M.Phil. in SCIENCE COMMUNICATION
(Part-time - 4 semesters – 2 years)

Curriculum and Syllabi

The duration of part-time M.Phil. programme is two years with 4 semesters. The course work includes **two core papers during the first semester** and **one Elective during the second semester**. The key focus of the programme would be to provide an in depth understanding of various scientific contributions that have both practical significance and elegant research skills. It covers theoretical and applied areas as well as instilling the elements of research practice. The programme combines lectures, criticism classes, seminars and research work in various combinations tailored to the individual students. M.Phil. scholars perform individual research under the direct supervision of an academic expert and submit a dissertation at the end of the course.

Academic structure of the programme
The proposed programme will have a flexible academic structure and pedagogic approach covering the essential areas of Science Communication by offering a range of relevant electives.

Pedagogic approaches
Some of the key pedagogic approaches would involve the following:
Academic lectures, Extramural Lecture Series, Group discussions and debates, Visual Presentations
Literature review, Preparation and presentation of research articles in conferences and seminars
E-Learning modules.

Curriculum and Credit Distribution

	Course Code	Title	L T P	Credits	ES
Semester I	18FNA701	Media and Communication Research	4 0 0	4	Research Methodology
	18FNA702	Science Communication for Research	3 1 0	4	Core
		Total		**8**	
Semester II		Elective	3 1 0	4	Elective
	18AVP501	Amrita Values Programme	1 0 0	1	
		Total		**5**	
Semester III	18FNA798	Dissertation Phase # 1 plus Review of Publication		4	
		Total		**4**	
Semester IV	18FNA799	Dissertation Phase # 2 (Evaluation of Complete Dissertation)		8	P
	18FNA797	Viva voce		**5**	P
		Total		**13**	
		Total Credits		**30**	
		ELECTIVES			
	18 FNA731	Media Texts and Changing Social Paradigms	3 1 0	4	E
	18FNA732	E – Learning and Instructional Design	3 1 0	4	E
	18FNA733	Media and Visual Semiotics	3 1 0	4	E

18FNA701   **MEDIA AND COMMUNICATION RESEARCH**   **4 0 0   4**

<u>**Objective**</u>

To enable the students to identify research problems and questions.
The course aims to provide essential tools and techniques to undertake in depth research and analysis pertaining to media and communication

Unit 1
Introduction to media and communication research- scientific enquiry- Research: definition and types- mixed/multiple approach-Ways of knowing- Paradigms of research: Positivist, Systems, Interpretive and Critical. Steps involved in research

Unit 2
Identifying a research problem-Reviewing the literature- Process of literature review-Steps in developing a research problem-Research objectives- Conceptualization and Operationalisation: Concepts, variables and measurement scales- Formulating research hypothesis- Group discussion and Exercises

Unit 3
Structuring a research design: Definition, Functions and types of research design- Instruments of data collection- Methods of data collection: Quantitative and Qualitative methods- Scales for attitude measurement- Validity and Reliability of research instrument- Group discussion and Exercises

Unit 4
Logic of sampling- Types of sampling methods-Research proposal writing- Data collection and Analysis: Quantitative and Qualitative- Presentation of research findings- Group discussion and Exercises

Unit 5
Ethics in research- Writing a research report- Styles of writing-

Unit 6
Research Applications: Types of communication, Print media, Broadcast and electronic media, Film, Advertising and PR- Group discussion and Exercises

<u>**References**</u>

1. Mass Media Research– Processes, Approaches & Applications: Roger D. Wimmer& Joseph R. Dominick, Wadsworth, 2008.
2. Research Methodology– A Step-by-Step Guide for Beginners: Ranjit Kumar, Pearson, 2008
3. Basics of Communication Research, Leslie A. Baxter, Earl Babbie, Thomson Wadsworth,2003.
4. Applied Communication Research: Judith M. Buddenbaum& Katherine B. Novak, Blackwell, reprinted in India by Surjeet, 2005.
5. Mass Communication Research Methods, Hansen, Anders. : Macmillan, 1998
6. Doing Your Masters Dissertation: Chris Hart, Vistaar, 2009

18FNA702   **SCIENCE COMMUNICATION FOR RESEARCH**   **4 0 0 4**

Objective

This course is for those who want to train as professional science communicators intending to pursue a research career. Academic components provide a broad overview of the science communication landscape in the country. The training given provides the student essential tricks and tips to deal with the complex terminologies of science and the tools required to manage the sourcing, writing, validating and reporting of science in the digital age.

The course alsoprepares the students to undertake the reporting of science and associated topics such as technology, environment, agriculture and medicine through print, radio, television or new media.

Unit 1 : Science Communication- an introduction

Structural components of Science - Characteristics and nature of Science
The importance of understanding the philosophy, methodology, history, sociology, economics and culture of science.

