



15SP_GSTS_250_A Global Sci, Tech and Society

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Course Schedule

TOPICS & READING ASSIGNMENTS

(Readings from other than the required texts are linked from this page)

WEEK 1

February 3: Introduction

The Nova film

Special assignment due at the beginning of class on February 5: State in your own words, in one double-spaced paragraph: What are the objectives of this course?

February 5: Western definitions of science and the history of science

Readings

Geoffrey Lloyd and Nathan Sivin, *The Way and the Word: Science and Medicine in Early China and Greece*. Chapter 1 (Aims and methods)

Jürgen Renn and Donald Salisbury, "Toward a Dynamics of Science Practice", draft chapter from English revision of *On the Shoulders of Giants and Dwarfs: Einstein's Unfinished Revolution*.

Suggested Supplementary Reading

Peter Dear, "What is the History of Science the History of?: Early Modern Roots of the Ideology of Modern Science." *Isis*, 2005, 96: 390-406

February 11: Last day to add a course

WEEK 2

February 10: Ancient China, Oracle bones, and Divination

Guest speaker: Yu Qin (Eleanor)

Readings

Roger Hart, "Beyond Science and Civilization: A Post-Needham Critique." *EASTM* 16 (1999): 88-114.

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 1.

David Keightley, *The Science of the Ancestors: Divination, Curing and Bronze Casting in Late Shang China*, unpublished paper.

February 12: Religions in Ancient and Medieval China

Readings

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 2 and 4

Geoffrey Lloyd and Nathan Sivin, *The Way and the Word: Science and Medicine in Early China and Greece*. Chapter 2 (Social framework of Chinese science)

Stephen Teiser, "The Spirits of Chinese Religion." In *Religions of China in Practice*. Edited by Donald S. Lopez, Jr. Princeton University Press, 1996.

WEEK 3

February 17: Introduction to naked-eye astronomy

Readings

Thomas Kuhn, *The Copernican revolution*, chapter 1 (The ancient two-sphere universe), pp. 1-25

Discussion Leaders: Mursal Bahadory

February 19: Astronomy and Astrology in Medieval China

Readings

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 5.

Edward Schafer, *Pacing the Void: Tang Approaches to the Stars*, chapters 2, 3, and 6

Part1

Part2

WEEK 4

February 24

No class

February 26: Classical Greek science and mathematics

Readings

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 3

Thomas Kuhn, *The Copernican revolution*, chapter 1 (The ancient two-sphere universe), pp. 25-76

Geoffrey Lloyd and Nathan Sivin, *The Way and the Word: Science and Medicine in Early China and Greece*. chapters 3 (Social and institutional framework of Greek science) and chapter 4 (Fundamental issues of Greek science)

Discussion Leaders (readings of Feb. 12): John Rudder, Leeza Crockett, Cooper Woodyard

WEEK 5

March 3: Classical Chinese science and mathematics

QUIZ 1 (March 3): Naked-eye astronomy

Colin A. Ronan, *The Shorter Science and Civilisation in China*, Vol. 2, chapter 1 (Mathematics, pp. 1-26)

Discussion Leader (readings for Feb. 19): John Happel, Cody Meyers, Diana Yu, Oksana Kennedy

March 5: Class canceled due to weather
Cartography, Geomancy and Physics



Readings

John B. Henderson, "Chinese Cosmographical Thought: The High Intellectual Tradition." In *The History of Cartography*, vol. 20: *Cartography in Traditional East and Southeast Asian Societies*, eds. J. B. Harley and David Woodward. Chicago: University of Chicago Press, 1994

Discussion Leaders (readings of Feb. 26): Daisy Flores, Samantha Rhyne, John Rudder

Discussion Leaders: Edgar Rodriguez, John Happel, Andrew O'Connor

Spring Recess: March 9 - 13

WEEK 6

March 17: Cartography, Geomancy and Physics

Readings

John B. Henderson, "Chinese Cosmographical Thought: The High Intellectual Tradition." In *The History of Cartography*, vol. 20: *Cartography in Traditional East and Southeast Asian Societies*, eds. J. B. Harley and David Woodward. Chicago: University of Chicago Press, 1994

Discussion Leaders (readings of Feb. 26): Daisy Flores, Samantha Rhyne, John Rudder

Discussion Leaders: Edgar Rodriguez, John Happel, Andrew O'Connor

March 19: Architecture and fengshi

Readings

X. Chen & J. Wu (2009). Sustainable landscape architecture: Implications of the Chinese philosophy of 'unity of man with nature' and beyond. *Landscape Ecology*, 24(8), 1015-1026.

Wenmei Ji, An Influence of Chinese Traditional Geomantic Concept on

Layout of Settlements in Huizhou--with an example of the Pingshan Village. *Applied Mechanics and Materials*

Vols. 174-177 (2012) pp 1849-1854.

