



Global China Program Understanding China With Data

(数据中国社会)

Instructor: Dr. LI, Limei (李丽梅)

Email: lmli@soci.ecnu.edu.cn

Language of Instruction: English

Contact Hours: 56 course hours. One course hour is 45 minutes.

Recommended Credit: 3

Semester: Spring, 2024

1. Course description

China is undergoing unprecedented reform and transformations, which have huge impacts over the lives of Chinese people and people elsewhere. A solid understanding of China – the world’s largest and most rapidly transforming society—requires critical thinking, solid data analyses and quantitative reasoning. This course aims to help students to establish a data-based view of the changing China.

The course will focus on understanding major changes that occurred after 1949 and during the reform era, and are underway using open data. This course is divided into three parts: Methodology, Application and Practice. First, this course will explain how to acquire and critically use open data to analyze China in transitions. Second, this course will introduce some of the commonly used open data sources and important public datasets, and demonstrate the methods to analyze the different aspects that China is making the transitions, such as the economic transition, the demographic transition, the gender issue, the migration transition and the children of migrants, income and wealth inequality, marriage and family transition, education transition and urban housing transition. In the context of these topics, the course provides an introduction to the basic skills of searching for different types of data and the data analysis techniques. Third, this course will guide students to practice the skills of data searching and analysis by developing a data analysis project on a specific social phenomenon or social issue in China. Students are required to present the main findings from their data analysis project in class and write a report to tell a Chinese story with data.

This course does not require any prior background in statistics or data science. The only thing required is a passionate curiosity for learning. Students will be engaged in active learning activities, such as class presentation and discussion, watching documentaries, synthesizing reading materials, acquiring and analyzing data, telling story with data, and writing a research report. You will learn how to use data to tell a story about the transforming China.



2. Course objectives

- To develop the numeracy skills of understanding China;
- Be familiar with common open data sources and important datasets, both in China and international outlets;
- To improve data searching skills;
- To understand China's statistical indicators;
- To develop the ability to critically assess the data quality;
- To develop critical data analysis skills;
- To develop the ability to tell Chinese story with data

3. Required books

- 1) Weiping Wu and Mark W. Frazier. 2018. The SAGE Handbook of Contemporary China. Volume 2. SAGE Publications Ltd.
- 2) Jacka, T., Kipnis, A.B. and Sargeson, S. 2013. Contemporary China: Society and Social change, Cambridge University Press.
- 3) Barry Naughton, 2018. The Chinese Economy: Adaptation and Growth, The MIT Press.
- 4) Ethan Bueno de Mesquita and Anthony Fowler. 2021. Thinking Clearly with Data: A Guide to Quantitative Reasoning and Analysis. Princeton University Press.

4. Recommended books

- 1) Hans Rosling, Anna Rosling Rönnlund, and Ola Rosling, 2018. Factfulness: Ten Reasons We're Wrong About the World--and Why Things Are Better Than You Think, Flatiron Books.
- 2) Cole Nussbaumer Knaflic, 2015. Storytelling With Data: A Data Visualization Guide for Business Professionals, Wiley.
- 3) Orlik Thomas, 2011. Understanding China's Economic Indicators: Translating the Data into Investment Opportunities 1st Edition, FT Press.

5. Assessment and grading

Attendance and Class presentation:	30%
Data analysis and presentation:	20%
Final data analysis report:	50%

Throughout the semester, you are required to finish each reading assignment on schedule, attend class on time, present data analysis essay or report, collect data on China and conduct data analysis, and write a research report about your data analysis project to tell a Chinese story with data.



