

	MAHATMA GANDHI UNIVERSITY Kottayam, Kerala Undergraduate Programmes (HONOURS) 2025 Admission Onwards
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SYLLABUS									
SIGNATURE COURSE									
Name of the College	Marthoma College, Kuttapuzha P.O, Tiruvalla								
Faculty/ Discipline	History								
Programme	BA (Hons) History								
Course Coordinator	MATHEW SAM								
Contributors	Dr. Agney G K								
Course Name	Social History of Science and Technology in Ancient and Medieval World								
Type of Course	DSE								
Specialization title	Social History of Science and Technology								
Course Code	MG3DSEHISA02								
Course Level	200								
Course Summary	The course is intended to provide the philosophical foundations and historical formation of scientific thinking. It delves into the cross cultural fertilisation of knowledge and offers an understanding that the production of knowledge is a collective and collaborative enterprises rather than exclusionary and parochial. The course also familiarise socio- historical context where thinkers and scientists formulated their understanding of the natural world.								
Semester	3	Credits	4						
Course Details	<table><tr><td>Learning Approach</td><td>Lecture</td><td>Total Hours</td></tr><tr><td>Credits</td><td>4</td><td>60</td></tr></table>			Learning Approach	Lecture	Total Hours	Credits	4	60
	Learning Approach	Lecture	Total Hours						
Credits	4	60							
Pre-requisites, if any	The student should have successfully completed level 100-199 courses.								

Course Outcomes (CO)

Number of COs		5	
CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Understand the basic definitions and terminologies of science	U	PO1, PO2
2	Appreciate the epistemological foundations and methodological distinctiveness of science	Ap	PO2
3	Evaluate the contributions of various civilizations in promoting the scientific thinking	E	PO2, PO3, PO4
4	Analyze the cross cultural exchanges of scientific knowledge	An	PO2, PO3, PO6
5	Appreciate the social context of science and technology	Ap	PO7, PO8

*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

CO-PO Articulation Matrix

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	2	3	-	-	-	-	-	-	-	-
CO 2	-	2	-	-	-	-	-	-	-	-
CO 3	-	1	3	2	-	-	-	-	-	-
CO 4	-	2	2	-	-	1	-	-	-	-
CO 5	-	-	-	-	-	-	1	2	-	-

'0' is No Correlation, '1' is Slight Correlation (Low level), '2' is Moderate Correlation (Medium level) and '3' is Substantial Correlation (High level).

Course Content

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	Understanding Science			
	1.1	Etymology and Definitions of Science	3	["1"]
	1.2	The Concept of Method: Philosophical Perspectives on Science	4	["2"]
	1.3	Social and Historical Epistemologies	4	["2"]
	1.4	Technology and Social History	3	["5"]
2	Origins of Scientific Thought			
	2.1	Knowledge of Nature in the Ancient World	4	["3"]
	2.2	Early Philosophers: Contexts and Key Themes	4	["5"]
	2.3	Perspectives of Aristotle	4	["2"]
	2.4	Post-Aristotelian Cosmology: The Geocentric Model	3	["4"]
3	Centres of Learning and Knowledge Circulation in the Medieval World			
	3.1	Contributions from Chinese and Indian Traditions	3	["4"]
	3.2	Development of Science in the Islamic World	5	["3"]
	3.3	The Translation Movement and Knowledge Transmission	4	["3"]
	3.4	The Renaissance and the Rise of Humanism	4	["4"]
4	The Emergence of Modern Science			
	4.1	Early Universities and the Changing Status of Knowledge	4	["2"]
	4.2	The Copernican Revolution	3	["3"]
	4.3	Francis Bacon and the Scientific Method	3	["4"]
	4.4	Understanding Nature: Rationalism and Empiricism	5	["2"]