Discussion Leaders: Edgar Rodriguez, Faisal Habib

WEEK 7

March 24: Religion, Metallurgy and Alchemy: East and West

Readings

Ku-ming Chang, *Alchemy as studies of Life and Matter*, Isis, 2011.

Nathan Sivin, "Chinese Alchemy and the Manipulation of Time." *Isis*, Vol. 67, No. 4 (Dec., 1976): 512-526.

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapters 6-9.

Discussion Leaders: Daisy Flores, Faisal Habib

March 26: Metallurgy and Chinese and European technology

Readings

Francesca Bray, "Technics and Civilization in Late Imperial China: An Essay in the Cultural History of Technology." *Osiris*, 2nd Series, Vol. 13, *Beyond Joseph Needham: Science, Technology, and Medicine in East and Southeast Asia* (1998): 20-33.

Discussion Leaders: Alex Tignor, Andrew O'Connor

WEEK 8



March 31: Western Scientific Revolution

Thomas Kuhn, Chapter 4: "Recasting the tradition: Aristotle to the Copernicans" in *The Copernican revolution*

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 9.

Noel Swerdlow, Galileo's Discoveries with the telescope and the evidence for the Copernican theory.

Discussion Leaders: Mursal Bahadory, Cody Meyers, John Rudder

April 2: Jesuits and Copernicus in China

Readings

Linda Barnes, *Needles, Herbs, Gods and Ghosts*, chapters 1-2

Nathan Sivin, "Copernicus in China or, Good Intentions Gone Astray." *Science in Ancient China. Researches and Reflections*, Chapter IV. Aldershot: Variorum, 1995 (selections).

Discussion Leaders: Mursal Bahadory, Leeza Crockett, Ohsana Kennedy, Cooper Woodyard

WEEK 9

April 7: : Kangxi, the Jesuits and Mathematics

QUIZ 2

Readings

Catherine Jami, *The Emperor's New Mathematics* (selections)

Discussion Leaders: Faisal Habib, Cooper Woodyard

Supplementary Readings

Matthias Schemmel, "The Transmission of Scientific Knowledge from Europe to China in the Early Modern Period." In *The Globalization of Knowledge in History*. Jürgen Renn, ed. et al. Edition Open Access, 2012: chapter 11.

April 9: Jesuits and the Western Encounters with Chinese Medicine

Reading

Jesuits and Western Encounters: Pharmaceuticals and the Body

Reading

Linda Barnes, *Needles, Herbs, Gods and Ghosts*, chapters 4-5

Discussion Leaders: Alex Tignor, John Happel

WEEK 10

April 14-16: Chinese and Western encounters, Post-Qing to Republican Period

Marwa Elshakry, "When Science Became Western." *Isis*. Vol. 101, No. 1 (March 2010): 98-109.

Paul Unschuld, "Epistemological Issues and Changing Legitimation: Traditional Chinese Medicine in the Twentieth Century." In *Paths to Asian Medical Knowledge*. University of California Press: 44-61.

Denise Gimpel, "Taking China to the World, Taking the World to China: Chen Hengzhe and an Early Globalizing Project." In *The Globalization of Knowledge in History*. Jürgen Renn, ed. et al. Edition Open Access, 2012: chapter 17.

Kim Taylor, "A new, scientific, and unified medicine: civil war in China and the new acumoxa, 1945-49," In *Innovation in Chinese Medicine*, Cambridge University Press, 2001: 343-369.

Patricia Ebrey, *The Cambridge Illustrated History of China*, chapter 10.

Discussion Leaders: Andrew O'Connor, Alexis Puga

WEEK 11

April 21: PRC, Science and Medical Practice

QUIZ 3

Readings

Elisabeth Hsu, "The History of Chinese Medicine in the People's Republic of China and its Globalization", *East Asian Science*.

Patricia Ebrey, *The Cambridge Illustrated History of China*. Chapter 12.

Discussion Leaders: Samantha Rhyne, Ohsana Kenned

WEEK 12

April 28: PRC, Science and Medical Practice

Reading

Heiner Fruehauf , "Science, Politics, and the Remaining of "TCM": Chinese Medicine in Crisis." *Journal of Chinese Medicine*. No. 61 (October 1999): 1-9.

Craig R. Janes, "The Transformations of Tibetan Medicine." *Medical Anthropology Quarterly, New Series*, Vol. 9, No. 1 (Mar., 1995): 6-39.

Discussion Leaders: Daisy Flores, Alex Tignor, Diana Yu

April 30: Mao, Science and Technology

Reading

Patricia Ebrey, *The Cambridge Illustrated History of China*. Chapters 11.

Judith Shapiro, "Population, Dams and Political Repression: A Story of Two Environmental Disasters and the Scientists who Tried to Avert Them." In *Mao's War Against Nature: Politics and the Environment in Revolutionary China*. Cambridge University Press, 2001: 21-65.


Discussion Leaders: Edgar Rodriguez, Leeza Crockett

Week 13

May 5: Review Period

May 7: Exam

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 Moodle Docs for this page

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