Attendance and class presentation: This course requires students to read the assigned chapter or article before class, tell a data analysis story, assess the data quality and reflect what you have learned from the data analysis by researchers. In order to facilitate active learning, each student will be required to give two class presentations, one is about a data analysis essay from the website required by the course (<http://ourworldindata.org>), the other is about a data analysis report in Chinese. You can explore the website of National Bureau of Statistics of China, or the websites of Statistics Bureau at provincial or municipal level and find a piece of data report that interests you the most and present it in class. The first round of class presentation is scheduled between week 2 and week 5. The second round of class presentation is scheduled between week 6 and week 10. Each student should prepare an 8-minute PPT file containing the major tables or figures from the essay he/she has read and the URL of that piece. Your presentation should include 1) data source and data quality assessment; 2) what question(s) the data analysis essay addresses; 3) its major findings and arguments; 4) its strength and weakness; and 5) what you have learned from the data analysis essay. **Students need to turn in the presentation file and the original data (in excel format) one day before the presentation.** Through the first exercise, students can learn from the best about how to ask a good research question, how to answer that question with relevant data, how to search and collect data, how to analyze and visualize data, and how to report the main findings, which can guide your own data analysis project. Through the second exercise, students can become familiar with some of the statistical or survey data of China. The ultimate goal is that students can conduct an independent data analysis about China and write a report about it.

Data analysis and presentation: choose a social phenomenon or issue in Chinese society that interests you the most, search for and collect the relevant data (such as statistical data, or survey data), discuss the data source and evaluate the data quality, analyze and visualize the data (Excel is sufficient for making a table or figure), and summarize the main findings of the data analysis, which will become the backbone of your final data analysis project. If you don't have any clue, Chinese Census or China Statistical Yearbook is a good starting point (<http://www.stats.gov.cn/tjsj/ndsj/2022/indexch.htm>, <http://www.stats.gov.cn/tjsj/pcsj/rkpc/7rp/indexch.htm>). Go to explore it, which might give you some ideas on what data you can analyze. This exercise will help you to prepare for the final data analysis report. You need to prepare an 8-minute presentation file containing the table or figure you make and report it in class. Students need to turn in the presentation file and the an excel file containing the original data one day before the presentation (by 8pm every Tuesday). **Class presentation will be scheduled between week 11 and week 13.**

Writing a report about your data analysis project: you need to develop a full report based on the data analysis assignment. Your report must use data to analyze a social, economic, cultural, political, health or environmental issue in China. Your report



should include at least one table or figure you make. **You need to do a class presentation about your data analysis project to tell a Chinese story with data.** Please send your presentation file by 8pm on Jun 20. The structure of the report includes an introduction, literature review (optional), data and methods, main findings and conclusions, and the word count should not exceed 2,500, with references and data sources at the end of the paper. **The due date to submit your final report and the excel file containing the original data is on the final day of class.**

Please note:

- Cell phone and other electronic devices should be set silent during class time.
- Schedules, topics, readings and documentaries may be revised at times, in which case announcements will be made in class as appropriate. You are expected to check email or WeChat group frequently so as to keep posted about course announcement and access the course materials.
- Written assignments must be turned in on the dates specified. Late work will be penalized with a 0.5 point deduction for each day of delay.
- Cheating, plagiarism and other forms of academic dishonesty are serious offenses and will not be tolerated. To be noted, you can use machine translation such as DeepL and Google Translate to help with your English translation and online writing tools to improve your writing, but you must revise and edit the draft generated by AI and you should acknowledge which machine translation or online writing tools you are using. If you just copy and paste the text generated by AI, it is considered as a violation of academic honesty policies. You are also allowed to use ChatGPT or ChatExcel in your assignments but you need to acknowledge you are using it. Please include a paragraph at the end of your assignment that uses AI explaining what you use the AI for and what prompts you used to get the results. Failure to do so is in violation of academic honesty policies.

6. Class schedule

Week	Topics & Readings
1	Lecture 1 Introduction to Understanding China with Data
Part I : Methods	
2	<p>Lecture 2 Where to find data and how to conduct data analysis to understand China I</p> <p>Reading: Xingjian Liu, et. Al., 2015. Understanding urban China with open data, Cities, 47: 53-61.</p> <p>Class presentation: Our world in data</p> <p>Documentary: The joy of stats</p>
3	Lecture 3 Where to find data and how to conduct data analysis to understand