Teaching and Learning Approach	Classroom Procedure (Mode of transaction) The course coordinator may facilitate ICT enabled lectures (25 hrs) to orient the students to the basic issues and debates. Group Debates (15 hrs) can also be conducted on the materials provided. Critical reflection (7 hrs) on the core themes of the course are to be register either in written forms or in presentation mode. Numerous documentaries prepared by credible agencies may be screened to initiate a discussion. Documentary review (10 hrs), in this context would be effective to familiarize with the changes in the scientific knowledge. Invited Lecture (3 hrs) is to be arranged to discern the contemporary debates in the discipline.
Assessment Types	MODE OF ASSESSMENT Mode of Assessment: Theory A. Continuous Comprehensive Assessment (CCA) • Theory - 30 Marks 1) Viva Voce 2) In-class discussion 3) Reflective writing assignment 4) Presentation B. End Semester Evaluation (ESE) • Theory - 70 Marks Assessment Methods - Theory Duration of Examination - 2.00 Hrs Pattern of examination for Theory - Non-MCQ Different parts of written examination - Part - A , B , C Answer Type: ◦ PART - A ◦ Short answer - (10 out of 12) - $10 \times 2 = 20$ ◦ PART - B ◦ Short Essays - (6 out of 10) - $6 \times 5 = 30$ ◦ PART - C ◦ Essays - (2 out of 4) - $2 \times 10 = 20$

References

- Module 1 Merton, Robert K. 1938. "Science and the Social Order". Philosophy of Science 5: 321-37. Reprinted as "The Normative Structure of Science" in Merton 1973: 255-66. Merchant, Carolyn. 1980. The Death of Nature: Women, Ecology and the Scientific Revolution. San Francisco: Harper & Row Publishers. Livingstone, David N. 2009. "Myth 17. That Huxley Defeated Wilberforce in their Debate over Evolution and Religion". Numbers: 153-60. Latour, Bruno. 1983. "Give Me a Laboratory and I will Raise the World". Pp. 141-71, Karin D. Knorr-Cetina & Michael Mulkay (eds.). Science Observed: Perspectives on the Social Study of Science. London, Beverly Hills & New Delhi: Sage Publications. Kumar, Deepak. 1995. Science and the Raj: A Study of British India. New Delhi: Oxford University Press. Kuhn, Thomas S. 1970 [1962]. The Structure of Scientific Revolutions. Second edition. Chicago & London: The University of Chicago Press. Visvanathan, Shiv. 1985. Organising for Science: The Making of an Industrial Research Laboratory. New Delhi: Oxford University Press. Varughese, Shiju Sam. 2015b. "The State-Technoscience Duo in India: A Brief History of a Politico-Epistemological Contract". Pp. 137-56, Axel Jansen, Andreas Franzmann & Peter Munte (eds.). Legitimizing Science: National and Global Publics (1800-2010). Frankfurt & New York: Campus Verlag.
- Module 2 Varughese, Shiju Sam. 2015a. "Colonial Intellectuals, Public Sphere and the Promises of Modernity: Reading Parangodeeparinayam". Pp. 41-58, Satheese Chandra Bose & Shiju Sam Varughese (eds.). Kerala Modernity: Ideas, Spaces and Practices in Transition. Hyderabad: Orient Blackswan. Turner, Stephen. 2008. "The Social Study of Science before Kuhn". Pp. 33-62, Edward J. Hackett et al. (eds.). The Handbook of Science and Technology Studies. Third edition. Cambridge, MA & London: MIT Press. മേനോൻ, ആർ.വി.ജി. 2019. സാങ്കേതികവിദ്യയുടെ ചരിത്രം. തൃശ്ശൂർ: കേരള ശാസ്ത്രസാഹിത്യ പരിഷത്ത്. വറുഗീസ്, ഷിജു സാം. 2025. ശാസ്ത്രവിമർശനം: സാമൂഹികജ്ഞാനസിദ്ധാന്ത സമീപനങ്ങൾ. Kottayam: DC Books.
- Module 3 Shank, Michael H. 2009. "Myth 2: That the Medieval Christian Church Suppressed the Growth of Knowledge". Numbers: 20-7. Joseph, George Gheverghese. 2011 [1991]. The Crest of the Peacock: Non-European Roots of Mathematics. Princeton & Oxford: Princeton University Press. Gimpel, Jean 1977. The Medieval Machine: The Industrial Revolution of the Middle Ages. London: Gollancz. Haq, Syed Nomanul. 2009. "Myth 4: That Medieval Islamic Culture was Inhospitable to Science". Numbers: 35-42.
- Module 4 Krige, John & Pestre, Dominique. (eds.). 1997. Science in the Twentieth Century. Australia: Harwood Academic

