Research Tools and Technologies for the Social Sciences
- R2T2s -

Course: 230.265.01
Instructor: Sahan Savas Karatasli (skaratasli@jhu.edu)
Teaching Assistant: Valentina Dallona (vdallon1@jhu.edu)
Time: T-TH 1:30 to 2:45 pm
Where: Krieger 108
Limit   15
Area   S (social science) and Q (quantitative)
Prerequisites: None
Office Hours: Sahan Savas Karatasli /T 10:00 am-12.00 noon/ Mergenthaler 258
                       Valentina Dallona /W 2-3pm/ Mergenthaler 258

Description:

This course will introduce students to digital technologies that are critical for conducting social scientific research – especially for studying global economy, changes in inequality trends, effects of globalization and financialization - in the 21st century. Course assignments and theoretical readings will be on critical issues surrounding contemporary processes of globalization and international development, including shifts in the global distribution of economic wealth and political power; consequences of globalization and financialization; changing trajectories of global inequality and uneven (spatial and temporal) distribution of economic growth, poverty and unemployment etc. While discussing theoretical issues around capitalism, crisis, globalization and inequality trends, students will be immersed in rigorous, research oriented use of computer programs for statistical analysis, database management, the creation of maps and timelines, and the presentation of research reports. The course also introduces main concepts for statistics and income inequality measures.

Grading:

Homework 25%
Project 70%
- EXCEL Analysis Part of the Final Project 20%
- STATA Analysis Part of the Final Project 15%
- PowerPoint Presentation of the Final Project, 15%
- Final Written Report of the Final Project (including EXCEL, STATA, ARCGIS and academic formatting / references)20%
Attendance 5%

Attendance:

You are expected to attend every class. It is 5% of your grade. Moreover, after four absences, for each time you miss a class—for whatever reason—your final grade will be reduced by 0.2 (on a scale of 4). For example, if you miss more than four classes and you have a 3.6 (A-) average for your final grade, your final grade will drop to 3.4 (B+). Perfect attendance will be rewarded by increasing your grade by 0.2.

Project:

By week V, each student will choose - from a list distributed by the instructors - a region and a country of interest to examine for the final project. Throughout the course, students will be given a set of instructions to discuss some of the political-economic dynamics of these countries in comparison to the region it belongs to and to the overall dynamics of the world-economy. Step by step, students will conduct exploratory and explanatory analysis using EXCEL, STATA and ArcGIS. Students are expected to discuss their findings in light of the substantive / theoretical readings.

Book

Lawrence C. Hamilton. 2013. Statistics with STATA: Updated for Version 12. United States: Brooks/Cole Cengage Learning

Substantive & Theoretical Readings: (Blackboard site)

Maddison, Angus (2001) "Introduction and Summary", The World Economy: A Millennial Perspective,(Paris: OECD, 2001), pp. 17-25

Milanovic, Branko (2012) "Global Income Inequality by the Numbers: In History and Now, an Overview. The World Bank Development Research Group Poverty and Inequality Team, Policy Research Working Paper 6259 [available at http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-6259]

Silver, Beverly J. & Giovanni Arrighi (2012) "The End of Long Twentieth Century", in Craig Calhoun & Georgi Derluguian (eds) The Business as Usual: The Roots of Global Financial Meltdown, New York University Press, 2011, pp 53-68

Arrighi, Giovanni and Jessica Drangel (1986) "The Stratification of the World-Economy: An Exploration of the Semiperipheral Zone", Review (Fernand Braudel Center), 10, 1, 1986

David Harvey (2007) "Chapter IV: Uneven Geographical Developments", A Brief History of Neoliberalism. Oxford: Oxford University Press

(SUGGESTED) Christopher Chase-Dunn, Roy Kwon, Kirk Lawrence and Hiroko Inoue (2010) " Last of the hegemons: U.S. decline and global governance" available at http://irows.ucr.edu/papers/irows65/irows65.htm

McMichael, Philip. (2004) "Chapter III. The Global Economy Reborn." Development and Social Change. London: Pine Forge Press. pp74-115

Krippner, Greta R. (2005). The Financialization of the American Economy. *Socio-Economic Review vol 3*. pp173-208.

Assa, Jacob. (2012). Financialization and Its Consequences, Finance Research vol1(1), pp35-39

Software Related Readings (Blackboard site)

Thomas J. Quirk, "Sample Size, Mean, Standard Deviation and Standard Error of the Mean", Excel 2010 for Social Science Statistics, Springer, 2012, pp.1-21

Mathew MacDonald, "Introduction & Creating Your First Database", Access 2010: The Missing Manual, Cambridge: O'Reilly, 2010, pp. 1-50

Software:

In this course we will be using the latest versions of MS EXCEL, MS ACCESS, STATA, ArcGIS, MS WORD, MS POWERPOINT.