	China II Reading: Kipnis and Sargeson, Contemporary China, introduction Class presentation: Our world in data
Part II : Applications	
4	Lecture 4 Understanding Chinese economy transition with data Reading: Naughton, The Chinese economy, chapter 1 Class presentation: Our world in data
5	Lecture 5 Understanding Chinese demographic transition with data Reading: Wang Feng, 2011. The Future of a Demographic Overachiever: Long-Term Implications of the Demographic Transition in China, Population and Development review 37 Naughton, The Chinese economy, chapter 8 Class presentation: Our world in data
6	Lecture 6 Understanding the gender issues in China with data Reading: Kipnis and Sargeson, Contemporary China, chapter 12 Jiang, et al., 2012. Estimates of Missing Women in Twentieth Century China, Contin Chang. 27(3) Class presentation: China in data
7	Lecture 7 Understanding Chinese urban transition with data I Reading: Wu and Frazier. 2018. The SAGE Handbook of Contemporary China, Volume 2, Chapter 39 Class presentation: China in data Documentary: Connected: the hidden science of everything, ep4: digits
8	Lecture 8 Understanding Chinese urban transition with data II Reading: Wu and Frazier. 2018. The SAGE Handbook of Contemporary China, Volume 2, Chapter 41 Class presentation: China in data
9	Lecture 9 Understanding Chinese migration transition with data Reading: Wu and Frazier. 2018. The SAGE Handbook of Contemporary China, Volume 2, Chapter 40 Class presentation: China in data
10	Lecture 10 Understanding the children of migrants in China with data Reading: Chan, K.W. and Y. Ren. 2018. Children of Migrants in China in the Twenty-First Century: Trends, Living Arrangements, Age-Gender Structure, and Geography. Eurasian Geography and Economics 59(2): 133–63.



	Class presentation: China in data
11	<p>Lecture 11 Understanding Chinese income and wealth inequality with data</p> <p>Reading: Xie,Y. and Zhou, X. 2014. Income inequality in today's China, PNAS,111 (19) 6928-6933</p> <p>Class presentation: data analysis</p>
12	<p>Lecture 12 Understanding marriage and family transition in China with data</p> <p>Reading: Yu, J. and Xie, Y. 2021. Recent trends in the Chinese family: National estimates from 1990 to 2010, <i>Demographic Research</i>, 44(25):595-608.</p> <p>Class presentation: data analysis</p>
13	<p>Lecture 13 Understanding Chinese education transition with data</p> <p>Reading: Kipnis and Sargeson, Contemporary China, chapter 8</p> <p>Class presentation: data analysis</p>
14	<p>Lecture 14 Understanding Chinese housing transition with data</p> <p>Reading: Yourong Wang, Jianyu Ren, Chengdong Yi, Youqin Huang & Xiulian Ma. 2021. The temporal change of housing inequality in urban China, <i>Housing Studies</i>, 36:4, 544-566</p> <p>Class presentation: data analysis</p>
Part III: Practices	
15	Student data analysis report: using data to tell Chinese story with data

7. Useful data sources

Open data sources:

<http://ourworldindata.org/#>

<https://www.gapminder.org/>

<http://data.worldbank.org/>

<https://www.cia.gov/library/publications/the-world-factbook/>

<http://urbandemographics.blogspot.com>

<https://urbanage.lsecities.net/#themes>

<https://www.urbanobservatory.org/>

<http://eassda.skku.edu>

Data on China

<https://data.worldbank.org/country/china>

<https://www.china-data-online.com/>

<https://chinadatatcenter.net/>

<https://projects.iq.harvard.edu/chinadatalab/enter-lab>

<https://chinadatalab.ucsd.edu/resources/>

<https://www.aiddata.org/china>

<https://sedac.ciesin.columbia.edu/data/collection/cddc>



<https://china.lbl.gov/china-energy-databook>

<https://www.beijingcitylab.com/>

<http://wiki.citydatum.com/>

Data sources in China

National Statistical Bureau of China (中国国家统计局国家数据)

<http://data.stats.gov.cn/>

<http://www.stats.gov.cn/enGLISH/>

Provincial or municipal statistical bureaus, such as Shanghai Statistical Bureau (各省市统计局, 例如上海统计局)

<http://www.stats-sh.gov.cn/>

Chinese National Survey Data Archive (中国国家调查数据库)

<http://cnsda.ruc.edu.cn/index.php>

China Migrants Dynamic Survey (国家卫生计生委流动人口数据库)

