Savitribai Phule Pune University
Department of Health Sciences
Ph.D. in Health Sciences
Revised Course Work Syllabus 2025

Background:

The overall goal of this coursework is to familiarise students who are admitted for the doctoral degree program in Health sciences with the contemporary and relevant knowledge of public health research methods and research approaches. A key component of the PhD coursework is the development of rigorous research skills. Doctoral students learn to design, conduct, analyze, and interpret research studies, enabling them to contribute to advancing knowledge in public health. Subject-specific courses provide a comprehensive examination of public health principles, theories, and practices, including epidemiology, biostatistics, health policy, and health behavior. This allows students to develop specialized knowledge in their chosen area of focus. The coursework's emphasis on research and academic rigor is crucial for enhancing our understanding of public health and tackling the challenges presented by the post-COVID-19 health landscape.

Objective of the course:

Therefore, the objective is to equip students with advanced knowledge, research skills and a global perspective to address pressing national and global health challenges.

Notes:

1. Ph.D. coursework in Health Sciences shall be of 16 credits.
2. The coursework shall be treated as a prerequisite for the Ph.D. degree to all candidates registered at various Research Centres within the jurisdiction of SPPU
3. All candidates admitted to the Ph.D. programme in Health Sciences are required to complete this coursework within 2 years of registration.
4. A Ph.D. scholar has to obtain a minimum of 55% of marks (or its equivalent grade/ CGPA as per the university norms) in the course work in order to be eligible to continue in the programme and submit the thesis.
5. Rules and regulations with regard to the coursework issued by the University from time to time will be applicable to the candidates.

Overall Course Structure:

Course No.	Course Code	Course Name	Course credit	No. of hours	Marks Int	Ext
Course 1	RM	Research Methodology in Health Sciences	4	60	30	70
Course 2	SCW	Seminar/Conference/ Workshop	1	-	-	-
Course 3	SPAL-1	Subject specific Advanced level Public Health course 1	4	60	30	70
Course 3	SPAL-2	Subject specific Advanced level Public Health Course 2	4	60	30	70
Course 4	RPE	Research and Publication ethics	2	30	15	35
Course 5	PIA	Pedagogical training/ visit/assessment	1	30	07	18
		Total	16	240	112	263
		Total marks			375	

Course details :

Course 1 : RM: Research Methodology in Health Sciences (4 credits)

Introduction:
This module delves into the intricacies of study designs, including their strengths and weaknesses, and provides practical guidance on data analysis and interpretation when used in specialised field of study such as infectious diseases epidemiology, chronic disease epidemiology, and environmental epidemiology, focusing on the specific factors and challenges associated with each specialised study area.

Objectives:

a. To impart knowledge about different research designs, including exploratory, descriptive, and experimental designs.
b. To impart skills related to quantitative and qualitative research approaches and data collection tools and techniques

Course Contents:

1. Types of health research, Steps in research
2. Types of literature review , practical conducting a mini literature review
3. Overview of epidemiology study designs: case -control, cohort, cross section
4. Research proposal and its elements: Formulation of research problem, formulation of study objectives
5. Quantitative and qualitative approaches and study tools and techniques:

6. Data analysis: Analysis of qualitative data based on various approaches and tools. Analysis of quantitative data and its presentation with tables, graphs etc. Statistical tools and techniques of data analysis.
7. Research ethics and Biosafety: The importance of intellectual honesty, research integrity, and avoiding scientific misconducts like plagiarism is emphasized.

Evaluation:
Attendance to this course is compulsory.
The doctoral students will have to submit internal assignments and give presentations in order to fulfil the requirement of internal and external examination.
At the end of the course as students learn to develop and refine research proposals, including identifying research questions, selecting appropriate methodologies, and justifying the significance of their research. They will submit a fully developed proposal for final evaluation.

References:

Reading material and a list of relevant references will be given as a part of the course pack at the time of conduct of the course by the organizing Centre.

Course 2 : SCW Seminar/Conferenc3/ Workshop (1 Credit)

It is highly desired that doctoral student shall present his/her research work in the seminar/conference/ or attend any relevant workshop and produce a certificate of the presentation at seminars etc and participation in workshop related to the public health, Health Sciences or relevant to his/her PhD topic. forwarded through their research supervisor will be eligible for grades/marks/credits for this course, as per the University rules. Please note that the date on the certificate should be within 2 years after registration.

