

## SYLLABUS

**ECON 6060; GEOG 5990; HBSC 5999; SOCY 5770:Section 002**  
**Federal Statistical Data for Health Research and Policy**  
University of Colorado Denver

**Spring 2020 – 3 Credits**  
**Fridays 9am-12pm**

**Room** North Classroom 1009B, 1200 Larimer St.  
CU Denver | Downtown Campus

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**Office Hours** By appointment.

### **Overview—3 Credits**

In this course, students will develop the knowledge and skills required to effectively use a variety of federal statistical data sets for health research and policy analysis. Each week is devoted to one or two federal statistical datasets--how the data are collected; why they are collected and what health issues they are designed to address; what population they represent and at what geographic scale. Most critically, the lectures will distinguish between questions that can be addressed with a public version of the data and questions that require restricted versions of the data that are protected by federal law and guidelines. Toward the end of the course, the lecture subject matter will become more focused on how to gain access to restricted data and how to protect individual anonymity with best practice disclosure avoidance techniques.

Typically, the last two hours of each class will be lab sessions. Students will have “hands on” exercises using SAS to analyze public versions of the federal data sets. The

exercises are designed to use the data to reproduce the findings of papers published in top public health journals. Students will be expected to complete assigned SAS exercises relevant to each data source covered in the syllabus.

### **Objectives**

Upon completion of this course, students will be able to:

1. Differentiate the features of major federal statistical data collection efforts and how they benefit health research and policy evaluation.
2. Understand the differences between restricted and non-restricted data as well as the constraints and procedures that apply to using restricted data.
3. Develop, write, and present a proposal to use restricted data.
4. Understand and contribute to the discussion of a variety of restricted data projects.
5. Use SAS to manipulate large data extracts.
6. Use SAS to reproduce descriptive and modeling results from published papers.
7. Confidence in learning new scripting techniques and SAS commands.

### **Course Format**

Several strategies will be used to build the students understanding and skills in using large federal statistical datasets. These include: required readings, suggested readings, lectures, guest presentations, class presentations and discussions, lab exercises, and independent research necessary for developing a restricted data project proposal.

**Restricted Data Project Proposal:** There is no exam in this course. However, there is a Restricted Data Project Proposal that students will create over the semester. Students will receive instructions about the Restricted Data Project Proposal on the first day of class and will present and turn in progressively detailed proposals in three parts over the semester. The complete Restricted Data Project Proposal will be **due on May 13 at midnight** (finals week). Students will use the required and recommended readings, significant amounts of independent research, class lectures, and consultation sessions to create individual Restricted Data Project Proposals. The proposal should be written in a professional style and include references and citations.

**Lab Exercises:** There will be eight sets of required lab exercises throughout the semester. These will be done in SAS and they will be designed to be completed during lab time. They will be due the following Tuesday at midnight.

This is the recommended reference manual for the SAS lab exercises: Cody, Ron. 2018. *Learning SAS by Example: A Programmer's Guide, Second Edition*. Cary, NC: SAS Institute Inc.

**Workload:** Expect to spend 10 or more hours per week *outside of class*, working on lab exercises, conducting research, reading the required and suggested readings, and working on your Restricted Data Project Proposal.

### **Required Readings**

There is no textbook for the course. Keeping up with readings is critical for understanding the lectures and implementing lab exercises. Students are expected to be familiar with the content of the readings and apply this knowledge in their lab

exercises and Restricted Data Project Proposal. All required readings are stored on the Google Drive (see link below) in pdf format.

### **Class Preparation and Participation**

When required readings are assigned, there will be a single question asked about the assigned readings at the beginning of the lecture. These will be referred to as “readings prompts.” The answers will be graded on a 5-point basis. The purpose is to motivate students to prepare for each class by reading the articles. Class preparation and participation grades will be based on responses to the prompts as well as contributions to the discussions of other student’s Restricted Data Project Proposals on 2/21 and 3/13.

**Google Drive:** The course materials will be posted on the class google drive:  
<https://drive.google.com/drive/folders/1y3xiiTqbZ40GQWtSZ37nON2dA9VgZCkM>

The syllabus, the restricted data project description, and required readings are stored on the google drive in pdf form along with the lectures in ppt form. The lectures will generally be posted by 10 pm the night before the class session.

