

Details of the Basic Course in Biomedical Research (BCBR) for Postgraduate Medical Students and Medical Teachers

Introduction

In order to improve the research skills of postgraduate medical students (MD/MS/MCh/DM) and medical teachers, the National Medical Commission (NMC) has recommended a uniform research methodology course across the country. The online course, “Basic Course in Biomedical Research” (BCBR), is being conducted by ICMR-National Institute of Epidemiology (ICMR-NIE), Chennai, on behalf of the National Medical Commission. The course, which focuses on the fundamental concepts in research methodology, is being offered through SWAYAM programme of Ministry of Education, Government of India, through SWAYAM-NPTEL.

Course contents

The course covers an extensive range of topics relevant to the conceptualization, planning and implementation of biomedical research, including conception of a research study, epidemiological and bio-statistical considerations in designing a research study, planning and conducting a research study, writing a research protocol and publication ethics (*Course syllabus given below*). The learning materials include video lectures, handouts of presentation slides, reading materials, lecture-wise list of Frequently Asked Questions, example accompaniments and assignments.

Enrolment for the course

The course will be available on the websites of SWAYAM (<https://swayam.gov.in>) and ICMR-NIE (https://nie.gov.in/icmr_sph/BCBR.html). Enrollment into BCBR will be open throughout the year and the participants can access the course according to their individual schedule.

Course schedule and duration

The course follows a self-paced format, which allows the participants to complete the lectures, submit assignment on their own pace. Those who get eligible as per the qualifying criteria can register for the proctored examination at the next available date as per the schedule.

Course assignments

A total of 25 lectures are included in the course, of which the first 23 lectures will have online assignments with 10 Multiple-Choice Questions (MCQs) each. Answer keys will NOT be provided for the assignments. A minimum score of 50% in each assignment is required to be “*eligible*” to register for the proctored exam. The course participants, who fail to secure a minimum score of 50% in any of the 23 lecture assignments, will be considered as ‘*in eligible*’ to register for the proctored examination. The participants who have not secured the eligibility, can click on the ‘*Retake Test*’ tab at their convenience, which allows them to attempt a new set of 10 MCQs. The participants may submit assignments any number of times until they secure the minimum score for eligibility to register for the proctored examinations. However, assignment scores will not be considered for final certification.

Final proctored examination

When a participant successfully secures a minimum score of 50% in each of the 23 lecture assignments, the exam registration link for the next available date will be provided. Multiple

examination dates will be available for the participants throughout the year. To register for the examination, the participants will have to fill-up an online registration form and pay an examination fee prescribed by SWAYAM-NPTEL. The final proctored computer-based examination will be conducted at designated centers in selected cities across the country and will comprise of 100 MCQs. Securing a minimum score of 50% in the proctored exam is necessary to receive the pass certificate.

Course certification

The course participants, who secure a minimum score of 50% in the final proctored exam, will be provided an e-Certificate with their name, photograph and the score obtained. The certificate is electronically verifiable at a designated web address (<https://archive.nptel.ac.in/noc/>). The hard copies of the certificates will NOT be issued. The participants who fail to secure the minimum score of 50% in the proctored examination will not be provided the e-Certificate. They have to *re-register* for the proctored examination at the next available date.

Course syllabus

1. Conceptualizing a research study <ul style="list-style-type: none"> • Introduction to health research • Formulating research question, hypothesis & objectives • Literature review 	4. Planning a research study <ul style="list-style-type: none"> • Selection of study population • Study plan and project management • Designing data collection tools • Principles of data collection • Data management • Overview of data analysis
2. Epidemiological considerations in designing a research study <ul style="list-style-type: none"> • Measures of disease frequency • Descriptive study designs • Analytical study designs • Experimental study designs: Clinical trials • Validity of epidemiological studies • Qualitative research methods: An overview 	5. Conducting a research study <ul style="list-style-type: none"> • Ethical frame work for health research • Conducting clinical trials
3. Bio-statistical considerations in designing a research study <ul style="list-style-type: none"> • Measurement of study variables • Sampling methods • Calculating sample size and power 	6. Writing a research protocol <ul style="list-style-type: none"> • Preparing a concept paper for research projects • Elements of a protocol for research studies • Publication ethics • Manuscript writing* • Grant proposal writing*

* These lectures do not have online assignments

More details about the course available at: https://nie.gov.in/icmr_sph/BCBR.html.
For further queries, please write to: noc22-md01@nptel.iitm.ac.in