Homework Announcement Dates:
(All assignments are due in a week after they are announced)

Assignment 1: September 12th
Assignment 2: September 19th
Assignment 3: September 26th
Assignment 4: October 17th
Assignment 5: October 24th
Assignment 6: October 31st
Assignment 7: November 21st

Steps of the Final Project (Announcement Dates):

Choosing Countries:	September 19th (due September 22th)
EXCEL Part of the Final Project:	October 3rd (due October 17th)
STATA Part of the Final Project:	November 7th (due November 21st)
PowerPoint Presentations:	TBA (date of the final exam)
Final Project Completed:	**TBA (**One week after PowerPoint Presentations)

Other Dates:

October 16th (Thursday):	Classes meet according to Monday schedule

WEEK 1: Introduction

Aug 28 Sept 2 Sept 4

- Introducing the Syllabus & discussing the benefits and traps of modern research tools and technologies for critical social sciences
- Measuring group properties: Introduction to Descriptive statistics (Central Tendency and Dispersion)
    - Mean, Median, Mode, Percentiles, Minimum, Maximum, Standard Deviation
- Introduction to EXCEL

WEEK 2: Measuring The Overall Wealth of the World (EXCEL - I)

Sept 9   Sept11

Substantive themes
- How can we measure the overall wealth of the world as a whole?
- Understanding the differences between development indicators
    - Differences between GDP vs. GNI
    - Differences between current prices vs. constant prices
    - What is PPP?

Software related issues
- Understanding the logic of EXCEL spreadsheets, cells, columns and rows
- EXCEL > Mathematical Operations (Calculating Standard Deviation)
- EXCEL > Sorting and Automated Sorting
- EXCEL > Functions > Sum, Mean, Median, Max, Min, StDev
- Calculating Growth Rates
- Formatting and Conditional Formatting

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- Beverly J. Silver & Giovanni Arrighi, "The End of Long Twentieth Century", in Craig Calhoun & Georgi Derluguian (eds) The Business as Usual: The Roots of Global Financial Meltdown, New York University Press, 2011
- (Sofware Related Suggested Reading) Thomas J. Quirk, "Sample Size, Mean, Standard Deviation and Standard Error of the Mean", Excel 2010 for Social Science Statistics, Springer, 2012, pp.1-21

WEEK 3: Tracing the Footsteps of the Crisis of Capitalism: 1960-2010 (EXCEL - II)
Sept 16 Sept 18

Crisis of Capitalism Across Time
- How can we compare the effects of different capitalist crises?
- Can we empirically determine the periodization of crises?
- How do crises affect different parts of the world?
  - Regional differentiation
  - Income-level differentiation
- How did the economic powers of world regions look like 1000 years ago?
- How did the economic powers of the world regions change in the last 1000 years?
- How did the hegemonic powers of the world rise and fall?

Software related Issues:
- Graphics (Pie-Charts, Histograms, Line Graphs) with EXCEL
- Stacked Bars and Stacked Areas with EXCEL
- 100% Stacked Bars and 100% Stacked Areas with EXCEL

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)
- Maddison Tables (horizontal file)

Readings:

- Angus Maddison, The World Economy: A Millennial Perspective (Paris: OECD, 2001), Chapter 1, "Introduction and Summary," pp. 17-25
- (**suggested reading**) Christopher Chase-Dunn, Roy Kwon, Kirk Lawrence and Hiroko Inoue, 2010, " Last of the hegemons: U.S. decline and global governance" available at http://irows.ucr.edu/papers/irows65/irows65.htm

WEEK 4: The North, The Asian Tigers and the BRICS (EXCEL - III)
Sept 23 Sept 25

- Different Trajectories of GDP per capita growth rate, GDP per capita levels, GDP shares and industrialization levels of The Northern Economies, the Asian Tigers and the BRICS

Software related Issues:
- Trend Estimations using EXCEL
- Best Fitting Lines, Polynomial Curves and Moving Averages

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- McMichael, Philip. 2004. "Chapter III. The Global Economy Reborn." Development and Social Change. London: Pine Forge Press. pp74-115

WEEK 5: World Systems Approach: Core, Semi-periphery and Periphery (EXCEL - IV)
Sept30 Oct 2

- Understanding the World-Systems Analysis conceptualization of core, semi-periphery and periphery.
- How is the world stratification changing across time?