Course 3: SPAL-1 Subject specific Advanced level Public Health course 1

Introduction:

A course on Randomized Controlled Trials (RCTs) in health research provides participants with a comprehensive understanding of RCT principles, methodologies, and ethical considerations. This course is designed to help students effectively design, conduct, and analyze RCTs, often within specific fields like medicine, pharmaceuticals, or healthcare.

Objective:

a. To impart knowledge and practical skills related to the use of advanced epidemiology study design such as RCTs
b. To examine the critical issues involved in planning, conducting and completing a successful trial

Course contents:

1. Randomised Controlled Trials (RCTs), steps in study designing, conducting and analysing. Trial designs- parallel, crossover, and factorial designs, approaches to community based randomised trials, cluster trials.
2. Understanding blinding and randomization: application possibilities, ethics and precautions
3. Managing and Analysing Trial Data: Interpret disease frequency, association, and measuring study effect as commonly considered in advanced epidemiologic studies
4. Understand the sources of bias in RCTs (a) selection (response) bias, (b) information bias, (c) role of confounding factors and how to handle these factors
5. Understand the advantages of stratification, matching, and statistical adjustment for control of confounding;
6. Appreciate the application of the graphical representation of data

Evaluation:

Students will participate in group-based activities and will be evaluated based on their participation in group work, submission of assignments, presentations of work and final evaluation.

References:

Reading material and a list of relevant references will be given as a part of the course pack at the time of conduct of the course by the organizing Centre.

Course 3: SPAL-2 Subject specific Advanced level Public Health course 2 :

Introduction:

Public health is an applied field hence this course would cover topics like the role of action research in health, its characteristics, the planning, designing and implementation process, stakeholder engagement, data management, and communication strategies. The goal is to equip students with the knowledge and skills to conduct action research effectively, understand its nuances, and create evidence to apply it to real-world public health challenges.

Objectives:

a. To apprise students with the principles of action research, designing of context specific interventions, identify potential barriers, and develop strategies to overcome them

Course contents:

1. Introduction to action research: An overview of the field, its history, and its relevance, introduction to action research and why is it valuable in public health? Core principles, participatory nature, iterative process and focus on social change. Different approaches to action research, Community-Based Participatory Research (CBPR). Distinction between action research, intervention research, and implementation research.
2. Action research in Public health: Use of action research to address issues like health inequities, chronic diseases, and infectious diseases. Examples might include

improving community health promotion programs, evaluating health interventions, or addressing social determinants of health.

3. The action research process: Planning, acting, reflecting, and evaluating. Identifying problem and developing research questions.
4. Methods of action research: A detailed exploration of various research methodologies used in action research
5. Elements of Intervention Design and Implementation: Developing and planning effective interventions.
6. Community Engagement: Principles of community involvement, power dynamics, and collaboration and Communication: Engaging with stakeholders, communities and communicating research findings effectively.
7. Ethics in Action Research: Addressing ethical considerations.

Evaluation:

This course will use case studies to elaborate on the steps and cycle of action research. Students will participate in group-based activities and will develop intervention based on the real-world problem. They will be evaluated based on their participation, relevance of the solution/intervention, innovation, applicability of the solution, group work, submission of assignments, presentations of work and final evaluation.

References:

Reading material and a list of relevant references will be given as a part of the course pack at the time of conduct of the course by the organizing Centre.

Course 4 : RPE : Research and Publication Ethics (2 Credits)

Doctoral students registered in the Health Sciences are required to complete the Research and Publication Ethics course run by the Centre of Publication Ethics, SPPU.

Evaluation: Students are required to submit a copy of the certificate issued by the CPE.

Course 5 : PIA: Pedagogical Training/Industrial Visit/Assessment Statement (1 Credit)

Doctoral students are required to participate in the teaching programme of the department in consultation with their supervisor and course coordinator. They are also required to participate in the relevant field visits organized by the department for master's students.

Evaluation: they will be evaluated based on their participation in teaching programme, or organizing and delivering presentation to masters students in relevant subject area.

Approved in the BoS meeting held on 16/5/2025 Dr. Aarti Nagarkar, Chairman, BoS.