

EAST 203

DIGITAL METHODS: CHINESE STUDIES

Spring 2017

Class time: Tuesday and Thursday: 1:00-2:22 PM
Location: Coleman 220

Instructor: Song Chen
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Office hours: Tuesday and Thursday 11:00 AM – noon, 2:30 -3:30 PM, and by appointment

Course site: <https://digitalmethodschina.blogs.bucknell.edu/>

Course Overview

This course introduces you to digital humanities with particular reference to the study of Chinese history in the middle period (700-1300). It introduces you to three major methodologies that are transforming the discipline of history in the digital age: prosopography, spatial analysis, and network analysis. Using these tools, this course helps you discover the macroscopic changes that took place in the middle period of China, known as the Tang-Song transition. The technical topics we cover include relational databases, data processing in Microsoft Excel, and data visualization on GIS and network analysis platforms for the analysis of geographic and biographical data; we also introduce you briefly to regular expressions and XML markups.

Course Objectives

There are **three main objectives** in this course: i) to develop a basic literacy of computational methods in historical scholarship and a critical understanding of their capabilities and limitations; ii) to develop a deep understanding of different aspects of the Tang-Song transition: the economic revolution, the transformation of the political elite, and the Neo-Confucian movement; and iii) is to cultivate your ability to think about history in spatial and relational terms, facilitated by computational processing of large quantities of spatial and biographical data.

With study in this course, at the end of the semester, you will be able to use a variety of computational methods to process large quantities of data for answering historical questions. You will also be able to reassess influential arguments of later imperial Chinese history and critically evaluate the strengths and weakness of several major methodologies in humanities and social sciences disciplines. More specifically, you will acquire basic but crucial computational skills that allow you to:

- Transform historical texts into annotated XML files and extract data from these files;
- Build relational databases for effectively organizing and querying historical data; and
- Use appropriate software to implement simple visualization and analysis of large quantities of data for answering historical questions.

You will acquire these skills in the context of thoughtful scholarly discussions over methodology and historical change. This immersive experience in data extraction, management, visualization, and analysis will allow you to:

- Think spatially, relationally, and about broad patterns of historical change
- Revisit and reassess major arguments of historical change that took place in China between 700 and 1800, in particular those related to life and behavior of the officeholding elites;
- Critically evaluate the tradition of prosopography and the opportunities it faces in this digital age;
- Critically evaluate two major modes of analysis (spatial and network) with keen awareness of the epistemological assumptions in each;
- Evaluate and make effective use of a few major digital humanities endeavors, such as the China Biographical Database.

This course is designed primarily for history students who are interested in Chinese history. However, since the main objective of the course is to help you develop a set of research skills essential in our digital age, which will be transferrable to other courses – in and outside the humanities disciplines – and even your future career, you may find it useful even if your primary interest is elsewhere but your work has a historical dimension and draws upon spatial and biographical data.

Methods of Instruction

This course centers student presentations, discussions, and lab practices. Short lectures are given only if necessary. With all readings and assignments in English, this course requires no prior knowledge of Chinese history or language. As an introduction to digital humanities, successful completion of the course does not involve programming. Nor does enrollment in the course require prior experience with any computer software.

Readings

You are not required to purchase any textbooks for this course. All readings, assignments, and datasets will be posted on the course website. “Further readings” are recommended, but *not required*.

Grading Scale

93-100 %	A	77-79.9%	C+
90-92.9%	A-	73-76.9%	C
87-89.9%	B+	70-72.9%	C-
83-86.9%	B	60-69.9%	D
80-82.9%	B-	Below 60%	F

The grading system used in this course follows the guidelines in Bucknell's Catalog of Courses: A = Superior Achievement; B = High Pass; C = Pass; D = Low Pass; F = Failing Work

Grade Breakdown

Class Participation	10%
Weekly Assignments	25%
Quizzes	15%
Project and Project Presentations	20% (2 * 10%)
Short Papers	30% (3 * 10%)

Weekly Assignments

Starting from Week 2, you will be asked to finish an assignment each week. Sometimes, the assignment is a short response paper (usually 1 to 2 pages) that report your reflections on the assigned readings. At other times, it is a problem set that draws on the digital skills you have learned in class. All weekly assignments are due at **5 p.m. Saturday**.