Distinction between target group and readers / listeners / viewers
Communicating to elicit community action: Dictyostelium model for understanding essential principles
Nature of political, religious and commercial communication - Communication to elicit action, change or reform

Unit 2 :Philosophy, Historyand Sociology of Science:

Readings to get the Ideas of Francis Bacon, Rene Descartes, David Hume, Karl Popper, Thomas Kuhn, LakatosFeyerabend and Bruno Latour, Reflections on the History of Science Popularisation and Science - Discipline and Bounding, History and Sociology of Science. Science and Indian Constitution - Evolution of Science Policy in India -Five year plans and science in India - India as a world leader in Scientific Research - Organisation of scientific research in India - Scientific infrastructure in India - Science: A comparison between India and other countries

Unit 3 :Why, What and How of Science Communication

Status of scientific research in India 2015 - Scientific productivity in India: doubling of papers published in the last two decades, 65000 papers in 2015, Science in Indian Media: 2-4% coverage.

Protocol for generating scientific news and features content - Scientific Content, structure and composition
Communication between scientists – understanding the structure of a scientific paper
Searching and researching for scientific content: Google, Google Scholar, Databases, Directories
Translating terminology: online science and technology dictionaries, Note taking tools, Reading, Writing, rewriting, restructuring. *Activities: Preparing* Questionnaire, formulating key words, searching, bookmarking, using Evernote, organising pdf files with Mendeley, bibiliography management with Zotero, F1000

Communication structures: Structure of a story, drama, film, news report , Emotional variation in time line, Emotion and gestures in science communication - Composition in visual, aural and textual realms - Restructuring content or allowing evolution of structures - Evolution of non-linear structures: e.g. Eddies and whirlpools
Extraction of principles – Reading to increase inputs, channelizing output

Unit 4 :   Structuring the Scientific content

5 Ws and H – who when and where first. Setting the scene. Humanising science
Restructuring scientific content: Crisis and resolution as key points for stating the problem and reaching the solution
Writing a news item based on primary source, a scientific paper. Examples

Language and science - Nature of scientific language: Removal of first person, Removal of identities, names of scientists - Use of passive voice - Lack of attention to spelling and grammar in teaching and learning science
Choice of protagonist(s) of our story - Tense: transitions between hypothesis, experiments and results
Improving the presentation flow - language and logic, space and time. Literary devices for science communication-
Use of shared values and world views. The pitfalls and dangers to avoid in communication related to:-
Agriculture, Medicine, technology and environment. Content is king, style is queen: Science Reporting in Print, Radio, Television and the Internet

Unit 5:   Practical Work

Activity 1:
Write 5 reports based on recently published research by Indian scientists. Average word count - 300 words
Activity 2:

Write two news feature based on at least 3 research publications or sources. Average word count - 1000 words

References :

Readings: -
1. Why Implementing History and Philosophy in School Science Education is a Challenge: An Analysis of Obstacles, Dietmar Ho ¨ttecke, CibelleCelestino Silva, *Sci&Educ* (2011) 20:293–316 DOI: 10.1007/s11191-010-9285-4
2. Separate Spheres and Public Places: Reflections on the History of Science Popularisation and Science in Popular Culture, Roger Cooter and Stephen Pumfrey, Science and History Publications 1994 DOI: 10.1177/007327539403200301
3. Discipline and Bounding: The History and Sociology of Science as seen through Externalism - Internalism Debate, Stephen Shapin, Science and History Publications 1994

4. *Readings: -*
   Science Policy Resolution 1958
   Science and Technology Policy 2003
   Science Technology and Innovation Policy 2013
   A vision of India as a world leader in science 2010
   12th Five Year Plan: Human Resources
5. UNESCO Science Report 2015
6. References: Directories of research organisations under the Govt., Private and NGO sectors

18FNA731   MEDIA TEXTS AND CHANGING SOCIAL PARADIGMS   4 0 0   4

Objective

The course intends to highlight the influence of media texts on changing social paradigms. It also introduces scholars to the various facets of media and their functioning within a larger socio-political set up.

Unit 1
Introduction: Various approaches to study media, culture and society- Linking culture, evolution of society and the development of mass communication – Definition of mass media

Unit 2
Media Technologies – Introduction – Technological Determinism- Media in the digital age- Changes in Mass Media- Digital technologies modifying mass media

Unit 3

Media Texts: What is a text? –Types of Texts- Texts and meanings- Texts and Contexts

Unit 4

Media Audiences –Media and politics, Persuasion, Propaganda –-Mass Media and the Indian Family – Children and the media- Media and Consumerism

Unit 5

Globalization and the media –global flows of communication- facets of globalization- Global genres and global audiences

References
1. Media and Society: Critical Perspectives, Graeme Burton, 2010, Open University Press
2. Media Culture and Society: An Introduction, Paul Hodkinson, 2011, Sage
3. Media and Culture: An Introduction to Mass Communication, Richard Campbell, Christopher R. Martin et. Al, 2011, Bedford/St. Martin's
4. Mass Communication in India, Keval J. Kumar, 2014, Jaico Publishing House

18FNA732   **E-LEARNING AND INSTRUCTIONAL DESIGN**   **4 0 0 4**

Objectives

To familiarize the students with e-learning. This course will help students to develop their own e-learning module with latest technologies.