Publishers Keller, Evelyn Fox & Longino, Helen E. (eds). 1996. *Feminism and Science*. Oxford & New York: Oxford University Press. Joseph, George Gheverghese. 2011 [1991]. *The Crest of the Peacock: Non-European Roots of Mathematics*. Princeton & Oxford: Princeton University Press. Werskey, Gary. 2007a. "The Marxist Critique of Capitalist Science: A History in Three Movements?" *Science as Culture* 16(4): 397–461. Werskey, Gary. 2007b. "The Visible College Revisited: Second Opinions on the Red Scientists of the 1930s". *Minerva* 45(3): 305–19. Ziman, John. 1996. "'Postacademic Science': Constructing Knowledge with Networks and Norms". *Science Studies* 1: 68–80.

Affidavit

- We, Marthoma College, Kuttapuzha P.O, Tiruvalla and MATHEW SAM, agree to permit the use of our proposed course syllabus by other faculty members within the same discipline for course delivery at their respective institutions.
- We, Marthoma College, Kuttapuzha P.O, Tiruvalla, agree to appoint a new course coordinator for the proposed Social History of Science and Technology in the event of the unavailability of the currently nominated coordinator. This appointment will ensure the continued coordination of course delivery, assessments, and all related academic responsibilities necessary for the successful implementation of the specialization, for as long as the college offers this programme.
- We, Marthoma College, Kuttapuzha P.O, Tiruvalla and MATHEW SAM, declare that no part of this signature course submitted here for approval has been taken from the course content developed by, or from any of the course titles prepared by, the BoS/expert committee in the same discipline under our University.



MGU-UGP (HONOURS)

Syllabus

	MAHATMA GANDHI UNIVERSITY Kottayam, Kerala Undergraduate Programmes (HONOURS) 2025 Admission Onwards
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SYLLABUS			
SIGNATURE COURSE			
Name of the College	Marthoma College, Kuttapuzha P.O, Tiruvalla		
Faculty/ Discipline	History		
Programme	BA (Hons) History		
Course Coordinator	MATHEW SAM		
Contributors	Dr.Agney G K		
Course Name	Modernity of/in Science		
Type of Course	DSE		
Specialization title	Social History of Science and Technology		
Course Code	MG4DSEHISA02		
Course Level	200		
Course Summary	The course delves into the intricate nexus between science and modern social structures. It critically examines the normative claims of science as the valid source of knowledge, analyses the negotiations between science and power and locate the scientific enterprises within the socio- historical matrix. The course also evaluates the contemporary debates on the social role of science.		
Semester	4	Credits	4
Course Details			
	Learning Approach	Lecture	Total Hours
	Credits	4	60
Pre-requisites, if any	The student should have successfully completed level 100-199 courses		

Course Outcomes (CO)

Number of COs		5	
CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Evaluate the theoretical and empirical foundations of modern science	E	PO1
2	Analyze the nexus between social structures and scientific notions	An	PO1, PO3
3	Understand the debates between science and other forms of knowledge	U	PO1, PO3, PO6
4	Apply the historical insights of science to examine the nature of economy, power and knowledge in the modern world	A	PO1, PO2
5	Generate an interest in the critique of modern science raised by the social movements	I	PO5, PO6

*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

CO-PO Articulation Matrix

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	2	-	-	-	-	-	-	-	-	-
CO 2	1	-	2	-	-	-	-	-	-	-
CO 3	2	-	1	-	-	2	-	-	-	-
CO 4	1	2	-	-	-	-	-	-	-	-
CO 5	-	-	-	-	1	2	-	-	-	-

'0' is No Correlation, '1' is Slight Correlation (Low level), '2' is Moderate Correlation (Medium level) and '3' is Substantial Correlation (High level).

