| Course title | **Technology and Sustainable Development** | | | | | | | | Course No | **HS5060** | | | |

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Department	Humanities and Social Sciences	New Credits	L	T	E	P	O	C	Old Credits	L	T	P	C
			3	1			6	10		3			3
Offered for	M.A., PhD								Status	Modified			
Faculty	**Roland Wittje**								Type	MA Core			
Pre-requisite	None								To take effect from	Jan 2021			

Description: The course starts with an introduction to technology, society and sustainable development from the perspectives of the history of industrialization and technology, and science and technology studies (STS). We will take a critical look at discourses of development and sustainability and their relationship with technology. In the second part of the course we will discuss specific aspects of technology and sustainable development on the basis of case studies such as energy production and consumption, global warming, agriculture, traffic and transport, urbanization, water and wastewater management, industrial production and human consumption, pollution and waste, and limits of natural resources. Learning Outcomes: The students will learn about the relationship between science, technology and society, and how technology affects sustainable development. The students will learn how to argue in class, how to develop their own semester project, to give an oral presentation and to give comments to the presentations of other students, and how to write a term paper.

Course Contents: • Introduction to Science and Technology Studies • The Social Construction of Scientific and Technical Realities • The Evolution of Large Technological Systems • Do Artefacts have Politics? • The Normative Structure of Science • The Industrial Revolution • India's Technological Imaginary • The Club of Rome and the Limits to Growth • The Brundtland Report • Deconstructing Development Discourse • What is Sustainable Technology? Perceptions, Paradoxes and Possibilities • The United Nations' sustainable development goals of the 2030 Agenda

Text Books :
Sergio Sismondo, An Introduction to Science and Technology Studies. Chichester, West Sussex: Wiley, 2010.
Andrea Cornwall and Deborah Eade, Deconstructing Development Discourse: Buzzwords and Fuzzwords, Oxford: Oxfam, 2010 – Chapter 1, 2, and 14.
Karel Mulder et al, What is Sustainable Technology? Perceptions, Paradoxes and Possibilities, Sheffield: Greenleaf Publishing, 2011 – Chapter 1, 13, and 14.

Reference Books: Langdon Winner, "Do Artifacts have Politics?", in Winner, L., The whale and the reactor: a search for limits in an age of high technology, Chicago: University of Chicago Press, 1986: 19-39. Bernward Joerges, "Do Politics have Artefacts?" Social Studies of Science 29:3 (1999): 411-.31. Melvin Kranzberg, "Technology and History: Kranzberg's Laws," Bulletin of Science Technology & Society 15:5 (1995): 5-13. Anil K. Gupta and Sreeja S. Nair, "Urban floods in Bangalore and Chennai: risk management challenges and lessons for sustainable urban ecology" Current Science 100:11 (2011): 1638-1645. Wiebe E. Bijker, Thomas P. Hughes and Trevor Pinch, The Social Construction to Technological Systems Cambridge, Mass.: MIT Press, 1987 / 2012. Robert K. Merton (1942/1973) "The Normative Structure of Science." In Robert K. Merton, The Sociology of Science: Theoretical and Empirical Investigations. Chicago: University of Chicago Press, 1973: 267–278. Eric Hobsbawm, "The Industrial Revolution," chapter 2 in E Hobsbawm, The Age of Revolution 1789 – 1848, New York: Vintage Books, 1962/1996: 27-52. Prasannan Parthasarathi, "Trade and Industry in the Indian Subcontinent, 1750–1913," in Jeff Horn, Leonard N. Rosenband, and Merritt Roe Smith (eds.), Reconceptualizing the Industrial Revolution, Cambridge, Mass.: MIT-Press, 2010: 271–290 David Arnold, Everyday Technology: Machines and the Making of Modern India, Chicago: University of Chicago press, 2013. James C. Scott, Seeing like a State: How

Certain Schemes to Improve the Human Condition have Failed. New Haven: Yale University Press, 1998. Donella H. Meadows et al, The Limits to Growth, New York: Universe Books, 1972. Jeffrey D. Sachs, The Age of Sustainable Development, New York: Columbia University Press, 2015. The Brundtland Report, Report of the World Commission on Environment and Development: "Our Common Future" United Nations - Official Records of the General Assembly, forty-second Session, supplement No. 25 (A/42/25), 1987. The United Nations' sustainable development knowledge platform and sustainable development goals of the 2030 Agenda (https://sdgs.un.org/goals)