**Canvas:** Grades and assignment submissions will be done via Canvas. If you have problems using Canvas, please notify [kas.mclean@colorado.edu](mailto:kas.mclean@colorado.edu).

**Class Etiquette:** Please turn off cell phones and do not use them in class. Computers should only be used when the use is directly related to class. For example, you may use computers to follow along with Powerpoint presentations, to take notes, or to review program plan sections of your group members. You should not be checking email, watching youtube videos, or shopping online. If I find that there are violations, I will ban all use of computers in class.

**Writing:** No “first draft” writing should be turned in to the instructor – everything should be read over at least once and edited – no one writes perfectly on their first draft. Please pay attention to organization, grammar, spelling, punctuation, and other aspects of your writing.

**Requirements and Grading for ECON 6060; GEOG 5990; HBSC 5999; SOCY 5770;  
Section 002:**

	<b>Points</b>	<b>% of Grade</b>	<b>Due</b>
<b>SAS Lab Exercises</b>	<b>400</b>	<b>66.7</b>	
<b>Introduction to SAS</b>	50		1/28
<b>National Vital Statistics System</b>	50		2/4
<b>NHANES</b>	50		2/11
<b>NHIS linked to NDI</b>	50		2/18
<b>NHIS linked to MEPS</b>	50		3/3
<b>ACS</b>	50		3/10
<b>Nat'l Crime Victimization Survey</b>	50		4/7
<b>Occupational Injuries</b>	50		4/14
<b>Restricted Data Project Proposal</b>	<b>150</b>	<b>25.0</b>	
<b>Topic</b>	25		
<b>Class Presentation</b>			2/21
<b>Written Draft</b>			2/25
<b>Preliminary Proposal</b>	25		
<b>Class Presentation</b>			3/13
<b>Written Draft</b>			3/17
<b>Final Project</b>	100		
<b>Class Presentation</b>			5/8
<b>Written Proposal</b>			5/13
<b>Class preparation and participation</b>	<b>50</b>	<b>8.3</b>	Ongoing
<b>Readings prompts</b>	40		
<b>In class discussions</b>	10		
<b>Total Points</b>	<b>600</b>	<b>100</b>	

600 total points. 400 for Lab Exercises. 150 for Restricted Data Project Proposal. 50 for Class Preparation and Participation.

## Weekly Topics and Assignments

1/24	<p>Overview of the Federal Statistical System; Course Objectives and Requirements;</p> <p><b>Intro to SAS Exercises due Tuesday, 1/28</b></p>
1/28	Intro to SAS Exercises due by midnight.
1/31	<p>National Vital Statistics System (NVSS) and National Violent Death Reporting System (NVDRS);</p> <p><b>Require readings for this class:</b></p> <p><b>Public data article using NVSS:</b> (Masters, Tilstra and Simon 2017)</p> <p>Masters, Ryan K., Andrea M. Tilstra, and Daniel H. Simon. 2017. "Mortality from suicide, chronic liver disease, and drug poisonings among middle-aged U.S. white men and women, 1980-2013." <i>Biodemography and Social Biology</i> 63(1):31-37.</p> <p><b>Restricted data article using NVSS:</b> (Lindo and Packham 2017)</p> <p>Lindo, Jason, and Analisa Packham. 2017. "How Much Can Expanding Access to Long-Acting Reversible Contraceptives Reduce Teen Birth Rates?" <i>American Economic Journal: Economic Policy</i> 9:348-76.</p> <p><b>SAS exercises using NVSS due Tuesday, 2/4</b></p>
2/4	SAS exercises using NVSS due by midnight.
2/7	<p>National Health and Nutrition Examination Survey (NHANES);</p> <p><b>Require readings for this class:</b></p> <p><b>Public data article using NHANES:</b> (Schmeer and Tarrence 2018)</p> <p>Schmeer, Kammi K., and Jacob Tarrence. 2018. "Racial-ethnic Disparities in Inflammation: Evidence of Weathering in Childhood?" <i>Journal of Health and Social Behavior</i> 59(3):411-28.</p> <p><b>Restricted data article using NHANES:</b> (Oliver et al. 2017)</p> <p>Oliver, Sara E., Elizabeth R. Unger, Rayleen Lewis, Darius McDaniel, Julia W. Gargano, Martin Steinau, and Lauri E. Markowitz. 2017. "Prevalence of Human Papillomavirus Among Females After Vaccine Introduction—National Health and Nutrition Examination Survey, United States, 2003–2014." <i>The Journal of Infectious Diseases</i> 216(5):594-603.</p> <p><b>SAS exercises using NHANES due Tuesday, 2/11</b></p>
2/11	SAS exercises using NHANES due by midnight.