Weekly assignments are intended to help you wrap up what you have learned in the week and get prepared for the meetings in the following week. Therefore, they are time-sensitive. All weekly assignments must be submitted to the online drop box **before due**. No late work is accepted, and no make-up is permitted. Your work will be evaluated as follows; and they are equivalent to A, B, and C respectively.

√+ = satisfactory; √ = needs improvement; √- = needs significant improvement

Please note that I use the Moodle grading system only to communicate with you your grades on the reading memos and other writing assignments. I interpret these check signs differently and do not use Moodle's built-in conversion algorithms in calculating your final grades.

Taking Notes!!!

You can't imagine how quickly you may forget some procedures which you thought was so simple and so intuitive. Sometimes, say, you just forget where in the drop-down menu a particular button is located. There are only three ways to beat forgetting: notes-taking, practice, and repetition – or “**NPR**.” The value of taking notes in class discussion is not to be discounted, but it is REALLY important that you keep a journal for your lab work, jogging down the major steps you've taken to finish each exercise and the traps you'd like to warn yourself of in the future. You may be asked to submit a copy of your notes now and then during the

semester and it will be factored into your class participation grade.

Projects and Short Papers

Fifty per cent of your grade depends on successful completion of a series of projects and write thoughtful short papers interpreting your projects in the broader historical and historiographical contexts. This requires that you have mastered both the digital skills and have reflected on the assigned course readings.

Romanization and Pronunciation of Chinese Words

The current international standard for Romanizing Chinese characters is the *pinyin* system. All course materials (textbooks, handouts, and assigned readings) use the *pinyin* system of Romanization, unless otherwise noted.

Pronunciation of many Chinese words transcribed in the *pinyin* system is quite intuitive (well, let's forget the annoying tones in the course!). But every once in a while you may bump into some difficult ones. That's the time when you need to check out the following website for audio files on all *pinyin* combinations:

<https://chinese.yabla.com/chinese-pinyin-chart.php>

Schedule of Classes

The following is the schedule and organization of the course, which may be updated during the semester if necessary. When changes are made, you will be notified by email and an announcement will be posted on the course website.

Note: All readings, assignments, and datasets are provided on the course website, unless otherwise specified. All readings and homework listed must be completed before class for the date assigned.

Week 1 (Jan 17, 19):

Tuesday Texts, Data, Images

- Wikipedia, [China Vitae](#), [Connected China](#)

Thursday Two Digital Approaches to Historical and Literary Texts

Learning Objectives:

- Understand the two different approaches to analyzing historical and literary texts with the aid of digital tools

Homework:

- Read Song Chen, "[Why Humanists Should Fall in Love with "Big Data," and How?"](#)
- Watch Paul Vierthaler, "[Digital Approaches to Late Imperial Chinese Literature: Exploring Quasi-historical Texts](#)"
- Watch Donald Sturgeon, "[Exploring Text Reuse in Pre-Qin and Han Corpus](#)"

Module 1: Spatial Thinking and the Medieval Economic Revolution

Week 2 (Jan 24, 26):

Tuesday Introduction to the Geographical Information System (GIS)

Learning Objectives:

- Understand basic concepts in GIS, such as raster and vector data, layers, points and polygons, and coordinate systems
- Explore GIS-based online projects and understand how GIS helps reveal spatial patterns

Homework:

- Read *GIS Commons*, [Chapter 1 "Introduction"](#)
- Explore:
 - [ChinaMap @ Harvard](#)
 - [Digital Atlas of Roman and Medieval Civilizations \(DARMC\)](#)

Thursday Creating Thematic Maps in ArcGIS: I

Learning Objectives:

- Map point features in ArcGIS
- Use appropriate symbology for analysis and report

Homework:

- Prepare social and economic data for GIS lab
- Read *Cambridge Illustrated History of China*, Chapters 5-6

Week 3 (Jan 31, Feb 2):

