



# St. Xavier's College (Autonomous) Mumbai

## Syllabus For 4<sup>th</sup> Semester course in Science Communication **LIFE SCIENCE** (June 2015 onwards)

### Contents:

Syllabus (theory) for Course:

SSCS0401

Science Communication Skills II

Template for theory question paper  
Evaluation and Assessment Grid

### Percent revision:

2015-16: No revision

2016-17: No revision

2017-18: No revision

2018-19: No revision

2019-20: No revision

## **LIFE SCIENCE**

**S.Y.B.Sc.**

**Course No.: SSCS0401**

### **Title: Science Communication Skills II**

#### **Learning Objectives:**

The course aims to:

1. Introduce the students to quality mechanisms and indices pertaining to scientific publications.
2. Train students to write an original research paper.
3. Enable students to use data representation tools effectively in academic assignments
4. Develop the ability to create and make effective presentations for a scientific forum.

#### **Number of lectures: 15**

#### **I: Quality Parameters and Indices**

**(2 lectures)**

1. The process of Peer Review
2. Impact factor of a journal
3. Citation index
4. H-index
5. Subscribed journals versus open access journals
6. Predatory journals

#### **II: Parts of a Research paper**

**(2 lectures)**

1. Comparison of Review article and original research article
2. Parts of a research paper – IMRAD, title, affiliations, keywords and acknowledgements
3. Creating a checklist for analysing/writing a research paper

#### **III: Writing a Research Paper in APA format**

**(6 lectures)**

1. Writing the Introduction section
2. Material and Methods – Equipment and chemicals, Preparation of solutions, Assays and experiments, Ethics committee approvals, Consent form
3. Results – Tables, Graphs, Images, Analysis, Legends
4. Discussion – Justification, validation, limitation and scope
5. Writing an abstract.
6. References and Citations

#### **IV: Effective Data Representation**

**(3 lectures)**

1. Data representation using Excel
2. Bar graphs, histograms, pie charts – using examples of data sets
3. Title, key and footnotes
4. Writing legends for microscopy images

#### **V: Presentation Skills**

**(2 lectures)**

1. Effective oral presentation – norms for preparing slides and presenting the same
2. Converting a research paper to a presentation of a limited number of slides
3. Time management in a presentation

**References:**

1. Day RA, Gastel B, (2012) "How to Write & Publish a Scientific Paper" 7<sup>th</sup> Edition, *Cambridge University Press*.
2. Booth V, (2006) "Communicating in Science: Writing a Scientific Paper and Speaking at Scientific Meetings" 2<sup>nd</sup> Edition Reprinted, *Cambridge University Press*.
3. Matthews JR., Matthews RW, (2008) "Successful Scientific Writing: A Step-By-step Guide for the Biological and Medical Sciences" 3<sup>rd</sup> Edition, *Cambridge University Press*.
4. Yousuf A, Sidiq M, Acharya S, (2018) "Publish and Cherish – The Art and Craft of Publishing Scientific Research" 1<sup>st</sup> Edition, *Sara Book Publication*.

## **Template of Theory Question paper**

**Course: SSCS0401**

**CIA I – 10 marks, 30 mins.**

Test

**CIA II – 10 marks**

Home assignment

**End Semester exam – 30 marks**

Written test = 10 marks, 30 mins.

Writing an original research paper using data from practical courses = 20 marks

<b>DEPARTMENT OF LIFE SCIENCE AND BIOCHEMISTRY</b>					
<b>Science Communication Course Life Science Exam Grid Semester 4</b>					
<b>Course</b>	<b>Exam</b>	<b>Knowledge and Information</b>	<b>Understanding</b>	<b>Application/Analysis</b>	<b>Total</b>
<b>0401</b>	CIA I	4	4	2	10
	CIA II	4	4	2	10
	End semester	10	10	10	30