Course Content

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	Towards a New Worldview			
	1.1	The Scientific Revolution	3	["1"]
	1.2	Systematisation of Observations and Experiments: From Galileo to Robert Boyle	4	["1"]
	1.3	The New Science and its Institutions: From the Royal Society to Research Universities	4	["2"]
	1.4	Science and Religion : The Debate on Evolution Theory	3	["3"]
2	Science, Technology, and the Emergence of Social Structure			
	2.1	Newtonian Physics in the emergence of Capitalism	4	["4"]
	2.2	Science and the Protestant Ethic	4	["3"]
	2.3	Conflicting Views of Nature: New Science versus Witchcraft and Magical Traditions	4	["2"]
	2.4	Role of Science and Technology in the Industrial Revolution	3	["2"]
3	Science and Empire			
	3.1	Colonialism and Science: A Symbiotic Relationship	3	["4"]
	3.2	Eurocentrism and Science: Knowledge Relations between Centre and Periphery	5	["3"]
	3.3	Racial Science in the Nineteenth Century	4	["5"]
	3.4	Science and Technology in the Colonial Administration	4	["3"]
4	Science and Technology in the Post-World War Era			
	4.1	Formation of Disciplines in the Nineteenth Century	4	["1"]
	4.2	From Little Science to Big Science: Changing Organisational Structures	3	["4"]
	4.3	Post-colonial Nation-States and Science	3	["2"]
	4.4	New Social Movements and the Critiques of Science and Technology	5	["5"]

Teaching and Learning Approach	Classroom Procedure (Mode of transaction) The course coordinator should initiate the major debates through lectures after distributing the relevant materials to read (25 hrs). Since the course is dealing with discipline specific and general debates, group debates need to be conducted (20 hrs). The social activists who are working in the Peoples’s science movement may be invited for lectures (10 hrs). The students are expected to collect various forms of local knowledge from their neighborhood and present it for documentation and discussion (5 hrs).
Assessment Types	MODE OF ASSESSMENT Mode of Assessment: Theory A. Continuous Comprehensive Assessment (CCA) • Theory - 30 Marks 1) Viva Voce 2) In-class discussion 3) Reflective writing assignment 4) Presentation 5) Documentation B. End Semester Evaluation (ESE) • Theory - 70 Marks Assessment Methods – Theory Duration of Examination – 2.00 Hrs Pattern of examination for Theory – Non-MCQ Different parts of written examination – Part - A , B , C Answer Type: ◦ PART - A ◦ Short answer - (10 out of 12) - $10 \times 2 = 20$ ◦ PART - B ◦ Short Essays - (6 out of 10) - $6 \times 5 = 30$ ◦ PART - C ◦ Essays - (2 out of 4) - $2 \times 10 = 20$