Tuesday Creating Thematic Maps in Desktop ArcGIS: II

Learning Objectives:

- Use joins, calculations, and other features in ArcGIS
- Understand the issue of "rhetorical honesty"
- Preparing maps for publication

Readings:

- Mark Monmonier, "[Lying with Maps](#)," *Statistical Science* 20.3(2005): 215-22.
- John Theibault, "[Visualizations and Historical Arguments](#)," in *Writing History in the Digital Age* (final 2013 version)

Thursday The Medieval Economic Revolution in China

Learning Objectives:

- Interpret spatial patterns in ArcGIS
- Explain China's medieval economic revolution

Readings:

- Richard von Glahn, "Economic Transformation in the Tang-Song Transition"

Further Readings:

- Mark Elvin, *The Pattern of the Chinese Past*, pp.113-202

Week 4 (Feb 7, 9):

Tuesday Project 1 Tutorial

Learning Objectives:

- Troubleshooting and develop GIS-facilitated scholarly arguments

Thursday Think Spatially: Why Does Space Matter?

Learning Objectives:

- Why does space matter in the study of Chinese history? What does it mean to think spatially?

Readings:

- G. William Skinner, "[The Structure of Chinese History](#)." *Journal of Asian Studies* 44.2 (1985): 271-92.
- Peter K. Bol, "[What is a Geographic Perspective on China's History?](#)" In *Chinese History in Geographical Perspective* (Lanham: Lexington Books, 2013), pp. 197-204.

[Quiz 1: vLookup & ArcGIS Basics](#)

Module 2: Spatial Thinking and the Chinese Political Elite

Week 5 (Feb 14, 16):

Tuesday Education, Examination, and the Ruling Elite

Learning Objectives:

- Explain the social and political consequences of the Tang-Song transition

Readings:

- Dieter Kuhn, "Education and Examination"
- John Chaffee, "The Geography of Success"

Thursday The Changing Geography of Power

Learning Objectives:

- Explain the social and political consequences of the Tang-Song transition
- Use modularized queries in CBDB, project them in ArcGIS, and interpret the maps

Readings:

- Nicholas Tackett, "The Geography of Power"
- Song Chen, "Governing a Multicentered Empire"

Week 6 (Feb 21, 23):

Tuesday Exploring Change: Time-Enabled GIS

Learning Objectives:

- Create time-enabled animations to explore historical change

Thursday Project 1 Tutorial

Week 7 (Feb 28, Mar 2):

Tuesday Biography and Prosopography

Learning Objectives:

- Understand the traditions of Chinese biographical writing
- Understand "prosopography" as an approach of historical research

Readings:

- Denis C. Twitchett, "Chinese Biographical Writing." *Historians of China and Japan*. Eds. W. G. Beasley and Edwin G. Pulleyblank. London: Oxford University Press, 1961. 95-114.
- "Biography of Lü Zuqian" in the dynastic history
- Lawrence Stone, "[Prosopography](#)." In *Historical Studies Today*, edited by Felix Gilbert, E. J. Hobsbawm and Stephen Richards Graubard. New York: W. W. Norton, 1972.
- Peter K. Bol, "[Lü Zuqian \(1137-1181\) in Context: Bring Data into Intellectual History Using the China Biographical Database](#)," paper for the Middle Period History Conference, 2014

Further Readings:

- K. S. B. Keats-Rohan, ed. *Prosopography Approaches and Applications: A Handbook* (Oxford: Unit for Prosopographical Research University of Oxford, 2007): "Abstracts of Papers" (pp.xi-xix) and "Introduction" (pp.1-32).

