



Indian Institute of Science

Department of Bioengineering



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Course Title: Bioengineering Practicum 1

Course Code: BE 203

Course Schedule: AUG - DEC | JAN - MAY

Credits: 1:0

Course Coordinator: Prof. Rachit Agarwal & Prof. Narendra M. Dixit

Pre-Requisites: None

Eligibility: Only for students enrolled in the M. Tech. or Ph.D. program at BE IISc

Description

Bioengineering Practicum provides bioengineering laboratory experience to enable the student to do practical work in a particular field of specialization by working in the laboratories of the thesis adviser(s). The student is expected to learn the experimental techniques and practical methods pertaining to the research topic undertaken. The student is also expected to understand his/her thesis project and should be able to explain its significance in the field. They are also expected to have started performing research in the lab and understand the principles behind the experiments being conducted. The evaluation will be based on written reports and oral presentation. Generally, the adviser(s) and the student have a general research topic in mind and use that to decide the techniques to be learnt. The purpose of this course is to enable the student to get familiar with the research topic and take the first steps in thesis research. The students are advised to take the initiative to thoroughly understand all the related material of each and every technique and experiment they learn and perform.

Course Outcomes

After going through bioengineering practicum courses, the students understand analytical, computational, and experimental techniques used in the laboratories of his/her thesis adviser(s). Additionally, the student will become thoroughly familiar with the background, objectives and projected outcomes of his/her thesis work. Typically, they start on the research problem so that it paves the way for their thesis research. The main outcome of practicum courses is to get started with their thesis research in their first two semesters of their PhD programme.

Additional information

The students enrolled in this course should send half-a-page description of the work to be done and a midterm report by the dates indicated by the instructors and as per the format given. The instructors will meet the students twice during the semester for a general discussion. The students are expected to put in the required time in the laboratories of their adviser(s). Grading in this course is determined based on the half-a-page description (5 marks), midterm report (20 marks), adviser(s)' assessment (25 marks), and final oral presentation (50 marks). Advisers are expected to provide a short summary of the work done, before the oral presentation, along with the evaluation to the instructors. All advisers of the students enrolled in the course are expected to participate in the oral presentations and final evaluation of all students.