2/14	<p>National Health Interview Survey (NHIS);</p> <p><b>Require readings for this class:</b></p> <p><b>Public data article using NHIS linked with NDI:</b> (Siahpush et al. 2019)</p> <p>Siahpush, Mohamamd, Paraskevi A. Farazi, Hongmei Wang, Regina E. Robbins, Gopal K. Singh, and Dejun Su. 2019. "Muscle-strengthening physical activity is associated with cancer mortality: results from the 1998–2011 National Health Interview Surveys, National Death Index record linkage." <i>Cancer Causes &amp; Control</i> 30(6):663-70.</p> <p><b>Restricted data article using NHIS:</b> (East 2018)</p> <p>East, Chloe N. 2018. "The effect of Food Stamps on children's health: Evidence from immigrants' changing eligibility." <i>Journal of Human Resources</i> Published online before print September 5, 2018.</p> <p><b>SAS exercises using NHIS due Tuesday, 2/18</b></p>
2/18	<p>SAS exercises using NHIS linked with NDI due by midnight.</p>
2/21	<p>Student Topic Presentations. Students should be prepared to talk for 5 minutes about a health topic of interest and has potential to benefit from restricted data. This should include major questions, hypotheses, and justification for using restricted data.</p> <p><b>1-page writeups are due 2/25.</b></p> <p>Possible presentation by restricted data researcher. TBA</p> <p><b>No required readings for this class.</b></p>
2/25	<p>Student Topic Presentations 1-page write ups due by midnight.</p>
2/28	<p>NHIS linked to the Medical Expenditure Panel Survey (MEPS) Household Component.</p> <p><b>Require readings for this class:</b></p> <p><b>Public data article using NHIS linked to MEPS:</b> (Xu and Drew 2017)</p> <p>Xu, Dongjuan, and Julia A. Rivera Drew. 2017. "What Doesn't Kill You Doesn't Make You Stronger: The Long-Term Consequences of Nonfatal Injury for Older Adults." <i>The Gerontologist</i> 58(4):759-67</p> <p><b>Restricted data article using NHIS linked to MEPS:</b> (Lin et al. 2017)</p> <p>Lin, Szu-Hsuan, Omolola E. Adepoju, Bitu A. Kash, Bethany DeSalvo, and Darcy K. McMaughan. 2017. "Psychological Distress and the Use of Clinical Preventive Services by Community-Dwelling Older Adults." <i>Journal of Applied</i></p>

	<p><i>Gerontology</i> 38(5):599-616.</p> <p><b>SAS exercises using MEPS extract due Tuesday, 3/3</b></p>
3/3	SAS exercises using MEPS extract due by midnight.
3/6	<p>American Community Survey (ACS) and Current Population Survey (CPS) for Health Research;</p> <p><b>Require readings for this class:</b></p> <p><b>Public data article using ACS:</b> (Nanney et al. 2019)</p> <p>Nanney, Marilyn S., Samuel L. Myers, Jr., Man Xu, Kateryna Kent, Thomas Durfee, and Michele L. Allen. 2019. "The Economic Benefits of Reducing Racial Disparities in Health: The Case of Minnesota." <i>International journal of environmental research and public health</i> 16(5):742.</p> <p><b>Restricted data article using ACS:</b> (Sevak et al. 2018)</p> <p>Sevak, Purvi, John O'Neill, Andrew Houtenville, and Debra Brucker. 2018. "State and Local Determinants of Employment Outcomes Among Individuals With Disabilities." <i>Journal of Disability Policy Studies</i> 29(2):119-28.</p> <p><b>SAS exercises using ACS extracts due Tuesday, 3/10</b></p>
3/10	SAS exercises using ACS/CPS extracts due by midnight.
3/13	<p>Preliminary Student Presentations on Restricted Data Projects. Prepare to talk for 5 minutes about your Restricted Data Project. Prepare a 2-page written draft. You should build on your topic write-up from 2/21 by refining your research questions. By this point, you should have identified a federal dataset and the necessary outcome/dependent variable(s) as well as explanatory/control variables.</p> <p>2-page written drafts are due 3/17.</p> <p>Possible presentation by restricted data researcher. TBA</p> <p><b>No required readings for this class.</b></p>
3/17	2-page written drafts of Preliminary Restricted Data Projects are due at midnight.
3/20	<p>This class time will be devoted to preparing student datasets. Instructors will be available to assist.</p> <p><b>No required readings for this class or lab assignment.</b></p>
3/27	<b>Spring Break, NO CLASS</b>
4/3	National Crime Victimization Survey (NCVS) and Survey of Income and Program Participation (SIPP) for Health Research.

