Soochow University

HIS 225 The History of Ancient Chinese and Global Mathematics

Summer 2024

Course Credits: 4
Contact Hours: 55 hours
Instructor: TBA
Email: TBA

COURSE OBJECTIVES

This course offers a comprehensive exploration of the rich and diverse history of mathematics, with a particular focus on the contributions of ancient China and their connections to the broader global mathematical landscape. Students will embark on a fascinating journey through time, uncovering the mathematical achievements of ancient Chinese scholars and their impact on the development of mathematical thought worldwide.

Upon Completion of this Course, students will be able to:

1. Develop an understanding of the historical and cultural background of ancient China and other civilizations that contributed to the development of mathematics;

2. Acquire a heightened comprehension of China by delving into the realm of ancient Chinese mathematics;

3. Acquire holistic cultural appreciation through the study of mathematics from ancient civilizations;

4. Examine the unique mathematical contributions of ancient Chinese scholars;

5. Investigate the problem-solving methods used in ancient Chinese mathematics and how they differed or aligned with approaches in other cultures.

PREREQUISITES

N/A

GRADING

Grades will be determined by accumulating points, with 100 points being the maximum, as follows:

ITEM	POINTS
2 Quizzes	20 Points
2 Assignments	30 Points
Midterm	20 Points
Final Exam	30 Points
Total	100 Points

Late submissions will be graded at the end of the course. Grades will be assigned according to the following rule:

A ≥ 90 > B ≥ 80 > C ≥ 70 > D ≥ 60 > F.

We reserve the right to make adjustments to the overall grading policy.

COURSE MATERIALS

Required Texts:

Li Yan, Du Shiran, *Chinese Mathematics: A Concise History*, Oxford University Press, 1st Edition, 1987.

Recommended (Optional) Texts or Other Materials:

None

COURSE TOPICS

MODULE	TASKS
Module 1	**Topics:** Topic 1: The beginnings of mathematics in ancient China Topic 2: Mathematical knowledge in ancient texts before the Qin Dynasty Topic 3: Mathematical education and the appearance of Sihui, Fasuan, and Chouren officials Topic 4: The formation of mathematical systems in ancient China (Han Dynasty **Assessments:**

	Quiz#1
Module 2	**Topics:** Topic 5: The Arithmetical Classic o f the Gnomon and the Circular Paths o f Heaven Topic 6: The Gougu theorem and its use in surveying Topic 7: Calculations with fractions in the Zhbubi suanjing Topic 8: The Nine Chapters on the Mathematical Art **Assessments:** Quiz#2
Module 3	**Topics:** Topic 9: The development of mathematics in China during the Wei, Jin, and North and South Dynasties Topic 10: The Illustrated Commentary on the Right Triangle, Circle and Square Topic 11: The first entry of Western mathematics into China Topic 12: Euclid's and Xu Guangqui **Assessments:** Midterm
Module 4	**Topics:** Topic 13: Li Zhizao and the Epitome o f Practical Arithmetic Topic 14: The emendation of calendars and mathematical knowledge Topic 15: Mathematics in the various calendar books Topic 16: Mei Wending and his mathematics **Assessments:** Assignment#1
Module 5	**Topics:** Topic 17: Emperor Kang Xi and the Collected Basic Principles o f Mathematics Topic 18: The collating and commentary on the Ten Mathematical Manuals Topic 19: The thorough study of Western and Chinese mathematics Topic 20: Research on the theory of equations **Assessments:** Final Exam Assignment#2

ATTENDANCE

1) Class attendance is required. Missing classes without permission will lead to decrease in overall grade.

Missing less than two classes: no penalty.

Missing more than two classes: 7% will be taken off from the overall grade.

If the instructor reports a student's frequent missing of class to the Soochow University Academic Administration Office, the student might get a written warning and might be prohibited from attending final exam.

2) Participants in this course are expected to arrive in class promptly and adequately prepared. The primary objective of this course is to critically engage with the readings and the subject matter. Therefore, course participants are expected to have completed the reading prior to class and prepare thoughtful reflections/commentaries to share with fellow colleagues.

LEARNING REQUIREMENTS

1) Late assignments are not acceptable and are subjected to grade deductions.

2) Assignments submitted in the wrong format will be counted as not submitted.

3) Failure to submit or fulfill any required course component results in failure of the class.

4) Make-up for midterm and final exams only with valid excuses, as defined by the University.

5) In order to earn a Certificate of Completion, participants must thoughtfully complete all assignments by stated deadlines and earn an average quiz score of 50% or greater.

TECHNOLOGY POLICY

The use of electronic devices in class is distracting, both for the user and for the rest of the class. Only non-programmable calculators can be used in the tests and exam. Any attempts to use cell phones and other electronic communication devices will be seemed as cheating. Laptops are discouraged, unless you use them for activities DIRECTLY related to the course (eg., note taking, reading course documents).

ACEDEMIC INTEGRITY POLICY

Soochow University highly values the academic integrity and aims to promote the academic fairness, honesty and responsibility. Any academic dishonesty behaviors and any attempts to cheats and plagiarism will be reported to the university administration office. A written warning and the relevant penalties will be imposed.

The record might be shown on the official university transcript.

<u>DISABILITY ACCOMMODATION</u>

Soochow University is committed to maintaining a barrier-free environment so that students with disabilities can fully access programs, courses, services, and activities at Soochow University. Students with disabilities who require accommodations for access to and/or participation in this course are welcome.

Note:

Please contact the University Administrative Office immediately if you have a learning disability, a medical issue, or any other type of problem that prevents professors from seeing you have learned the course material.