



St. Xavier's College – Autonomous
Mumbai
SYBSc

Syllabus for Scientific Communication Skills (Statistics)
3rd Semester
(June 2011 onwards)

Contents:

Syllabus for Courses: SSTA03SCS

Learning Objectives:

The course enables students to:

1. Be knowledgeable of various aspects of scientific communication.
2. Convey the importance of scientific communication and its various modes like precis, journal paper and scientific presentation.
3. Introduce students to the historical and philosophical aspects of science so that they can critically reflect on the topic to be communicated, and overcome objections, tackle reviews etc.

Number of lectures: 12 Lectures

| | Sessions | Plan | Tutor |
|-----------|---|--|--|
| 1. | Introduction | Relevance of Communication Skills (CS), Overview of course Emphasize various aspects of CS Listening, Reading, Comprehension, Summarization, Group Discussion, Speaking | SXC dept faculty/ invitee |
| 2 | Listening, Reading and Comprehension Aim: To teach students to write without reproducing all that was said ad-verbatim | a) Talk for 10-15 minutes by teacher on any topic. Students don't take notes. At the end of 10 minutes, students given time to write what they recall and understand. b) Students should read the photocopies of 2-3 pages of matter provided for 10 minutes. Then through memory write what they recall and understand. c) Show a 10-15 min film clip. Students to be asked to write what they recalled and understood after the clip. d) Random selections of student writings to be read out in class and discussed | SXC dept faculty / invitee Matter used for the exercise could be decided by each dept Chiefly Memory- based |
| 3 | Comprehension & Writing a summary | a) Staff member to give input for 10 -15 minutes on how to write a summary/précis. b) Groups of 3-4 students to be given a chapter from a book/science article/science magazine/journal. c) Convert the given material into a small report. | SXC dept Faculty / invitee Shift from memory – based |

| | | | |
|---|--|--|-------------------------------------|
| | | <p>d] Groups of 3-4 students with each individual of a group having a different type of material. Individual student completes his summary and then exchanges his material with next person in the group. All in one group separately write 3 different summaries. Then they compare each summary with group members and finalize a new consensus summary.</p> <p>Whole class – All groups could be given the same set of 3 articles</p> <p>OR</p> <p>2 different sets of 3 articles could be prepared and distributed randomly.</p> | to understanding –dependent writing |
| 4 | Reading a simple research paper | <p>a] Why and How to read a paper?</p> <p>b] Explain the general format of a paper i.e. Introduction, Method, Results & Discussion, Conclusion.</p> <p>c] What to look for while summarizing a paper / How to select salient features in a paper.</p> <p>d] Students given a Paper / Article to read and understand.</p> <p>e] Students to summarize/ pointwise listing of key features.</p> | SXC dept faculty/invitee |
| 5 | Writing an Abstract | <p>a] Staff to explain the structure of an abstract and the points to remember while writing an abstract</p> <p>b] Recognize good and bad abstracts based on the above information- students to be provided with good & bad abstract samples in sets of 3. Groups + Individual work in group + Sharing of conclusions in group + Teacher conducting general discussion on the positives and negatives of each abstract</p> <p>c] Make a summary of the paper read in the previous session and it could be converted into an abstract.</p> <p>d] Compare and understand the difference between summary and abstract</p> | SXC dept faculty/invitee |
| | | | |

| | | | |
|---|----------------------------------|---|---|
| 6 | Evaluation & Feedback | <p>Evaluation Options:</p> <p>a) Provide a scientific paper and ask for an abstract to be written</p> <p>b) Give article and let the salient features be written in abstract format</p> <p>c) Provide a 3 - 4 page article from a Research journal/ Science magazine and students will write a 1-page summary of it.</p> <p>d) Any other approach could be suggested for example: Recognize good and bad abstracts and write a report/news article/abstract</p> <p>Feedback : A questionnaire will have to be prepared and circulated before the start of the evaluation / after they complete the evaluation</p> | <p>SXC Dept faculty</p> <p>A questionnaire to be created by coordinators of the course.</p> |
|---|----------------------------------|---|---|

References:

Selected Reads from the following:

1. Laudan: From theory to research traditions.
2. Thomas Kuhn on Scientific Revolutions.
3. Rationalism vs Empiricism, Realism, Idealism and other topics using the Stanford Encyclopaedia of Philosophy.
4. Positivism and Pauperian logic vs Logical Positivism vs Hermeneutics.
5. Rosenberg on Explanation, Causation and Laws.
6. Review of select scientific papers and manual of style for citations.