Syllabus

THE HISTORY OF SCIENCE IN THE ANCIENT NEAR EAST - 42257

Last update 04-08-2019

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: Archaeology & Ancient near East

Academic year: 0

Semester: 1st Semester

Teaching Languages: Hebrew

Campus: E. Safra

Course/Module Coordinator: Wayne Horowitz

Coordinator Email: wayne.horowitz@mail.huji.ac.il

Coordinator Office Hours: 15:30-16:30 Tuesdays

Teaching Staff:
Prof Wayne Horowitz
Course/Module description:
Science, Scientist, and Scribe in The Ancient Near East (Fall 2018)

Science, Scientist, and Scribe in The Ancient Near East explores the place of scientific disciplines such as Mathematics, Astronomy, Chemistry, Zoology, Mineralogy, and Medicine in the Ancient Near Eastern cultural setting through a close study of Sumerian and Akkadian scientific and non-scientific texts, including myths and other religious works, in translation. Following a general introduction to the history and culture of the Ancient Near East, the main portion of the course will begin with an examination of the place of scholarship in the cuneiform cultural continuum which stretched from the cuneiform homeland of Ancient Iraq to Iran in the east, Turkey in the north, and Israel and Egypt in the west. We will then continue with studies of the Natural Sciences of Zoology and Biology, Mineralogy, Chemistry, Medicine, Mathematics, and Astronomy. Topics to be explored will include the relationship between what we might call the "Humanities" and "Sciences" in Ancient Academia, the role of the Scribe/Scientist in Ancient Mesopotamian Society, and the evolution of scientific methodologies within the polytheistic culture of Ancient Mesopotamia. The course is intended for students in the fields of Arts, Humanities and the Social Sciences, as well as the Natural Sciences, and presumes no previous knowledge of Ancient or Modern Science, or Ancient Civilizations above a general high school/secondary school level. Students majoring in the sciences or medicine will be encouraged to explore the ancient sources for their own areas of interest.

Course/Module aims:
To familiarize students with the evidence for the scientific disciplines in the Ancient Near East

Learning outcomes - On successful completion of this module, students should be able to:
Students will be familize with the evidence for the scientific disciplines in the Ancient Near East, and will be able to use these materials in their own research.

Attendance requirements(%):
100

Teaching arrangement and method of instruction: Lectures and Discussion
Course/Module Content:

1 Science, Scientist, and Scribe in The Ancient Near East (Fall 2020)

Science, Scientist, and Scribe in The Ancient Near East explores the place of scientific disciplines such as Mathematics, Astronomy, Chemistry, Zoology, Mineralogy, and Medicine in the Ancient Near Eastern cultural setting through a close study of Sumerian and Akkadian scientific and non-scientific texts, including myths and other religious works, in translation. Following a general introduction to the history and culture of the Ancient Near East, the main portion of the course will begin with an examination of the place of scholarship in the cuneiform cultural continuum which stretched from the cuneiform homeland of Ancient Iraq to Iran in the east, Turkey in the north, and Israel and Egypt in the west. We will then continue with studies of the Natural Sciences of Zoology and Biology, Mineralogy, Chemistry, Medicine, Mathematics, and Astronomy. Topics to be explored will include the relationship between what we might call the "Humanities" and "Sciences" in Ancient Academia, the role of the Scribe/Scientist in Ancient Mesopotamian Society, and the evolution of scientific methodologies within the polytheistic culture of Ancient Mesopotamia. The course is intended for students in the fields of Arts, Humanities and the Social Sciences, as well as the Natural Sciences, and presumes no previous knowledge of Ancient or Modern Science, or Ancient Civilizations above a general high school/secondary school level. Students majoring in the sciences or medicine will be encouraged to explore the ancient sources for their own areas of interest.

