**BIOLOGY FOR ENGINEERS**

**INTRODUCTION:**

Today, the mutual dependence of modern biology and engineering/ technology is far more than it was at any time in the past. Advances in engineering and technology in areas such as instrumentation has allowed biologists to ask and answer questions not even dreamed of earlier. Development of devices and implants for the welfare of (human) health, be it early diagnosis or treatment, has also made substantial impact on society. Conversely, billions of years of evolution have made living organisms into systems from which lessons can be learned by engineers regarding design principles, control and regulation, and can be applied. Therefore, it is the need of hour to include an introductory biology core course in the curriculum of first year engineering courses.

**BROAD OBJECTIVES:**

The short term course is intended to train the faculty members of engineering colleges for developing a biology course for the first year B. Tech students, who will pursue their studies in different branches of engineering. This course is also intended for students perusing their studies in different branches of engineering who don’t have exposure to a biology course in the first year of their curriculum. The course content assumes that faculty members/students have an exposure to CBSE 10th grade Biology and exposure to Physics and Mathematics at 10+2 level. The short term course aims to highlight a wide variety of aspects of modern biology without going into great depth.

**COURSE CONTENTS:**

The short-term course is divided into three parts. The first part of course will be molecular biology which will bring forth the components building a cell. The second part of the course will be Physical Biology/Biophysics which shall illustrate how one can use Physics and Mathematics to understand various biological systems/phenomena. The last part shall use a few notable examples to illustrate the engineering perspective with an emphasis on applications.

**WHO MAY BENEFIT:**

Faculty Members and B.E. /B.Tech. /M.E./M.Tech students of engineering colleges who don’t have a compulsory biology course in their undergraduate curriculum. This course is also suitable for Physics teachers and students of science and engineering colleges who do not have exposure to a biology course.

**TEACHING FACULTY:**

The core teaching faculty will be from Department of Biosciences and Bioengineering who have been teaching compulsory Biology course for B. Tech. first year students at IIT Bombay as well as other faculty members. Subject experts from other departments at IIT Bombay as well as other institutes will be invited for special lectures/ tutorials.

**LECTURE NOTES:**

Hard copies of the lecture notes/presentations will be made available to participants at the end of lecture/presentation.

**REGISTRATION FORM**

(*Maximum participants including students would be 25 only on* ***first come first served basis***. )

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Designation:­­­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Institute /Organization/Correspondence Address:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Mobile No.:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Educational Qualification:\_\_\_\_\_\_\_\_\_\_\_\_\_

Experience:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Accommodation required: Yes/No

Signature of Applicant

Sponsorship and signature of Head of the Institute with date & office seal

Patrons

**Dr S K Mahajan**

Director

Technical Education

Maharashtra State, Mumbai

**Prof. Mahesh Shivankar**

Joint Director, Technical Education, Regional Office Aurangabad

Convener

**Dr P B Murnal**

Principal, Govt College of Engineering

Aurangabad

TEQIP-II Coordinators

Dr A G Thosar

Professor & Head

Department of Electrical Engineering

Coordinators

**Dr M G Shaikh**

Associate Professor

Department of Applied Mechanics

**Dr Syed Ashfaq**

Assistant Professor

Department of Mechanical Engineering

One Week Short Term Training Programme

**BIOLOGY FOR ENGINEERS**

**February 16-20, 2017**

under TEQIP-II Project

conducted by **IIT Bombay** under the direction of NPIU Delhi

at



*In Pursuit of Technical Excellence*

Government College of Engineering

Aurangabad

www.geca.ac.in

Submit this registration form to:

Dr M G Shaikh or Dr Syed Ashfaq in person or send scanned copy of the duly signed Registration Form by email to mohummadshaikh@gmail.com