva
8. Principles and Practice of Medicine: Davidson, Edward, Bouchier et. Al., Pearson Professional Ltd. London, 1995
9. Biology of Disease: Jonathan Phillips, Paul Murray, Blackwell Science Ltd. Australia, 1995
10. Practical Medical Microbiology: Mackie and M.C. Cartney, Longman Group, U.K. 1995
11. Human Virology : A textbook of Students of Medicine and Microbiology, Dentistry, Leslie collier, John Oxford, Oxford University Press, Tokyo, 1993
12. Textbook of Medicine : Cecil, Bennett, et al., Harcourt Brace Joanvich Inc. U.S.A. 1992
13. Medical microbiology: Greenwood et al., Churchil Livingstone Longman group, London, 1992
14. Textbook of Medical Parasitology : Jayram Paniker, Jaypee Brothers, New Delhi, 1993
15. Nelson K E : Infectious disease epidemiology : theory and practice
16. Epidemiologic methods for study of infectious diseases Ed J C Thomas, D J Weber
17. Griesecke J: Modern infectious disease epidemiology 2 Year.

BP01PH-4T2-Applied Research Methods:

A. Scientific Research Methods

Course Objective:

- To introduce students to research methods.
- To impart knowledge on ethics of research, including bioethics, ethical use of animals.
- To understand the issues in getting ethical permission.
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Course

- Types of research
- Steps in conducting research
- Overview of the philosophical foundations of the principles of medical ethics
- Issues of patient and professional autonomy, beneficence and non-maleficence, confidentiality, informed consent, and distributive justice with applications to contemporary issues
- Monitoring of ethical issues: ethics committees, institutional review boards, and community advisory boards.

B. Survey methods I

Course objective:

- To train students in community diagnosis
- To train students in the method of analysis of data and report writing. The information from this course will be subsequently used for planning health interventions.

Course:

- Sampling and survey methods and their application to public health research.
- Survey design and planning, Interview schedule, questionnaire construction, Data collection, Data management, Data coding procedures
- Qualitative research methods

Execution of a survey including –designing questionnaire, designing analysis tables, entry of data, analysis of collected data, evaluation of results, report writing, presentation of data.

BP01PH-4T3- Environment health :

- **Multidisciplinary nature of Environmental Studies 2 hrs**
- Multidisciplinary nature of Environmental Studies
- Concept of sustainability and sustainable development

- **Ecosystems 6 hrs**

- What is an ecosystem? Structure and function of an ecosystem; Energy flow in the ecosystem; Food chains, food webs and ecological succession. Case studies of the following ecosystems:
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)
 - History of ecosystem ecology
 - Ecosystem services

- **Natural Resources:**

Renewable and Non renewable resources

- Land resources and land use change; Land degradation, soil erosion and desertification.
- Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations.
- Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state).

Energy resources: Renewable and non renewable energy sources, use of alternate energy sources, growing energy needs, case studies.

- **Environmental Pollution 8 hrs**

Definition

- Cause, effects and control measures of:-
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Light pollution
 - e. Noise pollution
 - f. Thermal pollution

- Climate change

BP01PH-4T4

Basic Management of health service organizations and evaluation
Management of Health Services

Credits: 2

Course objective:

To familiarize students with the principles and techniques of management,

To familiarize students with the methods of management of health services at various levels, Methodologies for designing and conducting program evaluation and research in health care settings

Course:

- -A survey of management theories and principles
- -Essential management skills with an overview of management in health;
- -Health organizational behaviour
- ·Strategic planning and operational management of organisations-Govt and Non- Govt;
- ·Project design and management-emphasis on developing logical frameworks and action plan development
- ·Proposal development and fund raising for health programs
- ·Project cycle management-emphasis on operating and evaluation of projects
- ·Health financing concepts including costing, budgeting and financial management.

Non-governmental organizations**Credits: 1****Course objective:**

- To familiarize students with the methodology of establishing and running non-governmental organizations

Course:

- Roles of NGOs in health development, historical background of voluntary activity in health in India.
- Managerial challenges: strategic management and decision making, structures and systems (including monitoring and financial management),
- Generation of financial resources
- Interaction with public sector

Fifth Semester**BP01PH-5T1- Health economics****Credits: 1****Course objective:**

To impart knowledge on health care financing health economics including cost-benefit and cost-utility analysis

Course:

-Health financing, budgeting and economics

- Overview on Health financing in Developing countries
- Health financing concepts such as cost and cost classification -Budget management issues such as

- Cost-effective analysis, Cost-benefit analysis and Cost-Utility analysis; -
Economic analysis reporting for projects should be covered here.

BP01PH-5T2- Analyzing Qualitative Data

- Objective:

- a) To orient students to various methods of analysis of qualitative data

Course contents:

- 1) Introduction to qualitative data analysis
- 2) Analytic approaches, methods, and techniques
- 3) Selecting appropriate qualitative data analysis technique
- 4) Presenting and interpreting qualitative analysis
- 5) Computer applications for qualitative analysis

Reading List:

1. Ritchie J and Jane Lewis. 2003. Qualitative Research Practice. London. Sage Pub.
 2. Punch Keith. 2001. Introduction to Social Research: Quantitative and Qualitative Approaches. London. Sage pub.
 3. Auerbach, Carl F., and Louise B. Silverstein 2003 Qualitative Data: An Introduction to Coding and Analysis. New York: New York University Press.
- Ezzy, Douglas 2002 Qualitative Analysis: Practice and Innovation. London: Routledge.

BP01PH-5T3-Project management

Course:

- Introduction to Project Management
- Project Planning
- Feasibility of the project
- Project Evaluation and Review techniques
- Project Management Functions: Controlling, Directing, Project authority, Team building, Leadership, communications, Project review meetings, Management policies and procedures.

BOOKS FOR REFERENCE:

1. Choudary S, Project Management
2. Joseph J Moder and Philips C.R., Project management

3. Joy P.K., Total Project management
4. Gopal Krishnan Rama, Text book of Project Management
5. Harold Kerzer, Project Management
6. Vasanth Desai, Project Management and Entrepreneurship

BP01PH-5T4-Hospital hazards

Course :

- To understand the hospital hazards.
- To differentiate the types of Hospital hazards.

- Hospital Hazards- Its impact on employees- Preventive measures - Hospital Hazards Management: Meaning – Need – Principles – Purpose.
- Control of Hospital Acquired infection
- Biomedical Waste Management: Meaning – Categories of biomedical wastes
- Disposal of biomedical waste products – Incineration and its importance
- Indian Medical Association – Government Rules and Schedules
- Standards for Waste autoclaving, micro waving and deep burial – Segregation – Packaging – Transportation – Storage.
- Human Waste Disposal and Sewage Disposal:

References:

1. First Aid Manual: Accident and Emergency, Vora Medical Publ.
2. Park K. Preventive and Social Medicine
3. Park K. Text Book on Hygiene and Preventive Medicine, Banarsidas Bhanot

Sixth Semester

BP01PH-6T1- PROJECT WORK

Dissertation

Grand viva

Hands on training

Field visits