1year Post Graduate Diploma in Science, Technology, Culture and Society (Hybrid mode)

By

The Centre for Interdisciplinary Studies and Research in Social Sciences

The Centre for Interdisciplinary Studies and Research (in Social Sciences) desires to offer a one year PG Diploma course (of 44 credits) following the National Education Policy (NEP) 2020. NEP 2020 has categorically emphasised Interdisciplinarity and Multidisciplinarity for a holistic education across the sciences, technology, social sciences, arts, humanities, and physical activities for a multidisciplinary world. Keeping this in mind, the Centre for Interdisciplinary Studies and Research (in Social Science?) at Sister Nivedita University proposes a one year Post Graduate Diploma in Science, Technology, Culture and Society (hereafter STCS). UGC is specifically encouraging one year multidisciplinary PG Diploma ([www.telegraphindia.com, November](www.telegraphindia.com) 20, 2023).Many Universities have also declared Certificate and Diploma courses in many disciplines.

Complex issues face our world today such as digital surveillance and information manipulation, environmental degradation and climate change, technological transformations related to AI and robotics, ethics and genomics, pharmaceutical governance, and sustainable food production. STCS as a teaching field reflects a dawning recognition that specialization in today's universities does not fully prepare future citizens to respond knowledgeably and reflectively to the most important challenges of the contemporary world. Increasingly, the dilemmas that confront people, whether in government, industry, politics or daily life, cut across the conventional lines of academic training and thought. STCS invites one to explore the role and impact of scientific and technological developments on human societies past, present and future. The program will help one to think critically about how social, political, and cultural values affect technological innovation and scientific research, and how research and innovations affect human life. The precise purpose is to educate future scientists, engineers, politicians, business executives, computer programmers, social scientists, liberal arts academics and responsible citizens to integrate scientific and technical competence with critical thinking, human values, and social and environmental responsibility. A DIPLOMA in STCS   allows you to better communicate the "real life" impact and social repercussions that science and technology have on different groups in society. STCS students learn about equity, diversity, and inclusivity by examining local, national, and global science and technology controversies in past and present societies breaking academic silos.

Hence, STCS program   provides students with an interdisciplinary framework through which to understand the complex interactions of science, technology and the socio cultural world.Science, Technology, Culture and Society (STCS), is a popular sub area in majority of European and North American universities (including Harvard, MIT, Stanford, Michigan, Pennsylvania, Lund , Oslo, Strasburg , Louvain, Edinburgh, Nottingham,   universities, just to name a few) both at undergraduate and post graduate levels, but is not offered anywhere in India. Hence, SNU can be a pioneer in this field with an exemplary feather in her cap.

Centre for the Study of Interdisciplinary Studies & Research (in Social Sciences)

Students have to take eight courses, Four Core and Four Optional =Total 44 Credits

Eligibility criteria: Undergraduate degree from any Discipline

First Semester: 3 compulsory Courses and 1 optional course = 22 credits

Second Semester: 3 optional Courses and Dissertation   = 22 credits

COMPULSORY COURSES:

1. **INTERSECTIONS OF SCIENCE, TECHNOLOGY, CULTURE AND SOCIETY (STCS): THEORETICAL AND METHODOLOGICAL ISSUES**
2. **HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY**
3. **BOOK REVIEW & SEMINAR**
4. **DISSERTATION**

   Proposed Optional Courses:

   1. **Gender, Science, Technology and Society**
   2. **Children, science, Technology and Society**
   3. **Disability and Technology**
   4. **Intersections of Science, Technology and Performing Arts**
   5. **Science, Technology and New Media Culture**
   6. **Language Science, Technology and Culture**
   7. **Information society and Digital culture**
   8. **Science, Technology, and Public Policy**
   9. **Entrepreneurship in an Emerging Digital Society**
   10. **Science and technology in India**
   11. **Big data and Society**
   12. **Sustainable development and Digital culture**
   13. **Everyday Technologies in the Modern World**
   14. **Cyberspace, Cyber Crime and Cyber Culture**
   15. **Medicine, Science and Health Care Technology**
   16. **Science, Technology and Medicine**
   17. **Digital Humanities**
   18. **Technology, Economy and Society**
   19. **Financial Literacy in the digital world**
   20. **Forensic Anthropology and Archaeology**

COURSE DETAILS

INTERSECTIONS OF SCIENCE, TECHNOLOGY, CULTURE AND SOCIETY (STCS): THEORETICAL AND METHODOLOGICAL ISSUES

Course Meeting Times

Lectures: 1 session / week, 3 hours / session

Prerequisites & Nature

The participants must have a Bachelor degree but truly this course is aimed at students from any background who are challenged to think more critically about what counts as scientific knowledge and why, and how science and technology intervene in the wider world. It also serves as an introduction to majors in Biology and Society or in Science and Technology Studies. The course mixes lectures, discussions, writing, and other activities. The discussion sections are an integral part of the course and attendance is required. A series of take-home written assignments and oral presentation throughout the semester comprise the majority of the grade.