<http://www.chinaldrk.org.cn>

Statistical data on education by Ministry of Education (教育部教育统计数据)

http://www.moe.gov.cn/s78/A03/moe_560/jytjsj_2019/

The people's Bank of China 中国人民银行

<http://www.pbc.gov.cn/>

China internet network information center 中国互联网中心

<https://www.cnnic.com.cn/index.htm>

www.cnnic.net.cn

China Academy of Information and Communications Technology(CAICT)(中国信通院)

www.caict.ac.cn

China securities regulatory commission (中国证监会)

www.csrc.gov.cn

Ministry of Commerce of China(商务部对外投资统计公报)

<http://fec.mofcom.gov.cn/article/tjsj/tjgb/>

Recommended public accounts on WeChat

CityReads (城读)

Sociologynju (定量群学)



Nsrc_ruc(中国人民大学中国调查与数据中心)

Gh_02de4a00018 (清华大学中国经济社会数据研究中心)

Cjbdj2017(中国司法大数据研究院)

CTA-NTDC (中国旅游大数据)

China-cavbd (中国视听大数据)

Beijingcitylab (北京城市实验室)

Metrodatateam (城市数据团)

Opendatachina (开放数据中国)

Phdthink (量化研究方法)

CSUS-Bigdata (城科会大数据专委会公众号)

I199it (199IT 互联网数据中心)

Datakong (大数据分析和人工智能)

8. Recommended websites on China Studies

<http://ww2.usc.cuhk.edu.hk/Chs/Default.aspx>

<https://www.thechinastory.org/>

<https://www.chinafile.com/>

<https://law.yale.edu/china-center>

<https://maoeraobjects.ac.uk/>

<https://www.chinalawtranslate.com/en/>

<http://chinaheritage.net/>

<https://supchina.com/>

<https://www.chinafile.com/>

<https://chinadialogue.net/en/>

<https://madeinchinajournal.com/>

<https://www.chinadebate.com/>

<https://www.ccpwatch.org/cacr-blog>

<https://npcobserver.com/>

<https://everydaylifeinmaoistchina.org/>

<https://thechinaproject.com/>

<https://digichina.substack.com/>

<https://www.pekingnology.com/>



<https://www.theworldofchinese.com/>

9. Recommended data visualization sites

Eager Eyes (eagereyes.org, Robert Kosara): Thoughtful content on data visualization and visual storytelling.

FiveThirtyEight's Data Lab (fivethirtyeight.com/datalab, various authors): minimalist graphing style on a large range of news and current events topics.

Flowing Data (flowingdata.com, Nathan Yau): a lot of great free examples of data visualization

The Functional Art (thefunctionalart.com, Alberto Cairo): An introduction to information graphics and visualization, with great concise posts highlighting advice and examples.

The Guardian Data Blog (theguardian.com/data, various authors): News-related data, often with accompanying article and visualizations, by the British news outlet.

HelpMeViz (HelpMeViz.com, Jon Schwabish): "Helping people with everyday visualizations," this site allows you to submit a visual to receive feedback from readers or scan the archives for examples and corresponding conversations.

Junk Charts (junkcharts.typepad.com, Kaiser Fung): By self-proclaimed "web's first data viz critic," focuses on what makes graphics work and how to make them better.

Make a Powerful Point (makeapowerfulpoint.com, Gavin McMahon): Fun, easy-to-digest content on creating and giving presentations and presenting data.

Perceptual Edge (perceptualedge.com, Stephen Few): No-nonsense content on data visualization for sensemaking and communication.

Visualising Data (visualisingdata.com, Andy Kirk): Charts the development of the data visualization field, with great monthly "best visualisations of the web" resource list.

VizWiz (vizwiz.blogspot.com, Andy Kriebel): Data visualization best practices, methods for improving existing work, and tips and tricks for using Tableau Software.

storytelling with data (storytellingwithdata.com): focuses on communicating effectively with data and contains many examples, visual makeovers, and ongoing dialogue.

10. Course instructor

Dr. Li Limei is an associate professor in the Department of Sociology, East China Normal University, Shanghai. She is a finalist of the 2020-2021 Fulbright Scholar Program. She teaches courses on Urban sociology, Globalization and urbanization, Understanding China with data and Shanghai: from market town to treaty port to global city, 1074-2040. Her research interests include urban housing, migrants and citizenship in Chinese cities. She has created a public account on Wechat, "CityReads", posting notes on city reads in both Chinese and English weekly.