	<p><b>Required readings for this class:</b></p> <p><b>Public data article using NCVS:</b> (Kagawa et al. 2019)</p> <p>Kagawa, Rose M. C., Veronica A. Pear, Kara E. Rudolph, Katherine M. Keyes, Magdalena Cerdá, and Garen J. Wintemute. 2019. "Distress level and daily functioning problems attributed to firearm victimization: Sociodemographic specific responses." <i>Annals of Epidemiology</i> Available online 6 December 2019; Journal Pre-proof.</p> <p><b>Restricted data article using NCVS:</b> (Manzella 2018)</p> <p>Manzella, Julia. 2018. "Are states winning the fight? Evidence on the impact of state laws on bullying in schools." <i>Economics of Education Review</i> 64:261-81.</p> <p><b>SAS exercises using NCVS extract due Tuesday, 4/7</b></p>
4/7	SAS exercises using NCVS due by midnight.
4/10	<p>Survey of Occupational Injuries and Illnesses (SOII), Census of Fatal Occupational Injuries (CFOI), American Time Use Survey (ATUS)</p> <p><b>Required readings for this class:</b></p> <p><b>Public data article using SOII:</b> (Pierce 2015)</p> <p>Pierce, Brooks. 2015. "Does the year-end decline in injury risk reflect reporting error?" <i>American Journal of Industrial Medicine</i> 58(5):519-27.</p> <p><b>Restricted data article using ATUS:</b> (Pabilonia and Song 2013)</p> <p>Pabilonia, Sabrina Wulff, and Younghwan Song. 2013. "Single mothers' time preference, smoking, and enriching childcare: Evidence from time diaries." <i>Eastern Economic Journal</i> 39:227-55.</p> <p><b>SAS exercises using SOII extract due Tuesday, 4/14</b></p>
4/14	SAS exercises using SOII due by midnight.
4/17	<p>Disclosure Avoidance Rules and Practices Speaker: RMRDC Administrator, Phil Pendergast</p> <p><b>Required reading for this class:</b> Minimizing Disclosure Risk in HHS.pdf</p> <p>Lab Time for Restricted Data Projects</p>
4/24	<p>Example Restricted Data Project Proposals Guest Speaker: Restricted Data Researcher</p> <p><b>Required readings for this class:</b></p>



	<p>NHIS proposal: Vinneau_NHIS_proposal.pdf</p> <p>NCVS proposal: Small_NCVS_proposal.pdf</p> <p>Lab Time for Restricted Data Projects.</p>
5/1	<p>Presentation from Colorado Evaluation and Action Lab on Linked Information Network of Colorado (LINC)</p> <p>Presentation from Census Longitudinal Infrastructure Project (CLIP)</p> <p>Lab Time for Restricted Data Projects</p>
5/8	<p>Student Presentations on Restricted Data Projects</p> <p>Make a 7-10 minute Powerpoint presentation about your Restricted Data Project and write a 7-10 page proposal.</p> <p>Final Written Restricted Data Project Proposals due May 13.</p>
5/13	<p>Final Written Restricted Data Project Proposals due by midnight.</p>