Course code: IC103

Course title: Materials Chemistry-I

Credits: 2

Prerequisites (if any) : NA

Instructor: Dr. Sanjib Banerjee

Course contents: Introduction to functional polymer materials with respect to types of polymers and their nomenclature; polymer synthesis; molecular weight determination; physical properties of polymers; applications of polymeric materials in everyday life. Introduction to bio-materials: amino acids, peptides, proteins, enzymes, carbohydrates, nucleic acids and lipids. Peptide-polymer conjugates: synthesis properties and applications.

Textbook/Reference books:

1) G. Odian, Principles of Polymerization, 4th Edition, John Wiley & Sons, Inc. Publication.
2) Handbook of Stimuli-Responsive Materials, Marek W. Urban (Editor), RSC.
3) Bioinorganic Chemistry, Asim K. Das, Books and Allied.
4) Principles of bioinorganic chemistry, Lippard, S. J., & Berg, J. M, Mill Valley, Calif: University Science Books.

Component	Weightage (%)
Exam (number)	50 (1)
Term Paper	15 (1)
Quizzes (number)	15 (2)
Presentation (number)	10 (1)
Class Assessment	10
Total	100

- 5 Members each. One team coordinator
- Choose your topic of Interest in Chemistry
- 10 minutes/10 slides: 2 slides for each member
- 3 minutes of discussion after each presentation
- 4 parallel sessions over WebEx

Lecture:
The lectures will be delivered through Webex for which everybody is requested to visit iitbhilai.webex.com to join the class. Part of the learning process involves thinking about what is being said in lecture, writing it down, and even re-writing it to clarify what you have heard

Term Paper:
It tracks and evaluates students' knowledge about the course. Usually, it's a scientific report or a discussion of an assigned topic and requires a lot of research and technical writing expertise

Seminar:
Each student will prepare one seminar. The presentation is expected to be 10 minutes. Subsequently, there will be a discussion of 5 minutes.

Tierce Exam:
The tierce exam consists of several questions and the students will have a pre-defined time to solve the problems.

Each student who signs up to the lecture course on "Physical Organic Chemistry" is required to give a **seminar talk of ca. 10 minutes** length plus a discussion of the topic. The seminar language is **English**. The seminars are one of the requirements of active participation in the course, without which you cannot finish the module.

Please **choose a seminar topic after the first lecture** course and include the topic in he google sheet which shall be shared with you.

You are **required to upload your presentation in the Google Drive link** at least 24 hours before your presentation.

I offer help for the preparation of your seminar topic. In order to be able to help, it would be useful, if you would set up a Webex meeting with me and **discuss a concept for the talk**.

Please make sure that you take into account the following points to make your seminar interesting and beneficial for all others:
Be absolutely clear: Don't expect your audience to know too much about the topic. In view of the time, reduce the seminar to the really important arguments and concepts.

Clarity should also be found in your slides: Large enough letter size, not too much text, easy to grasp graphics, if schematic cartoons help to reduce complexity, you can show a molecule, discuss its properties briefly and then explain the concept using cartoons.

Use the appropriate scientific language. It is part of your science and you need to be able to use it actively and passively. Name the molecules and things on your slides by their appropriate names.

Restrict yourselves to a small number of well-chosen examples. Your audience will be able to transfer the things learnt with the help of a well-chosen and well-explained example to others they encounter.