

Term Information

Effective Term Autumn 2014

General Information

Course Bulletin Listing/Subject Area Public Affairs, John Glenn Sch
Fiscal Unit/Academic Org John Glenn Schl of Pblc Affrs - D4240
College/Academic Group John Glenn School of Pub Aff
Level/Career Undergraduate
Course Number/Catalog 3020
Course Title Data Sciences for the Public Sector
Transcript Abbreviation DataSciPubSctr
Course Description This course provides an orientation to the use of data for decision-making in the areas of the public sector with emphasis on how to use data in context, for example, when organizations require the analysis of sophisticated data in order to achieve goals or priorities.
Semester Credit Hours/Units Fixed: 3

Offering Information

Length Of Course 14 Week, 12 Week (May + Summer)
Flexibly Scheduled Course Never
Does any section of this course have a distance education component? No
Grading Basis Letter Grade
Repeatable No
Course Components Seminar
Grade Roster Component Seminar
Credit Available by Exam No
Admission Condition Course No
Off Campus Never
Campus of Offering Columbus

Prerequisites and Exclusions

Prerequisites/Corequisites GE Data Analysis course
Exclusions

Cross-Listings

Cross-Listings

Subject/CIP Code

Subject/CIP Code 44.0401
Subsidy Level Baccalaureate Course
Intended Rank Sophomore, Junior, Senior

Requirement/Elective Designation

Required for this unit's degrees, majors, and/or minors
The course is an elective (for this or other units) or is a service course for other units

Course Details

Course goals or learning objectives/outcomes

- Upon the completion of this course students will:
- Develop an understanding and appreciation of the importance of data for decision making.
- Identify common decision making tools used by government agencies at the federal, state, and local levels of government.
- Gain an appreciation for the specific problems of conducting data analysis in government.
- Be exposed to the problems associated with working with data in international development contexts.

Content Topic List

- Federal policy and data use
- State and local government views of data use
- Data based decision making in education
- Data and performance in health
- Research tools for analysts in government: policy modeling
- Data and decision making communication

Attachments

- PUBAFRS 3020.docx: Syllabus
(Syllabus. Owner: Adams,Christopher John)

Comments

Workflow Information

Status	User(s)	Date/Time	Step
Submitted	Adams,Christopher John	01/17/2014 01:54 PM	Submitted for Approval
Approved	Hallihan,Kathleen Mary	02/20/2014 04:41 PM	Unit Approval
Approved	Adams,Christopher John	02/20/2014 04:41 PM	SubCollege Approval
Pending Approval	Vankeerbergen,Bernadette Chantal	02/20/2014 04:41 PM	Ad-Hoc Approval
Approved	Brown,Trevor Laurence	02/20/2014 05:02 PM	College Approval

1. Instructor, John Glenn School of Public Affairs
2. Meeting date and time and classroom
3. PA 3020 : Data Sciences for the Public Sector
4. Student Learning Goals and Objectives

This course provides an orientation to the use of data for decision-making in the areas of public sector. The emphasis in the course is how to use data in context – when organizations require the analysis of sophisticated data in order to achieve goals or priorities. Topics in the class include; Background on data use in the public sector; Development of tools for decision-making; Use of visualization techniques; Policy Modeling tools; and, Applications to international organizations.

The objectives of the course include the following; 1) developing an understanding of importance of data for decision making, 2) knowledge of the decision making tools that agencies and government are using; 3) appreciation for the specific problems of conducting data analysis in government; and 4) exposure to the problems of working with data in international development contexts.

5. Course Description

Data – like the Matrix to Keanu Reeves - is everywhere. Big Data, like the Matrix, however is difficult to get a sense of and even harder to assess how organizations use tools to make use of the data in the context of decision making. Health Care and Education are among the two largest areas of government service and regulation, making them empirically important to professionals training for public sector careers. Many recent government reforms at the federal level, such as No Child Left Behind in education and “Obama Care” in health, require massive shifts in the way data is used for financial and accountability purposes. These shifts have meant deep changes in organizations, schools and hospitals alike, forcing administrators to increase the use of data in decision-making.

The fields of education and health offer an important contrast on the current state of data use in business or finance. While increases in data use in health care have seen some clear cut and significant gains in patient care, Education reform has a much more complex relationship to data. In offering a class covering both fields we are able to orient learners to the range of possible uses of data and the complications arising in two massive areas of government action. Other fields of government activity will be included, such as economic development, environment, or energy.