Software related Issues:
- Logarithm arithmetic with EXCEL
- Moving-average calculations with EXCEL
- Graphing Functions of EXCEL (continued)

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- Giovanni Arrighi and Jessica Drangel, "The Stratification of the World-Economy: An Exploration of the Semi-peripheral Zone", Review (Fernand Braudel Center), 10, 1, 1986

WEEK 6: Re-Measuring the Wealth of Globe (STATA -I)
Oct 7   Oct 9

- A more detailed examination of world GDP-Per Capita
  - Descriptive Statistics Revisited (Introduction to Quartiles, Skewness)
  - Shapes of World-Income Distribution

Software related Issues:
- Descriptive Statistics with STATA
  - Summary statistics (obs, mean, median, max, min)
  - Detailed summary statistics (quartiles, skewness, kurtosis)
  - Box-plots (horizontal and vertical)
  - Histograms (frequency/bin, width)
  - Kernel Density Estimations

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- Lawrence C. Hamilton. 2013. Statistics with STATA, pp126-129; pp.68-74

WEEK 7: Developmentalist Illusion (STATA - II)
Oct14

- Assessing the "miracles" of the late 20th centuries

Software related Issues:
- Scatter-plot examinations with STATA (scatter)
- Marking Labels on Scatter-plots (mlabel)
- Learning how to generate and modify variables (gen, replace, drop)
- Scatterplot Matrix (graph matrix)
- Notion of weights (weight)
- Connecting Scatter-plots to Show Trends
- Logarithm with STATA

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- Lawrence C. Hamilton. 2013. Statistics with STATA, pp26-32; pp75-85

WEEK 8: Calculating World-Gini & World-Stratification Revisited (STATA - III)
Oct 21 Oct 23

- Learning the logic of Lorenz curve and Gini calculations
- Calculating Gini coefficient of World-Income inequality with STATA
- Replicating and extending Arrighi-Drangel findings with STATA

Software related Issues:
- Egen sum vs. Gen sum commands
- Creating lagged [_n-1] variables
- Learning how to create Lorenz Curve and calculate Gini coefficient
- Weights and Kernel Density Functions

Data
- World Bank Data (GDP per capita, constant 2000 USD from 1960 to 2010)

Readings:

- Milanovic, Branko (2012) "Global Income Inequality by the Numbers: In History and Now, an Overview. The World Bank Development Research Group Poverty and Inequality Team, Policy Research Working Paper 6259 [available at http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-6259]
- Lawrence C. Hamilton. 2013. Statistics with STATA, pp41-42; pp129-133

WEEK 9: Financialization, Unemployment and Inequality (STATA - IV)
Oct 28 Oct 30

- Understanding "Financialization" Process
- Examination of the Relationships between Financialization, Economic Growth, Inequality and Unemployment

Software related Issues:
- Correlation Analysis with STATA (pwcorr, sig.; graph matrix)

- Best Fitting Lines and Curves (twowat lfit and twoway qfit)
- If conditions in STATA

<u>Data</u>
- OECD Data on FIRE, GDP, Gini Coefficients

<u>Readings:</u>
- Krippner, Greta R. 2005. The Financialization of the American Economy. Socio-Economic Review vol 3. pp173-208.
- Lawrence C. Hamilton. 2013. Statistics with STATA, pp170-174

WEEK 10: Financialization, Unemployment and Inequality - II (STATA - V)
Nov 4   Nov 6

- Does financialization have any effect on income inequality, economic growth and unemployment
- If there is an effect what kind of an effect is this?
- Is there geographical differences in the way financialization processes affect economies?

<u>Software related Issues:</u>
- Linear Regression (regress)
- Multivariate regression

<u>Data</u>
- OECD Data on FIRE, GDP, Gini Coefficients

- Assa, Jacob. (2012). Financialization and Its Consequences, Finance Research vol1(1), pp35-39
- Lawrence C. Hamilton. 2013. Statistics with STATA, pp170-175

WEEK 11: Moving Map of Global Crisis (MS ACCESS and ArcGIS Online)
Nov 11 Nov 13

- Temporal and Spatial Distribution of Unemployment and Poverty
- Uneven Distribution of Global Crisis

<u>Software related Issues:</u>
- Creating simple tables and forms with MS ACCESS
- Query Construction using MS ACCESS
- Merging Tables with MS ACCESS
- Using ArcGIS Online

<u>Readings:</u>

- Mathew MacDonald, "Introduction & Creating Your First Database", <u>Access 2010: The Missing Manual</u>, Cambridge: O'Reilly, 2010, pp. 1-50

WEEK 12: A Balance-Sheet of Neoliberalism (ArcGIS II)
Nov 18 Nov 20
- Moving Map of Global Crisis from 1970 to 2008/9
- Uneven Distribution of Unemployment and Poverty

Software related Issues:
- Learning ArcMap and ArcGIS

Readings:

- David Harvey, 2007, "Chapter IV: Uneven Geographical Developments", A Brief History of Neoliberalism. Oxford: Oxford University Press

WEEK 13: THANKSGIVING BREAK
Nov 25 Nov 27
- No Classes

WEEK 14: Transformation of Agriculture, Service and Industry (ArcGIS III)
Dec 2   Dec 4

- How do shares of agricultural, industrial and service sector change across time and space?
- What are the implications of globalization and financialization to different sectors in different regions.

Software related Issues:

- Integrating Pie-Charts and Bar-Charts with ArcGIS Maps
- Multiple Charts in ArcMaps

FINAL PRESENTATIONS
TBA

FINAL PAPERS DUE
TBA