

Core Course

Research Methodology - II (LS611A) [2 CREDITS]

Teaching faculty : Respective Supervisor

Students will need to join the respective labs immediately after the lab allotment is over. Students will initiate learning of experimental research methodology in consultation with the concerned faculty. This will continue till the second semester. The student will start learning techniques that are being practiced in the laboratory.

The course will require the students to learn and master a minimum of four techniques being practiced in the concerned laboratory. **The student will present the work carried her/him during this period twice before the evaluation committee (approximately around the 6th and 12th week from the date of the beginning of the semester). Further, each student will submit a progress report for evaluation before the committee.**

The student is required to learn the following: -

1. Relevant scientific literature search;
2. Identification of lacunae in the research area of interest;
3. Generation of hypothesis; defining aims and objectives;
4. Designing a realistic research strategy and an alternate strategy;
5. Designing of experiments – importance of positive and negative experimental controls, biological and technical replicates;
6. Statistics-based sample size determination before finalization of study design; recording of observations – methods of systematic record keeping;
7. Learn to perform experiments and record observations.
8. Studying principles of these research methodologies
9. Analysis and interpretation of data;
10. Need to learn the principles of instruments (at least two) used to perform the experiments;
11. Proper maintenance of laboratory workbooks and files in the computer;
12. Storage of data, including regular backups;
13. Regular discussion with concerned faculty.

Faculty Committee for evaluation:-

Niti Puri*, Sneha Sudha Komath, Amol C Mondal, Anand K Sarkar, SL Panwar, Vikas Yadav, Abshieka Bansal, S Dawa.