1. First Questions: How big is the Moon? How far away is it?

2. Inanna-Iatar, Mythology, and Scientific Enquiry

3. Math I: Algebra, Table Texts and Problem Texts

4. Math II: Geometry
Friberg, A Remarkable Collection of Babylonian Mathematical Texts.

5. The Scribal Academy (Edubba)

6. Natural Sciences I: List Science and Zoology

7. Natural Sciences II: Geology and Chemistry Too


9. Research Meetings and Visit to The Bible Lands Museum (Wednesday Night)

10. Cartography

11. Astronomy 1: The Astronomer and The Heavens

12 Astronomy II: The Astrolabes and the Calendar
W. Horowitz, The Astrolabes: Astronomy, Theology, Chronology. Further Reading: F. Rochberg, The Heavenly Writing; L. Brack-Benson, The 360-Day Year in

13. Astronomy III: Mul-Apin, The 364 Day Year, and Late Astronomy

14. The Death of a Civilization

Required Reading:
Bibliography
Aaboe A., 'What every young person ought to know about naked-eye astronomy' (Privately Circulated). [FB]

Bottero J., Textes Culinaires Mesopotamiens, Mesopotamian Culinary Texts, Winona Lake, 1995. [7960 BOT]


Brown D., Mesopotamian Planetary Astronomy-Astrology; Groningen, 2000. [7100 BRO]

Burstein S., The Babyloniaca of Berossus; Malibu, 1978 [3390 Sm]


_____ A Combined Multiplication Table on a Prism Fragment from Hazor, Israel Exploration Journal 47 (1997) 190-197. [Arc. Periodicals]

_____ Mesopotamian Cosmic Geography; Winona Lake, 1998. [5700 HOR]


Hunger H, Astral Sciences in Mesopotamia; Leiden, 1999. [7100 PIN]


Koch-Westenholz U., Mesopotamian Astrology; Copenhagen, 1995. [7100 KOC]

Kramer S., The Sumerians; Chicago, 1963 [935/K 90, 4300 KRA]

Lambert, W.G., Babylonian Creation Myths, Winona Lake, 2013 [ASS 3395.ENU LAMB]

Levey S., Chemistry and Chemical Technology in Ancient Mesopotamia; Amsterdam, 1959. [7930 L]

Livingstone A., Mystical and Mythological Explanatory Words of Assyrian and Babylonian Scholars; Oxford, 1986. [5121 LIVE]

Melville D, After Neugebauer: Recent Developments in Mesopotamian


Moorey P., Ancient Mesopotamian Materials and Industries; Winona Lake, 1999. [Arc 3800 MOO-MAT]


Neugebauer O., The Exact Sciences in Antiquity; Providence, 1957 [Arc 4300 NUE]

Neugebauer O., Mathematical Cuneiform Texts; New Haven, 1945. [Arc 3840 NEU]

Nissen H., P. Damerow, and R. Englund, Archaic Bookkeeping; Chicago, 1993. [4100 NIS]


Rey H.A., The Stars, A New Way to See Them; Boston, 1952 (by the author of Curious George)

Roaf, M., Cultural Atlas of Mesopotamia and the Ancient Near East; Oxford; 1990. [935 (084)/R 628, 4200 ROA]


Rochberg F., The Heavenly Writing; Cambridge, 2004. [7100 ROC]

Rochberg F., Babylonian Horoscopes; Philadelphia, 1998. [3399 ROC]
Roux G., Ancient Iraq; Harmondsworth, 1969 [935/R 871, 4200 R]

Saggs H., 'A Babylonian Geometrical Text,' Revue d'Assyriologie 54 (1960) 131-146. [Periodicals]


Sjoberg A., [The Old Babylonian Eduba], Assyriological Studies 20 (Festschrift T. Jacobsen), 1975, 301-305. [3390 AS]


van der Waerden B., Science Awakening I; Groningen, 1961 (Mathematics). [7100 W]
_____, Science Awakening II; New York, 1974. (Astronomy) [7100 W]

Velhuis, N., History of the Cuneiform Lexical Tradition; Munster, 2014 [3390 GMTR 006]

Walker, C.; Reading the Past, Cuneiform; London; 1987. [2100 WAL]


Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 0 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 90 %
Assignments 10 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

**Additional information:**
Students may write a research paper instead of the exam.