References

- Module 1 Stichweh, Rudolf. 1992. "The Sociology of Scientific Disciplines: On the Genesis and Stability of the Disciplinary Structure of Modern Science". Science in Context 5(1): 3-15 Shapin, Steven. 1988. "The House of Experiment in Seventeenth-Century England". Isis 79(3): 373-404. Merton, Robert K. 1970 [1938]. Science, Technology and Society in Seventeenth-Century England. New York: Howard Fertig, Inc. & Harper & Row. Livingstone, David N. 2009. "Myth 17. That Huxley Defeated Wilberforce in their Debate over Evolution and Religion". Numbers: 153-60. Hessen, B. 1971. "The Social and Economic Roots of Newton's Principia". Pp. 149-209, Science at the Crossroads. Papers presented to the International Congress of the History of Science and Technology held in London from June 29th to July 3rd, 1931 by the delegation of the U.S.S.R. London: Frank Cass & Co. Ltd. Davis, Edward B. 2009. "Myth 13: That Isaac Newton's Mechanistic Cosmology Eliminated the Need for God". Numbers: 116-22.
- Module 2 Werskey, Gary. 2007a. "The Marxist Critique of Capitalist Science: A History in Three Movements?" Science as Culture 16(4): 397-461. Visvanathan, Shiv. 1985. Organising for Science: The Making of an Industrial Research Laboratory. New Delhi: Oxford University Press. Numbers, Ronald L. (ed.). 2009. Galileo Goes to Jail and Other Myths about Science and Religion. Cambridge, MA & London: Harvard University Press. Dixon, Thomas. 2008. Science and Religion: A Very Short Introduction. Oxford & New York: Oxford University Press.
- Module 3 Jasanoff, Sheila. 2004b. "Ordering Knowledge, Ordering Society". Jasanoff 2004a: 13-45. Varughese, Shiju Sam. 2015a. "Colonial Intellectuals, Public Sphere and the Promises of Modernity: Reading Parangodeeparinayam". Pp. 41-58, Satheese Chandra Bose & Shiju Sam Varughese (eds.). Kerala Modernity: Ideas, Spaces and Practices in Transition. Hyderabad: Orient Blackswan. Sur, Abha. 2011b. "Dispersed Radiance: Caste, Gender, and Modern Science in India. New Delhi: Navayana. Prakash, Gyan. 1999. Another Reason: Science and the Imagination of Modern India. Princeton: Princeton University Press. Panikkar, K.N. 1992. "Indigenous Medicine and Cultural Hegemony: A Study of the Revitalization Movement in Kerala". Studies in History 8(2): 283-308. Girija, K.P. 2022. Mapping the History of Ayurveda: Culture, Hegemony and the Rhetoric of Diversity. London & New York: Routledge. അശോകകുമാർ, വി. 2017. "ആഗോളശാസ്ത്രവും നാട്ടുശാസ്ത്രങ്ങളും കൈകോർക്കുമോ?" കേരളീയം, ജനുവരി, പൂ. 34-40. വറുഗീസ്, ഷിജു സാം. 2021b. "സയൻസും അച്ചടി ആധുനികതയും: ശാസ്ത്ര സംവാദത്തിന്റെ കേരളീയ സാമൂഹിക ചരിത്രം". പൂ. 581-622, ബാബു ചെറിയാൻ (ജന. എഡി.). വാക്കിലെ ലോകങ്ങൾ: അച്ചടി മലയാളത്തിന്റെ 200 വർഷങ്ങൾ. കോട്ടയം:

സാഹിത്യ പ്രവർത്തക സഹകരണ സംഘം & ബെഞ്ചമിൻ ബെയ്യിലി ഫൗണ്ടേഷൻ.

- Module 4 Varughese, Shiju Sam. 2015b. "The State-Technoscience Duo in India: A Brief History of a Politico-Epistemological Contract". Pp. 137-56, Axel Jansen, Andreas Franzmann & Peter Münte (eds.). Legitimizing Science: National and Global Publics (1800-2010). Frankfurt & New York: Campus Verlag. Sunandan, K.N. 2022. Caste, Knowledge, and Power: Ways of Knowing in Twentieth Century Malabar. New Delhi: Cambridge University Press Raina, Dhruv. 1997. "Evolving Perspectives on Science and History: A Chronicle of Modern India's Scientific Enchantment and Disenchantment (1850-1980)". Social Epistemology 11(1): 3-24. Raina, Dhruv & Ashok Jain. 1997. "Big Science and the University in India". Krige & Pestre: 859-77. Price, Derek J. de Solla. 1963. Little Science, Big Science. New York: Columbia University Press.

Affidavit

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MGU-UGP (HONOURS)

Syllabus

	MAHATMA GANDHI UNIVERSITY Kottayam, Kerala Undergraduate Programmes (HONOURS) 2025 Admission Onwards
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SYLLABUS									
SIGNATURE COURSE									
Name of the College	Marthoma College, Kuttapuzha P.O, Tiruvalla								
Faculty/ Discipline	History								
Programme	BA (Hons) History								
Course Coordinator	MATHEW SAM								
Contributors	Dr. Agney G K								
Course Name	Debates in the Social History of Science and Technology								
Type of Course	DSE								
Specialization title	Social History of Science and Technology								
Course Code	MG5DSEHISA02								
Course Level	300								
Course Summary	The course delves into some of the thematic debates in the Science and technology Studies. It examines the social and historical composition of scientific knowledge and evaluates the notion that science is multicultural. The critique of the idea that technology is applied science is also analysed. The course will be enabled the student to locate the contemporary ways of knowledge production in natural science.								
Semester	5	Credits	4						
Course Details	<table><tr><td>Learning Approach</td><td>Lecture</td><td>Total Hours</td></tr><tr><td>Credits</td><td>4</td><td>60</td></tr></table>			Learning Approach	Lecture	Total Hours	Credits	4	60
	Learning Approach	Lecture	Total Hours						
Credits	4	60							
Pre-requisites, if any	The student should have successfully completed level 200-299 courses								

