

**Regional Economics  
Lecture 4**

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**Reading Assignment**

For next class read Chapters 1 and 2 of  
*The ESRI Guide to GIS Analysis, Vol. 1* by Andy  
Mitchell

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**Outline**

- Excel Descriptive Statistics
- Excel Pivot Tables
- American Community Survey
- FRED 2

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### Assess the accuracy of the results

- Descriptive Statistics:
  - What are descriptive statistics?
  - Why bother with descriptive statistics?
  - “Know the Data” as a general principle
  - “Know the Data” as a cautionary tale

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### Descriptive Statistics Using Excel

	A	B
1	<i>FTE Graduate Enrollment</i>	
2		
3	Mean	1219.273913
4	Standard Error	211.0369039
5	Median	1136.6
6	Mode	842.677
7	Standard Deviation	1012.09264
8	Sample Variance	1024331.513
9	Kurtosis	-0.901252054
10	Skewness	0.656625495
11	Range	3144
12	Minimum	0
13	Maximum	3144
14	Sum	28043.3
15	Count	23

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### LIVE SOFTWARE DEMO

- EXCEL DESCRIPTIVE STATISTICS DEMO

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### Data Manipulation “Best Practices”

- Never work with original data set – archive that
- Work with a copy
- Document changes – elimination of observations, change of variable (field) names
- Document sources, quality and manipulation (“cleaning”) of data in *metadata*
- [Note Federal mandates for metadata.]

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### Missing Data

- Missing data arises naturally from the way data are gathered
- Most data are not gathered for research purposes
- Some bureaucratic or administrative considerations lead to missing data
- Sometime poor research design leads to missing data

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### Missing Data – Real World Example

- Important Principle – never ask people a question they don’t know the answer to, or that it will be very difficult for them to determine the answer to
- Don’t send a lengthy questionnaire (say, 50 pages in length) to people who are busy doing something else.

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## Missing Data – An Example

See Excel file [MissingData.xlsx](#)

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## Excel Pivot Tables

<http://office.microsoft.com/training/training.aspx?AssetID=RC102058721033>

See Excel Help Files:

Create or delete a PivotTable or PivotChart report

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## Excel Live Demo

- Pivot Tables
- PivotTables.xlsx
- Can import data into Excel to get this functionality
- Demo this *sequentially*
  - Report Filters
  - Group a Field
  - Pivot a report

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American Community Survey

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**American Community Survey (ACS)**

Main Web Portal:  
<http://www.census.gov/acs/www/>

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**ACS: How to Use the Data**

<http://www.census.gov/acs/www/UseData/>

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### The ACS Compass Products

[http://www.census.gov/acs/www/UseData/Compass/compass\\_series.html](http://www.census.gov/acs/www/UseData/Compass/compass_series.html)

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### Downloading ACS Data From American Factfinder

- #1. Set browser security to lowest level (minimum).
- #2. American Factfinder Tutorials <http://factfinder.census.gov/home/en/epss/tutorials.html>

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### FRED 2

- Federal Reserve Economic Data (release 2) [FRED 2] <http://research.stlouisfed.org/fred2/>
- FRED 2-related – Data and Information Service Center at the Federal Reserve Bank of Saint Louis <http://econdisc.stlouisfed.org/>
- FRED FAQs <http://research.stlouisfed.org/fred2/help-faq/>

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