Course Overview

1. INTERSECTIONS OF SCIENCE, TECHNOLOGY, CULTURE AND SOCIETY (STCS):

THEORETICAL AND METHODOLOGICAL ISSUES (1st sem)

This course is designed as a theory of science that seeks to take into account the complex interaction between science and society. Central here are assumptions about the fundamentally social nature of scientific knowledge. The demarcation between different subject areas and cultures is regarded as the result of various negotiation processes - partly between the researchers and partly between them and society in general. Finally we want to know whether postcolonial analytic frames are up to the task of unsettling and discomposing perceived hegemonies or if we need to find or create decolonial frameworks from which new sensibilities and understandings can arise. Needless to say, it is not history of science—or even history more broadly—as it used to be done.

Recent years have witnessed a developing attack, led by Kuhn, on the view of science as an ever-increasing body of absolute knowledge about the natural world. In his persuasive if assertive book Barnes has continued this onslaught by applying the insights of sociology of knowledge in general to questions concerning scientific knowledge in particular. Besides writing a primer to convince sociologists that the sociology of scientific knowledge can be done, he has attempted to confute those philosophers who see in science a supremely rational intellectual enterprise. Indeed, the nub of Barnes's argument seems to be his conclusion that belief systems cannot be

ranked in order of their rationality. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces.

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Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.

For an overview of the historiography of science consult: Golinski, Jan. *Making Natural Knowledge: Constructivism and the History of Science*. University of Chicago Press, 2005

R. C. Olby, G. N. Cantor, J. R. R. Christie & M. J. S. Hodge (eds.),*Companion to the History of Modern Science*. Routledge. (1989).

Module 1

Science, Technology, and Contemporary Society

Module 2

Technology in Contemporary Society

Module 3

Ethics and Public Policy
Module 4

Science, Technology, and Culture: How does design work?

Module 5

Science, Ethics, and Society: Debates and Controversies

Module 6

Performing Arts, Technology and culture

2. HISTORY AND PHILOSOPHY OF SCIENCE AND TECHNOLOGY (1st sem)

Lectures: 1 session / week, 3 hours / session

The aim of this course is not to become an encyclopaedia of the history of science, but rather to become adept at analysing and contextualizing arguments. The books in this course have been selected to cover key events in the history of science as well as key methodological innovations

in the historiography of science. Questions of form (why does the author structure their book / chapter in this way) and questions of relationships (what common methods or questions are used in a book) will be as important as the historical content of the author's thesis. Science has emerged as a central and transformative force that continues to reshape everyday life in countless ways. This introductory course will survey the emergence of the scientific world view from the ancient period through the end of the 20th century. By focusing on the life, work, and cultural contexts of those who created modern science, we will explore their core ideas and techniques, where they came from, what problems they solved, what made them controversial and exciting and how they relate to contemporary religious beliefs, politics, art, literature, and music. The course is organized chronologically and thematically.

Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years.

Module 1 Philosophy and the Scientific Revolution

Module 2   Science, Technology and culture of Pre-Colonial India

Module 3 Science and Technology in Ancient Egyptian, Mesopotamian, Chinese Society

Module 4 Making Sense of Uncertainty

Module 5 Science and Values

Module 6 History and Philosophy of Artificial Intelligence

Bowler, Peter, and Iwan Morus. *Making Modern Science: A Historical Survey*. University of Chicago Press, 2005, 2nd ed.

Romila Thapar: Our History, Their History, Where History

Eric Hobsbawm: On History

D D Kosambi Science, Society and Peace

3. Book review & Seminar (1st sem)

4. One optional course from 3/4 courses

Optional Courses: (for 1st semester)

1. Intersections of Science, Technology and Performing Arts
2. Science, Technology and New Media Culture
3. Language, Science ,Technology and Culture
4. Information society and Digital culture
5. Science, Technology, and Public Policy