Course Outcomes (CO)

Number of COs		5	
CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Understand the debate on the historicity of the scientific knowledge	U	PO2
2	Evaluate the exchanges of concepts among various branches of knowledge	E	PO2, PO3
3	Analyze the multicultural nature of scientific knowledge	An	PO2, PO3
4	Analyze the complex nexus between science and technology	An	PO2, PO3, PO4
5	Appreciate the contemporary nature of knowledge production in science	Ap	PO1, PO2, PO3

*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

CO-PO Articulation Matrix

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	-	2	-	-	-	-	-	-	-	-
CO 2	-	2	1	-	-	-	-	-	-	-
CO 3	-	1	2	-	-	-	-	-	-	-
CO 4	-	2	2	2	-	-	-	-	-	-
CO 5	1	2	2	-	-	-	-	-	-	-

'0' is No Correlation, '1' is Slight Correlation (Low level), '2' is Moderate Correlation (Medium level) and '3' is Substantial Correlation (High level).

Course Content

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1		Does Science have History?		
	1.1	Internalist Approaches to the History of Science and Technology	3	["3"]
	1.2	Externalist Approaches to the History of Science and Technology	4	["5"]
	1.3	Social History of Science Beyond the Internalist/Externalist Debate	4	["2"]
	1.4	The Symbiosis of Natural and Social Orders	3	["3"]
2		Postcolonial debates in Science		
	2.1	George Basalla's Three-Stage Model and Its Critiques	4	["3"]
	2.2	The Ecumenical Perspective of Joseph Needham	4	["1", "2"]
	2.3	The Needham Question: Why No Scientific Revolution in India and China?	4	["2", "3"]
	2.4	The Multicultural Perspectives of Sandra Harding	3	["5"]
3		The Relationship between Science and Technology		
	3.1	Abstract and Practical Knowledge in Science	3	["2"]
	3.2	Caste and the Social Organisation of Knowledge in India: A Historical Perspective	5	["3"]
	3.3	Technical Inventions during Industrial Revolution	4	["1"]
	3.4	Technology as Applied Science: The Linear Model in Big Science	4	["4"]
4		The Changing Organisational Structure of Science		
	4.1	The Origins and Development of Modern Science outside Universities	4	["3"]
	4.2	The Humboldtian Model of the Teaching-Research University in Industrial Europe	3	["2"]
	4.3	Indian Universities and the Development of Science and Technology	3	["4"]
	4.4	New Methods in Contemporary Science	5	["4"]

