

Sociology
Discipline Specific Elective (DSE) 20
Sociology of Science

Discipline Specific Elective-20 (DSE - 20) : Sociology of Science

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE - 20 Sociology of Science	4	3	1	0	12th Class Pass	Nil

Learning Objectives:

1. To constitute science as an object of sociological inquiry.
2. To map various theoretical perspectives in sociology of science to foster an understanding that science is a social practice.
3. To locate the alternative discourses on science and society through debates from an Indian perspective.
4. To enhance critical skills required for the pursuit **SDG 4 – Quality Education**.

Learning outcomes:

By the end of the course, the students will be able to:

1. Assess and evaluate discourses on scientific knowledge and practice as a sociological phenomenon.
2. Identify and analyse the intersections between science and politics, economics and socially stratified identities.
3. Develop a critical stance in understanding the essentially social character of the practice of science.
4. To demonstrate critical skills required for the pursuit **SDG 4 – Quality Education**.

SYLLABUS OF DSE:

Unit I: Investigating Science (9 Hours)

This unit introduces students to the foundational ideas of a sociology of science.

- a. What is Science?
- b. Mapping Sociology of Science

Unit II: Sociological Theories of Science (12 hours)

This unit familiarizes students with the major theoretical perspectives in sociology of science.

- a. Structural-Functionalism
- b. Political-Economy of Science
- c. Science and the Sociology of Knowledge

Unit III: Science in Practice (12 hours)

This unit introduces the ways in which sociology investigates science in practice.

- a. The Scientific Field
- b. Ethnography of Laboratory
- c. Science and Gender

Unit IV. Science in India: Imaginations and Alternatives (12 Hours)

This unit enables students to critically understand the sociological interpretations of science in India.

- a. Decolonizing Science
- b. Science and Social Reason

Practical Component: NIL

Essential/Recommended Readings:

Unit I: Investigating Science

- a. What is Science?

Chalmers, Alan. *What Is This Thing Called Science?* United Kingdom, McGraw-Hill Education, 2013. Ch,1 & 3. Pp. 1-18

- b. Mapping Sociology of Science

Mulkay, Michael. *Science and the Sociology of Knowledge*. Taylor & Francis, 2014. Ch. 1. 'The Customary Sociological View of Science'. Pp. 1-26.

Ritzer, George. *The Wiley-Blackwell Companion to Sociology*. United Kingdom, Wiley, 2016. Ch. 32. 'Science and Technology: Now and in Future'. Pp. 609-622.

Unit II: Sociological Theories of Science

- a. Structural-Functionalism

Merton, Robert K. *The Sociology of Science: Theoretical and Empirical Investigations*. United Kingdom, University of Chicago Press, 1973. Ch. 13. 'The Normative Structure of Science'. Pp. 267-278.

b. Political-Economy of Science

Rose, Hilary, and Rose, Steven. *The Political Economy of Science: Ideology Of/in the Natural Sciences*. United Kingdom, Macmillan, 1976. Ch. 1 & 2. Pp. 1-31.

c. Science and the Sociology of Knowledge

Kuhn, Thomas S. *The Structure of Scientific Revolutions: 50th Anniversary Edition*. United Kingdom, University of Chicago Press, 2012. Ch 2 & 10. Pp. 10-22, 111-134.

Bloor, David. *Knowledge and Social Imagery*. United Kingdom, University of Chicago Press, 1991. Ch. 1. 'The Strong Programme in the Sociology of Knowledge'. Pp. 3-23.

Barnes, Barry, et al. *Scientific Knowledge: A Sociological Analysis*. United Kingdom, Bloomsbury Academic, 1996. Ch. 1. 'Observation and Experience'. Pp. 1-17.

Unit III. Science in Practice

a. The Scientific Field

Bourdieu, Pierre. The Specificity of the Scientific Field and the Social Conditions of the Progress of Reason in, Mario Biagioli ed. *The Science Studies Reader*. United Kingdom, Routledge, 1999. Pp. 31-46.

b. Ethnography of Laboratory

Latour, Bruno, and Woolgar, Steve. *Laboratory Life: The Construction of Scientific Facts*. United Kingdom, Princeton University Press, 1986. Ch 1. 'From Order to Disorder'. Pp 15-41.

c. Science and Gender

Haraway, Donna J. "Situated knowledge: The Science Question in Feminism and the Privilege of Partial Perspective." Mario Biagioli ed. *The Science Studies Reader*. United Kingdom, Routledge, 1999. Pp. 172-186.

Unit IV: Science in India: Imaginations and Alternatives

a. Decolonizing Science

Uberoi, J. P. Singh. *The European Modernity: Science, Truth, and Method*. India, Oxford University Press, 2002. Pp. 25-45.

Nandy, Ashis. *Science, Hegemony and Violence: A Requiem for Modernity*. Japan, United Nations University, 1990. Chapter 1: 'Introduction: Science as a Reason of State'. Pp. 1-22.

b. Science and Social Reason

Visvanathan, Shiv. *A Carnival for Science: Essays on Science, Technology, and Development*. India, Oxford University Press, 1997. Ch.1. 'A Carnival for Science'. Pp. 1-14.

Nanda, Meera. Against the Social (de) Construction of Science: Cautionary tales from the third world. In Ellen Meiksins Wood and Foster, John Bellamy. *In Défense of History*. United States, Monthly Review Press, 1997. Pp. 74-93.

Suggested Readings:

Barnes, B. and Edge, D. (eds.) (1982), *Science in Context: Readings in the Sociology of Science*, Open University Press, 1982.

Barnes, Barry. *About Science*. Cambridge: Basil Blackwell.

Basalla, G. The Spread of Western Science, *Science*, vol. 156, May 5, 1967.

Cunningham, A. and Willaims, P. De-centring the Big Picture: The Origins of Modern Science and the Modern origins of Science, *The British Journal for the History of Science*. 1993, 26, 407-432. (25).

Donna Haraway (1985). *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century*.

Habermas, Jürgen. *Toward a Rational Society: Student Protest, Science, and Politics*. United Kingdom, Beacon Press, 1970. Chapter 6. technology and science as 'ideology'. Pp. 81-122.

Knorr-Cetina, Karin. *Epistemic Cultures: How the Sciences Make Knowledge*. Cambridge, MA: Harvard University Press, 1999.

Kumar, Deepak. *Science and the Raj: A Study of British India*. India: Oxford University, 2006.

Lakatos, Imre. *Mathematics, Science, and Epistemology*. United Kingdom, Cambridge University Press, 1978. Ch. 14. 'The Social Responsibility of Science'. Pp. 256-258.

MacKenzie, Donald and Wajeman, Judy (eds.) 1999. *The Social Shaping of Technology*, Buckingham: Open University Press (2nd revised edition).

Passmore, John. *Science and Its Critics*, New Jersey, Rutgers University Press, 1978.

Prakash, Gyan. *Another Reason: Science and the Imagination of Modern India*. Germany, Princeton University Press, 2020.

Rabinow, Paul. *Essays on the Anthropology of Reason*. United States, Princeton University Press, 2021.

Raina, Dhruv. *Reconfiguring the Centre: The Structure of Scientific Exchanges Between Colonial India and Europe*, *Minerva* (1996), 34, 161-176.

Rose, Hilary, and Rose, Steven Peter Russell. *Science and Society*. United Kingdom, Allen Lane, 1969.

Science and Technology policy documents of the Government of India (1958, 1983 and 2003)

Sur, Abha. (2008). "Persistent Patriarchy: Theories of Race and Gender in Science," *Economic and Political Weekly*, 73-78.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.