Unit   1

E-Learning definition, scope, trends, attributes & opportunities - The history of e-learning, The benefits and drawbacks of online learning , Pedagogical designs for e-learning, Can we learn online? , Instructional Principles for E-Learning, Best practices of online training, Learning vs. Training, E-learning in education vs. corporate sector, The future of e-learning, What is a LMS?, Types of learning management systems, What is a content authoring tool?, Synchronous e-learning vs. asynchronous e-learning

Unit   2

E-Learning Strategy - What is SCORM &TinCan?, Technologies used in e-learning, Elements of Online Courses, Why are tests and quizzes a vital part of e-learning?, How to make e-learning effective , Tools to create an online course , Blended learning , Social and collaborative learning, Gamification , Micro-learning, Video learning, Rapid e-learning , Personalization and e-learning, Continuous learning , Customer service training, Sales training, Customer training, Safety training, IT training, Product training, Healthcare training

Unit 3

E-Learning Strategy - Introduction, Keeping the e-Learning Strategy Focused, Strategies for Transition to e-Learning, Design Strategies for Online and Blended Learning, Top-Level Elements for a Successful E-Learning Strategy, Strategy for the Learner: A Student's Guide to e-Learning Success

Unit 4

Online learning course development - Page-Based Design with OutStart Trainer, Designing Tests/Assessments, Designing for Deployment with OutStart Trainer, Leading Authoring Tools, Understanding Authoring Tools, Hearing Your Web Pages, Making PDFs Accessible to Assistive Technology, Importance of Web Development Standards within

an Organization, The Role of Technical Writing in E-Learning, Globalization and Learning Barriers in Synchronous E-Learning Tools, Where have the text-based menus gone?

Unit 5

Management, implementation of e-learning Evaluating - Delivering E-Learning, Instructional Game Characteristics, Educational Podcasting, Gaming at Work: Taking the Boredom Out of Training, Delivering E-Learning Synchronously, E-Learning Evaluation, Introduction to Evaluating E-Learning, Kirkpatrick's Four Levels of Evaluating Learning, 9.3 – Learning Analytics, Balanced Scorecards, Evaluation Models, Managing the Data, Web Standards

Texts

E-Learning - A Guidebook of Principles, Procedures and Practices by SOM NAIDU

The eLearning Guild's Handbook of e-Learning Strategy - Foreword by Marc Rosenberg Chapters by Kevin Moore, Frank Hanfland, Patti Shank, Lisa Young, Lance Dublin, Ryan Watkins, Michael Corry Bill Brandon, Editor

18ELL733	MEDIA AND VISUAL SEMIOTICS	4 0 0 4

Objectives:

To familiarize students to the various aspects of cultural theory and culture studies. To highlight intertwining of cultural facets and dissemination of media messages To provide an analytical framework through which communication emanating from various media channels may be studied and understood.

Unit 1
What is Cultural Studies? -Theoretical frameworks of Culture and cultural studies: Culture- Popular Culture-Ideology-Culture and Civilization –Early Trends in Cultural Studies- Centre for Contemporary Cultural Studies-Raymond Williams: The analysis of culture

Unit 2
Media and audience identity-Media influence and power: Media Effects- Types of Texts-Media Effects theories and Models- Audience demography and distinctions etc- Reception/Audience Studies- The Circuit of Culture

Unit3
Methods/ Methodologies in Cultural Studies- Language, Discourse, Identity etc- Post Colonialism and Cultural Studies, Media and Cultural Studies

Unit 4
Semiotics: Signs, Modality and Representation, Paradigm and Syntagm, Denotation,Connotation, Myths, Metaphor, Metonymy, Code-Structuralism: Saussure, assumptions of Arbitrariness, Relational, Systematic- Post Structuralism: Derrida and Difference,Michel Foucault - Post-modernism: Lyotard, Frederic Jameson, Baudrillard, Subcultures and Post Modernism, Paul Virilio- Gender and Race –Feminism, Masculinity Studies, Race and Racism, Orientalism, Anti Racism

References
1. Understanding Media Culture, JosteinGripsrud, Arnold, London
2. Cultural Theory and Popular Culture: An Introduction, John Storey, Pearson Longman
3. A Companion to Cultural Studies, Edited by Toby Miller,Blackwell
4. Media and Cultural Studies, Key Works, Edited by Meenakshi Gigi Durham and Douglas M. Kellner, Blackwell
5. An Introduction to Cultural Studies, Pramod K. Nayar, Viva Books