Thursday XML, RegEx and Data Mining

Learning Objectives:

- Understand the basics of XML, RegEx, and data mining

Readings:

- David J. Birnbaum, "[What is XML and why should humanists care?](#)"
- Peter K. Bol, et al, "[Mining and Discovering Biographical Information in Difangzhi with a Language-Model-based Approach](#)"

Week 8 (Mar 7, 9):

Tuesday From Spreadsheets to Relational Databases

Learning Objectives:

- Understand the concept, strengths, and structure of relational databases

Homework:

- Read:
 - "[Introduction to Entity-Relationship Modelling](#)"
 - Susan Schreibman, Ray Siemens, and John Unsworth ed., *A Companion to Digital Humanities* (Oxford: Blackwell, 2004), Ch.15: "[Databases](#)" (only the sections before "Schema Design" are required).
 - Michael A. Fuller, [The China Biographical Database \(CBDB\) User's Guide](#), Introduction and Chs.1-2.
- Explore:
 - [明清人名權威檔案 / Ming-Qing Persons Authority Database](#)
 - [佛學規範資料庫/ Buddhist Studies Authority Database Project](#)
 - [China Vitae](#)
 - [The Prosopography of Anglo-Saxon England \(PASE\)](#)
 - [Prosopography of the Byzantine World](#)
 - [Ming Qing Women's Writings / 明清婦女著作資料庫](#)

Thursday Project 1 Presentations

[Project # 1 and Short Paper #1 due at 5 p.m., Sunday, March 12.](#)

Week 9 (Mar 14, 16): Spring Break — No Class

Module 3: Space and Structure of Elite Networks

Week 10 (Mar 21, 23):

Tuesday The "Localist Turn"

Learning Objectives:

- Understand the "localist turn," its nature and historical significance

Readings:

- Robert M. Hartwell, "Demographic, Political, and Social Transformation of China, 750-1550." *Harvard Journal of Asiatic Studies* 42.2 (1982): 365-442.
- Beverly J. Bossler, *Powerful Relations: Kinship, Status, & the State in Sung China (960-1279)* (Cambridge, MA: Harvard University Press, 1999), pp.78-94 and 156-175.

Further Readings:

- Robert P. Hymes, *Statesmen and Gentlemen: the Elite of Fu-chou, Chiang-hsi, in Northern and Southern Sung*, pp.82-123.
- Song Chen, "Local Society and the Region under a Decentralized Rule: The Case of Sichuan in Song Dynasty"
- Robert P. Hymes, "Elites, Locality, and the State" (*Cambridge History of China*, Vol. 5, Part 2, pp.621-61)

Thursday Mapping Migration and Marriage

Learning Objectives:

- Map line features in ArcGIS/Palladio

Further Readings:

- Margaret Wickens Pearce, "[Framing the Days: Place and Narrative in Cartography](#)"

Tutorials:

- Miriam Posner, "[Getting started with Palladio](#)"

Week 11 (Mar 28, 30):

Tuesday Think Relationally: Introduction to Network Visualization

Learning Objectives:

- Understand basic concepts in network analysis, such as nodes, and edges / ties
- Use Gephi to create a simple network graph
- Understand the basics of data formats for Gephi
- Understand the strengths and limits of network graphs for addressing research questions

Readings:

- Kieran Healy, "[Using Metadata to Find Paul Revere](#)"
- Scott B. Weingart, "[Demystifying Networks](#)," Parts I and II

Thursday Introduction to Gephi

Learning Objectives:

- Prepare network data in proper formats for visualization and analysis
- Understand the basics of Gephi

Week 12 (Apr 4, 6):

Tuesday Detecting Communities in Networks

Learning Objectives:

- Use Gephi to detect communities in a network
- Interpret the nature of social clustering

Readings:

- Yves Gingras, "[Mapping the Structure of the Intellectual Field Using Citation and Co-Citation Analysis of Correspondences](#)"
- Song Chen, "Governing a Multicentered Empire"
- Robert A. Hanneman and Mark Riddle. "[Introduction to social network methods](#)". 2005. Published in digital form at <http://faculty.ucr.edu/~hanneman/nettext> , Chapter 11.

Quiz 2: Gephi Basics

Thursday Ideology, Society, and Politics

Learning Objectives:

- Understand the intellectual and social character of the Neo-Confucian movement
- Interpret the relationship between ideology and Song politics

Readings:

- Peter K. Bol, "Government, Society, and State: On the Political Visions of Ssu-ma Kuang (1019-1086) and Wang An-shih (1021-1086)," in *Ordering the World*, pp.128-92.
- Peter K. Bol, "Neo-Confucianism and Local Society, Twelfth to Sixteenth Century: A Case Study," in *The Song-Yuan-Ming Transition in Chinese History*, pp. 241-83.
- Peter K. Bol, "[GIS, prosopography and history](#)," *Annals of GIS*. 2012.18(1):3-15.