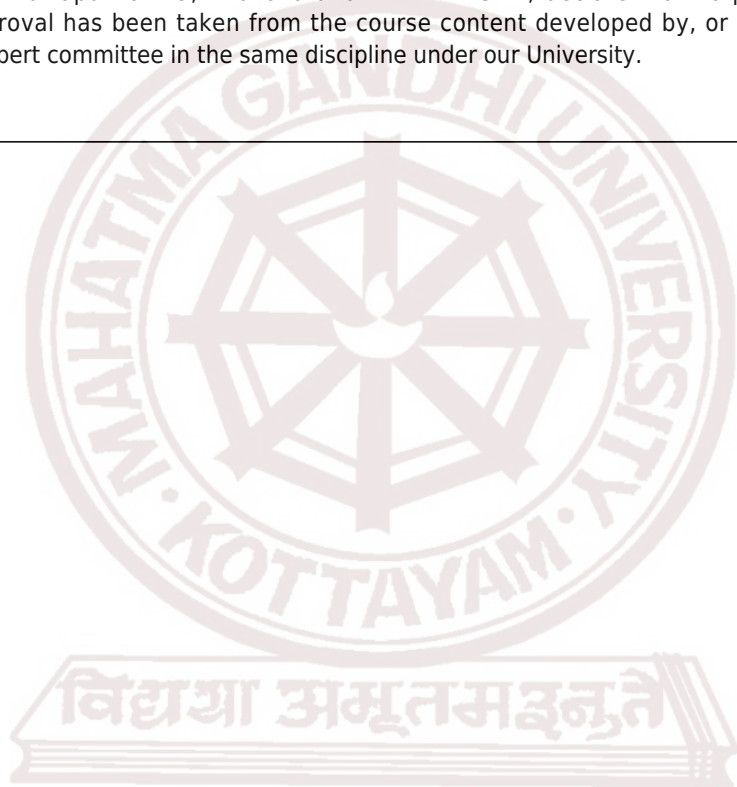
Teaching and Learning Approach	Classroom Procedure (Mode of transaction) Since the course is designed to familiarize students about the major themes in Science and Technology Studies field, substantial lecture hours are to be assigned for introducing the debates on each themes (30 hrs).The lectures of experts need to be arranged (10 hrs). Classroom discussions to formulate opinion on the contested themes should be conducted followed by presentation or panel discussion (20 hrs).
Assessment Types	MODE OF ASSESSMENT Mode of Assessment: Theory
	A. Continuous Comprehensive Assessment (CCA) • Theory - 30 Marks 1) Open Book examination 2) In-class discussion 3) Reflective writing assignment 4) Presentation 5) Panel Discussion
	B. End Semester Evaluation (ESE) • Theory - 70 Marks Assessment Methods - Theory Duration of Examination - 2.00 Hrs Pattern of examination for Theory - Non-MCQ Different parts of written examination - Part - A , B , C Answer Type: ◦ PART - A ◦ Short answer - (10 out of 12) - 10 × 2 = 20 ◦ PART - B ◦ Short Essays - (6 out of 10) - 6 × 5 = 30 ◦ PART - C ◦ Essays - (2 out of 4) - 2 × 10 = 20

References

- Module 1 Shapin, Steven. 1992. "Discipline and Bounding: The History and Sociology of Science as Seen Through the Externalism-Internalism Debate". History of Science 30(4): 333-69. Raina, Dhruv. 1997. "Evolving Perspectives on Science and History: A Chronicle of Modern India's Scientific Enchantment and Disenchantment (1850-1980)". Social Epistemology 11(1): 3-24. Latour, Bruno. 1983. "Give Me a Laboratory and I will Raise the World". Pp. 141-71, Karin D. Knorr-Cetina & Michael Mulkay (eds.). Science Observed: Perspectives on the Social Study of Science. London, Beverly Hills & New Delhi: Sage Publications Jasanoff, Sheila (ed.). 2004a. States of Knowledge: The Co-production of Science and Social Order. London & New York: Routledge. ഇളയിടം, സുനിൽ പി. 2016. "ശാസ്ത്രത്തെ ചരിത്രവൽക്കരിക്കുക". പৃ. 352-64, സുനിൽ പി. ഇളയിടം. നാനാർത്ഥങ്ങൾ: സമൂഹം, ചരിത്രം, സംസ്കാരം. കണ്ണൂർ: കൈരളി ബുക്സ്.
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Affidavit

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MGU-UGP (HONOURS)

Syllabus

	MAHATMA GANDHI UNIVERSITY Kottayam, Kerala Undergraduate Programmes (HONOURS) 2025 Admission Onwards
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SYLLABUS									
SIGNATURE COURSE									
Name of the College	Marthoma College, Kuttapuzha P.O, Tiruvalla								
Faculty/ Discipline	History								
Programme	BA (Hons) History								
Course Coordinator	MATHEW SAM								
Contributors	Dr.Agney G K								
Course Name	Themes in Science and Technology Studies								
Type of Course	DSE								
Specialization title	Social History of Science and Technology								
Course Code	MG6DSEHISA02								
Course Level	300								
Course Summary	The course introduces some of the major debates in Science and Technology Studies like science and society interphase, the sociology of scientific knowledge, etc,. It also surveys the feminist and post colonial critique of modern science. How the modern science became hegemonic and marginalised the alternative ways of perceiving reality is being investigated. Familiarising with the major debate in the filed would enrich the potential of the students to produce knowledge in the filed through rigorous research.								
Semester	6	Credits	4						
Course Details	<table><tr><td>Learning Approach</td><td>Lecture</td><td>Total Hours</td></tr><tr><td>Credits</td><td>4</td><td>60</td></tr></table>			Learning Approach	Lecture	Total Hours	Credits	4	60
	Learning Approach	Lecture	Total Hours						
Credits	4	60							
Pre-requisites, if any	The student should have successfully completed level 200-299 courses								

