Perspectives on Science, Technology and Society

Course type: 4 credit course

Course Instructor: Dr. Aswathy Raveendran

Duration: August 6, 2018- October 12, 2018

The aim of the course is to help build perspective on the various positions on the nature of science, its relationship with technology and society. The course is premised on the notion that it is important for all science education researchers to be acquainted with these perspectives so that they can confidently address ethicopolitical concerns related to science and technology as and when they encounter them in their work. Unit I introduces participants to perspectives on the nature of science, technology and society. The reading by Philip Kitcher (2003), titled “unacceptable images” for instance, begins with the question of what the role of science is in a democratic society. He argues that the authority that science has acquired for itself has a basis in its claim of representing accurate knowledge of the world. The next set of readings are aimed at engaging with this point put forth by Kitcher: can science indeed claim the status of objective, value-free knowledge? To unravel this, a few introductory readings on the classical ideas the philosophy of science and the criticisms of these standard views from the feminist and sociological perspectives will be discussed.

Following this, a reading on the nature of technology will be introduced which seeks to outline two broad philosophical approaches within the field -- the classical view that upholds technological determinism and the social construction of technology view that emphasises the nature of technology as shaped by the social context wherein it is conducted. Following this, two readings in the area of Public Understanding of Science which outlines the debates within the field will be discussed. These readings seek to demonstrate that the relationship between science and its publics is not a harmonious one, and is often imbued with power.

Unit II seeks to introduce course participants to the debates regarding science and society in the Indian context. These readings will help illustrate how different groups have interpreted science as an ideology in the Indian context and outline four positions on the issue— the liberal, leftist, postcolonial and hindutva positions. Unit III attempts to introduce the democratic and sociopolitical turns within science education which has taken cognizance of the perspectives on the relationship between science and society and tried to argue for the introduction of these perspectives into science education research and praxis.

Assessment

Course participants are expected to engage with all the readings. They will take turns to lead the discussion on the prescribed readings. Short summaries of the readings could be circulated before the class. There shall be two short assignments and one term paper. The grading will be done on the basis of presentations done throughout the course, classroom participation and performance on assignments and the term paper.
List of Readings

Unit 1

The Nature of Science and Technology and its relationship with society

Samir Okasha (2003). Philosophy of science: a short introduction. (chapter 1- What is science?)

Unit 2

Situating science and society in India


Unit 3

STS perspectives and Science Education


**Documentaries:**
Nostalgia for the Light  by Patricio Guzman
War and Peace (2003) by Anand Patwardhan
Alternative medicine debate in India (Debating Matters, British council India)