Week 13 (Apr 11, 13):

Tuesday The Small-World Problem and the Bridges and Hubs

Learning Objectives:

- Understand the small world phenomenon
- Understand bridges and hubs in networks
- Detect bridges and hubs in Gephi

Readings:

- *Six Degrees*, pp. 37-47, 92-100
- *Linked*, pp.41-64
- Sindbæk, Søren Michael, "[The Small World of the Vikings: Networks in Early Medieval Communication and Exchange](#)," *Norwegian Archaeological Review*, 40:1 (2007): 59-74
- Robert A. Hanneman and Mark Riddle. "[Introduction to social network methods](#)". 2005. Published in digital form at <http://faculty.ucr.edu/~hanneman/nettext> , Chapter 10.

Further Readings:

- John F. Padgett and Christopher K. Ansell. "Robust Action and the Rise of the Medici, 1400-1434." *American Journal of Sociology* 98 (1993): 1259-1319.
- Mark S. Granovetter, "[The Strength of Weak Ties](#)"
- Roger V. Gould, "Uses of Network Tools in Comparative Historical Research." *Comparative Historical Analysis in the Social Sciences*, pp.241-269.
- Wetherhall, Charles. "Historical Social Network Analysis." In *New methods for social history* (New York: Cambridge University Press, 1998), pp. 125-44.

Thursday Project 2 Tutorial

Learning Objectives:

- Use the network approach to explore Song politics and the Neo-Confucian movement

Readings:

- Mark Strange, "[Factionalism and the formation of eleventh-century military policy: a study of Sima Guang's political network](#)"
- Han Zhang, "[State, Literati and Neo-Confucians: an Analysis of Literati Social Network, 1160-1241](#)"

Project #2 and Short Paper #2 due at 5 p.m., Sunday, April 16.

Week 14 (Apr 18, 20):

Tuesday Reflections on the Tang-Song Transition

Learning Objectives:

- What was the Tang-Song Transition, and what was its historical significance?

Readings:

- Peter K. Bol, "The New World of the Eleventh Century: 750 and 1050 Compared"
- Hisayuki Miyakawa, "An Outline of the Naito Hypothesis and Its Effects on Japanese Studies of China," *The Far Eastern Quarterly*, 14.4 (1955), pp.533-52.
- Song Chen, "The State, the Gentry, and Local Institutions: The Song Dynasty and Long-Term Trends from Tang to Qing," *Journal of Chinese History* 1 (2017): pp.141-82.

Thursday Reflections on the Data-Driven Approach

Learning Objectives:

- What are the promises and limits of data-driven research?

Readings:

- Lev Manovich, [Database as a Genre of New Media](#)

- Frederick W. Gibbs and Trevor J. Owens, "[The Hermeneutics of Data and Historical Writing](#)," in *Writing History in the Digital Age* (final 2013 version).
- Stephen Marche, "[Literature is not Data: Against Digital Humanities](#)"
- Scott Selisker and Holger Syme, "[In Defense of Data: Responses to Stephen Marche's 'Literature is not Data'](#)"

Week 15 (Apr 25, 27):

Tuesday Project 2 Tutorial

Thursday Project 2 Presentations

Final Paper due on Final Exam day.

Department and University-Wide Educational Goals

This course meets one of the learning goals for Majors in East Asian Studies. As such, after completing this course, you will be able to:

- Demonstrate a working knowledge of the history of China and its basic chronology.

This course also fulfills the requirement of the **Digital Humanities Minor**.

This course fulfills several of the University-wide educational goals. You will develop basic information literacy and technological competency in digital humanities and Chinese history (EG 8) and be able to integrate and synthesize a wide range of methodological approaches across the disciplines of history, East Asian studies, sociology, GIS, and computer science (EG2). These competencies will enable you to evaluate historical and methodological arguments in a critical way (EG 6). The continuing relevance of these skills in this digital age will, I hope, arouse in you the desire and give you the intellectual skills for life-long pursuit in the intersection between computer sciences and humanities (EG 9).

