



## “Basic Course in Bio-medical Research” Online course for Postgraduates Medical Students and Medical Teachers

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National Medical Commission (NMC) mandated course  
In partnership with ICMR-National Institute of Epidemiology and SWAYAM NPTEL

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### Introduction

In order to improve the research skills of postgraduate (MD/MS) students and medical teachers, the National Medical Commission (NMC) has recommended a uniform research methodology course across the country. The online course, “Basic Course in Bio-medical Research”, is offered by ICMR-National Institute of Epidemiology (ICMR-NIE), Chennai. The course will explain fundamental concepts in research methodology. This course is being offered through SWAYAM programme of Ministry of Education through SWAYAM NPTEL.

### Course contents

The course includes topics covering conceptualization 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 will include video lectures, presentation slides, reading materials and assignments.

### Enrolment for the course

The course will be available on the website <https://swayam.gov.in>. The above link will be made available in home pages of NMC (<https://www.nmc.org.in/>) and ICMR-NIE (<http://nie.gov.in/niecer/bcbr/index.htm>). Candidates should enroll for the course when the enrolment is open for each cycle.

### Course duration

The course is self-paced, and the assignments should be completed within 16 weeks of start of enrolment (before the deadline given in the course page at <http://nie.gov.in/niecer/bcbr/index.htm>).

### Course assignments

Each lecture will have online assignments consisting of 10 Multiple-Choice Questions (MCQs). A minimum of 50% in total assignment score is essential to register for the examination. The total assignment score will be released after the submission deadline.

### Final proctored examination

Those found eligible ( $\geq 50\%$  in aggregated assignment score) can register for the final proctored exam. The registration link for final proctored examinations will open **after the assignment submission deadline**. Eligible candidates will need to fill-up an online form and pay examination **fees of Rs. 1000** online. The list of examination centres will be made available at the time of registration for the examination.

The final proctored computer-based examination will be conducted at designated centres in selected cities across the country and will comprise of 100 MCQs.

### Course Certification

Candidates will be provided an e-Certificate only if s/he scores at least 50% in the final proctored examination.

Successful candidates will get an **e-Certificate** with the name, photograph and the scores obtained. The e-Certificate will depict the **‘Final score’** comprising the total assignment score (**25% weightage**) and the proctored examination score (**75% weightage**). It will be e-verifiable at a designated web address. No hard copies will be issued.

Candidates will be considered **‘Ineligible’** to register for the proctored examination if they score < 50% in total assignment score. They will have an option of re-enrolment for the course in the next cycle (*Refer to important dates at <http://nie.gov.in/niecer/bcbr/index.htm>*).

Candidates who score <50% in the proctored examination (but have scored > 50% in total assignment score) have to **re-register** for the proctored examination in the next cycle (*Refer to important dates at <http://nie.gov.in/niecer/bcbr/index.htm>*).

### Course Co-ordination Committee

Dr. Siddarth Ramji (MAMC, New Delhi), Dr. Shally Awasthi (KGMC, Lucknow), Dr. M. Jeeva Sankar (AIIMS, New Delhi) and Dr. Manoj V Murhekar (Director, ICMR-NIE, Chennai)

### COURSE SYLLABUS

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

	• Publication ethics
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**Contact information**

Send queries to the course email or call 044-26136422 (10 am to 5 pm on working days).

Updated details regarding the current course cycle and important dates about latest cycle can be obtained from the website <http://nie.gov.in/niecer/bcbr/index.htm>