Course Outcomes (CO)

Number of COs		5	
CO No.	Expected Course Outcome	Learning Domains *	PO No
1	Evaluate the social construction theory of scientific knowledge	E	PO1, PO2
2	Understand the nexus between social structures and knowledge production in modern science	U	PO2, PO3, PO6
3	Analyze the feminist and postcolonial critique of modern science	An	PO3, PO6, PO7
4	Develop an interest in the contemporary nature of science	I	PO3, PO9
5	Evaluate the claim of value neutral nature of science	E	PO2, PO6, PO8

*Remember (K), Understand (U), Apply (A), Analyse (An), Evaluate (E), Create (C), Skill (S), Interest (I) and Appreciation (Ap)

CO-PO Articulation Matrix

CO/PO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO 1	1	2	-	-	-	-	-	-	-	-
CO 2	-	2	2	-	-	1	-	-	-	-
CO 3	-	-	2	-	-	2	1	-	-	-
CO 4	-	-	2	-	-	-	-	-	1	-
CO 5	-	1	-	-	-	2	-	1	-	-

'0' is No Correlation, '1' is Slight Correlation (Low level), '2' is Moderate Correlation (Medium level) and '3' is Substantial Correlation (High level).

Course Content

Content for Classroom transaction (Units)

Module	Units	Course Description	Hrs	CO No.
1	Science-Society Interphase			
	1.1	The Social Function of Science	3	["2"]
	1.2	Sociology of Science	4	["3"]
	1.3	Women in Science Perspective	4	["4"]
	1.4	The Radical Science Movement	3	["3"]
2	Sociology of Scientific Knowledge (SSK)			
	2.1	Paradigms and Scientific Revolutions	4	["2"]
	2.2	The Strong Programme (Edinburgh School)	4	["1"]
	2.3	Laboratory Studies in Science	4	["5"]
	2.4	The Social forces in the Shaping of Technology	3	["2"]
3	Feminist Studies of Science and Technology			
	3.1	Patriarchal Social Order and Assumptions about Nature in Science	3	["4"]
	3.2	From Weak to Strong Objectivity (Sandra Harding)	5	["5"]
	3.3	Donna Haraway: The Cyborg Manifesto	4	["2"]
	3.4	Nature is Queer! Rethinking Nature and Normativity	4	["3"]
4	Postcolonial Studies of Science and Technology			
	4.1	Colonisation and the Development of Scientific Knowledge	4	["1"]
	4.2	Colonial Intelligentsia and Science	3	["2"]
	4.3	Interactions between Indigenous Knowledge Systems and Modern Science	3	["4"]
	4.4	Imperial Technologies and the Rise of National Consciousness	5	["5"]

Teaching and Learning Approach	Classroom Procedure (Mode of transaction) Classroom lectures enabled by ICT may offer learners the context of debates in the Science and Technology Studies (30 hours). The science and society interphase should be imparted by demonstrating social and historical case studies. Invited lectures by renowned academicians and discussions with social activist who lead the peoples' science movement may be recommended (15 hours). In-class discussions on the materials provided is to be conducted 15 hours).
Assessment Types	MODE OF ASSESSMENT Mode of Assessment: Theory A. Continuous Comprehensive Assessment (CCA) • Theory - 30 Marks 1) Open Book examination 2) In-class discussion 3) Reflective writing assignment 4) Presentation 5) Viva- Voce B. End Semester Evaluation (ESE) • Theory - 70 Marks Assessment Methods - Theory Duration of Examination - 2.00 Hrs Pattern of examination for Theory - Non-MCQ Different parts of written examination - Part - A , B , C Answer Type: ◦ PART - A ◦ Short answer - (10 out of 12) - 10 × 2 = 20 ◦ PART - B ◦ Short Essays - (6 out of 10) - 6 × 5 = 30 ◦ PART - C ◦ Essays - (2 out of 4) - 2 × 10 = 20

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