Contractual Fine Print

Attendance and Participation

A deeper understanding of assigned readings and the development of your academic skills depend heavily on class participation. Class attendance is mandatory. If you have **three** unexcused absences in this class, you will receive an “F” for participation. This means that the best you can hope to do in this course – given full marks on all other assignments – would be an 85 (B). Excused absences require a written note from Dean’s Office. Presenting to the Student Health Service alone does not guarantee an excuse from class or from an exam. If the doctor at Student Health Services determines that you need to be out of class for two days or more, s/he will notify the Dean’s Office. If you are on an athletic team, please show me in writing the classes you will have to miss for athletic events.

Participation happens in a number of ways in and outside classroom. Some of the ways that you may expect to participate include:

- ♦ Contributing to class discussion
- ♦ Active listening / reading (i.e. contributing questions in class, and taking notes on the technical know-hows)
- ♦ Contributing to class discussion;
- ♦ Taking notes when necessary;
- ♦ Reading aloud and interpreting a text in class;
- ♦ Giving well-prepared, thoughtful presentations in class;
- ♦ Writing thoughtful response papers; and
- ♦ Finishing your weekly assignments.

You are expected to engage in these activities with energy and enthusiasm. A student who receives an A in this category will participate in most or all of these capacities consistently, enthusiastically, and thoughtfully. A student who does well to fair in this category (a B or C) will participate in some of these capacities but either inconsistently (B) or reluctantly (C). A student who performs poorly in this category (D or F) will rarely participate in any capacity (D) or will miss an inappropriate amount of class (F).

Late Work Policy

To ensure fairness for your peers, in general, late work will not be accepted. This said, I encourage you to speak with me in advance of the due date if you feel there is a circumstance which will make it impossible for you to submit the final paper on time. In cases when late work is accepted, a grade deduction of 1/3 of a letter (B+ to B, for example) will be applied for each 24 hours the assignment is overdue.

Academic Integrity and Misconduct

Plagiarism is a grave academic violation and carries severe consequences. It is your responsibility to ask questions and seek answers if you are uncertain about plagiarism or any other type of academic

misconduct. Plagiarism is frequently the result of last-minute desperation. To avoid plagiarism, you are advised to start early on any assignment and work according to a schedule. See <http://www.bucknell.edu/x1326.xml> for more details.

Bucknell University is an academic community that assumes personal and professional integrity on the part of all its members. The university's policies and procedures regarding academic responsibility were designed in accordance with our commitment to the five fundamental values that define academic integrity according to Duke University's Center for Academic Integrity: honesty, trust, fairness, respect, and responsibility.

These values are inscribed in the Bucknell University Honor Code, which was adopted in spring of 2005. Supporting these values in word and deed is the responsibility of each member of the community and alleged acts of academic misconduct should be taken seriously and dealt with according to the university's policy.

Bucknell University Honor Code

As a student and citizen of the Bucknell University community:

1. I will not lie, cheat, or steal in my academic endeavors.
2. I will forthrightly oppose each and every instance of academic dishonesty.
3. I will let my conscience guide my decision to communicate directly with any person or persons I believe to have been dishonest in academic work.
4. I will let my conscience guide my decision on reporting breaches of academic integrity to the appropriate faculty or deans.

Other considerations

If you have a learning disability or personal circumstance that should be brought to my attention, please do so at the beginning of the semester. I am happy to provide reasonable accommodations when appropriate.

Resources

Any student who may need an accommodation based on the impact of a disability should contact Heather Fowler, Director of the Office of Accessibility Resources at 570-577-1188 or hf007@bucknell.edu who will help coordinate reasonable accommodations for those students with documented disabilities.

Bertrand Library and the Writing Center are tremendously helpful resources, which you should consider using. Visit their web pages at <http://researchbysubject.bucknell.edu> and <http://www.bucknell.edu/x3825.xml> for more details.