6. Required Texts

Nate Silver (2012), *The Signal and the Noise: Why so many predictions fail but some don't*

Atul Gowande (2011) *The Checklist Manifesto: How to Get Things Done Right* (Picador)

Boudett, K, City, E. & R. Murnane (2013). *Data Wise: Revised and Expanded Edition: A Step by Step Guide to Using Assessment Results to Improve Teaching and Learning* (Harvard Press)

(Others to be determined)

Students can access textbook information via the Barnes & Noble bookstore website: www.shopOhioState.com as well as from their BuckeyeLink Student Center. This information is disseminated by B&N to all area bookstores. You may buy from a store of your choice and/or shop for books (always use ISBN# for searches) on line.

7. Course assignments include the following (including grading requirements)

Required memos (5), 25% of grade

Case Analyses (3), 30% of grade

Site Visit Analysis (1), 25% of grade

Attendance, participation and discussion board work, 20%

8. Due Dates for Assignments

Memos are due the day before class is scheduled. Case analyses are due the day *after* class when the case is discussed. Site visits are due the following week (day of class) when site visits take place.

9. See # 7

10. A grading scale

93 - 100	A	80 - 82	B-	68 - 69	D+
90 - 92	A-	78 - 79	C+	64 - 67	D
88 - 89	B+	73 - 77	C	63 & below	E
83 - 87	B	70 - 72	C-		

11. Attendance is required. If students do not attend they will lose 2 points per class for non-attendance. After missing 5 classes a student grade will be reduced a full letter grade, for instance from a B to a C or a B+ to a C+. Excused absences (for illness or job interview) are accepted and are not penalized.

12. Topical Outline of Weekly Content*

Week 1: Federal policy and data use	TBD
Week 2: State and local government views of data use	TDB
Week 3: Moving government to the cloud	TBD
Week 4: Site Visit (ITC in Columbus)	None
Week 5: Data based decision making in education	Boudett et al (Chapters)
Week 6: Case Studies of decision making in education	Discussion with Matt Cohen (Research Chief, ODE) *Boudett, Data Wise in Action: Stories of Schools Using Data to Improve Teaching
Week 7: Data and Performance in Health	Gowande (Entire Book)
Week 8: Case Studies of decision making in health	Discussion with Brian Graham (VP-Battelle) Case TBD
Week 9: Research tools for Analysts in Government: Policy Modeling	*Sterman, Business Dynamics (Selection)
Week 10: Policy Modeling in Health	*Rice, Ketra “The Utility of multi-level modeling vs. agent based modeling” *Ghaffarzadegan, Hawley, Desai (2013) “National vs. international postdoctorates in U.S. biomedical education and the effects of capping the duration of postdoctoral careers”
Week 11: Policy Modeling in Education	*Maroulis et. Al “A Complex Systems Approach to Education Policy Research”
Week 12: Data Mining in Policy Analysis	Silver (Reading) *Selection from “Handbook of Educational Data Mining”
Week 13: Data and decision making	*Reading on visualization data

communication	
Week 14: Data and decision making communication	*Reading/writing on communication strategies

*Stared items are available in a reading packet to be bought.

13. Academic Misconduct

ACADEMIC INTEGRITY (ACADEMIC MISCONDUCT)

From: <http://oaa.osu.edu/coamfaqs.html#academicmisconductstatement>

The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's [Code of Student Conduct](#), and that all students will complete all academic and scholarly assignments with fairness and honesty. Failure to follow the rules and guidelines established in the University's Code of Student Conduct may constitute "Academic Misconduct." Sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

In the Ohio State University's [Code of Student Conduct](#), Section 3335-23-04 defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's [Code of Student Conduct](#) is never considered an "excuse" for academic misconduct.

Other sources of information on academic misconduct (integrity) to which you can refer include

The Committee on Academic Misconduct web page: <http://oaa.osu.edu/coam.html>

Ten Suggestions for Preserving Academic Integrity: <http://oaa.osu.edu/coamtensuggestions.html>

Eight Cardinal Rules of Academic Integrity: www.northwestern.edu/uacc/8cards.html

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

14. Disability services.

Please feel free to adjust this statement to suit your personal style. However, the information underlined should be included (in your own words or as suggested below) so as to provide the minimum necessary information for students. The underlined passages are for your reference; please feel free to remove the underlining at your discretion. (ADA recommended 16 point font):

“Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu/>.”