Public Affairs 6515: Skills - Database Management
Syllabus
Fall 2021

Instructor Information

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Office Hours: By Appointment (Zoom)

Email is the best way to contact me. I check email often, and I will attempt to respond to all emails within 24 hours of receiving them. Text me if you need a response quickly.

Course Information

Meeting Day/Time: Mondays, 5:30-7:20 PM (October 18 – December 6)
Location: Page Hall 040
Credit Hours: 1

Course Description

Overview

A critical skill in today's public sector environment is the ability to effectively collect, manage, and analyze the significant amount of data needed to operate any size department or agency. The database environment is the central resource for the support of decision making at the tactical, strategic, and policy levels. In this environment, end-users (policy analysts, financial managers, and other non-computer specialists) directly use computers to quickly access information for decision making. The database environment is thus a key to increased efficiency and effectiveness. Also, by studying database design and implementation, we arrive at some of the most fundamental information and information technology issues facing government. Finally, because databases are the repository for the organization's information, they are the core or foundation upon which information systems are built.

The management of information systems has evolved from a narrow concern with how to utilize the data processing center to a wider vision of how the organization can best use its information resources. As a result of this shift in focus, the successful public manager must understand both the technical implications of database technology as well as their managerial and policy implications. Students who master this class will have very marketable skills, as they will be able to build a simple database in Access that contains most of the components of a database system. Completion of this class also provides a foundation for those who want to further specialize in information systems and further decision support courses.

Student Learning Objectives
Upon successful completion of this course, students will be able to or will have:
- ➢ Developed skills in the management of information and information technology
- ➢ Built competence in end-user computing
- ➢ Apply skills to manipulate and create management application software (Access)
- ➢ Interact effectively with IT professionals and software vendors

Class Structure
Class will primarily consist of two parts:
1. The first 30-60 minutes will consist of lecture/discussion on the general information management topic of the day. This will include discussion on the assigned reading along with additional material from the instructor.
2. The remaining 60-75 minutes will be hands-on time with Access. This may include some additional instruction time specific to Access, working with test files from the Access book, and working directly on the database project.

Course Materials
1. MacDonald, Matthew (2013). Access 2013, The Missing Manual. O'Reilly Media. ISBN: 978-1449357412. **This is available electronically at OSU Library.**
2. All other readings and course materials will be supplied by the instructor through Carmen. These include selected chapters from the following. These **do not** need to be purchased.
   - ➢ Goldsmith, Stephen & Crawford, Susan (2014). The Responsive City: Engaging Communities through Data-Smart Governance. ISBN: 978-1118910900.
   - ➢ Lathrop, Daniel & Ruma, Laurel, Editors (2010). Open Government. O'Reilly. ISBN: 978-0596804350.
   - ➢ Milakovich, Michael E (2012). Digital Governance, New Technologies for Improving Public Service and Participation. Routledge. ISBN: 978-0415891448.
   - ➢ Reddick, Christopher G (2012). Public Administration and Information Technology. Jones & Bartlett Learning. ISBN: 978-0-7637-8460-7.
   - ➢ Shark, Alan R. (2012). Seven Trends That Will Transform Local Government through Technology. ISBN: 978-1470046026.
   - ➢ White, Jay D (2007). Managing Information in the Public Sector. M. E. Sharpe. ISBN: 978-0765617484.

Students can access textbook information via the Barnes & Noble bookstore website: http://go.osu.edu/BN_OSU 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.

Course Requirements

The following components make up the final course grade:

Class contribution: 10%
Current Trend Memo: 30%
Interim Database Check: 15%
Final Database Project: 45%

Transformation of numerical grade to a letter grade will be according to the schedule below:

A	93-100	B-	80-82	D+	68-69
A-	90-92	C+	78-79	D	60-67
B+	88-89	C	73-77	E	<60
B	83-87	C-	70-72		

Class Contribution

Class contribution is critical to make this course as valuable as possible for you and your fellow students. This includes having read assigned readings before class, participating in conversations regarding those readings, asking questions, clarifying assignments, participating in the lab portion of the class, and sharing personal and professional experiences that can aid the class during discussions. **Attendance is considered part of class contribution, and lack of attendance and leaving the lab portion of the class early will reduce this portion of your grade.** Lack of evidence that class readings were completed will also affect this portion of your grade.

Attendance is taken by roll call. If you arrive late, it is your responsibility to sign in or inform me before you leave that you were in attendance. Notification after the class ends via any method that you were in attendance will not be considered as proof of attendance. Notification ahead of class time is required for excused absences.

Current Trend Memo

The purpose of this assignment is to look at a current technology trend and integrate that trend with your knowledge of how it could impact information management in the public sector. The method of achieving this is to approach the paper as a memo to the senior leadership of an organization (federal, state, local, nonprofit). The paper should aim to answer the following:
  ➢ Describe the current technology trend with some detail (10 points)
  ➢ What challenges will your organization have in adopting this trend? (10 points)
  ➢ Your recommendation: Should your public sector organization adopt this trend? Why or why not? If adopted, how will the trent impact your organization? (10 points)

An additional 5 points is awarded for overall paper cohesiveness, and quality of writing and thought. Conciseness is critical, and points will be taken off for exceeding the page limit. The paper is graded out of 35 points.

The paper should be 2 pages, single spaced, 12-point font, 1-inch margins. Cite all sources and be consistent in the method by which you cite (e.g. footnotes, endnotes, APA style). A **required**

list of references does not count against the 2-page limit. It is expected that you will rely on a number of sources for this paper, which can include, but is not limited to, any of the following:

- ➢ Material published by a public sector organization
- ➢ Evaluations conducted by oversight organizations
- ➢ Reports in periodicals
- ➢ Primary or secondary interviews
- ➢ Blogs
- ➢ Online articles

If you are looking for ideas, the following websites can aid in your search:

- ➢ http://www.nextgov.com/
- ➢ http://www.govtech.com/
- ➢ https://challenge.gov/
- ➢ http://www.informationweek.com/government.asp

Current Trend Memo is to be submitted to Carmen by 5:00 PM on Monday, November 1.

OCAP Database Project

The purpose of this assignment is to provide hands-on experience in designing and implementing a simple database in a public organization. By working with a real-life problem, we encounter some of the technical issues as they interact with the political, economic, and organizational issues of managing information in the public sector. We will use Microsoft Access to build a database from (almost) scratch, covering topics such as tables, queries, forms, reports, user interface design, and process improvement.

There will be two submissions for this project. The Interim Database Check submission will include the Access Database and the Documentation Template for Sections B, C, D, and E. **All documentation and files related to the Interim Database Check are to be submitted to Carmen by midnight on Monday, November 8, at 5:00 PM.**

Using the feedback you received from the Interim Database Check, you can improve sections B, C, D, and E. These sections will be re-graded if work was done to improve them for the Final Database Project. Otherwise the original grade will be used for those sections when calculating the Final Database Project score. **All documentation and files related to the Final Database Project are to be submitted to Carmen by midnight on Thursday, December 16.**

Additional information regarding this project will be presented separately.

Course Policies

<u>Assignment Submission</u>
All assignments should be submitted through Carmen by the day they are due. The Access database should be submitted in the Access format. The Current Trends paper and OCAP database project documentation should be submitted in Word format. Informing the instructor of your intention to be absent does not waive your obligation to submit assigned work. **Late work will be accepted with a one-third-letter grade penalty each day that it is late (A- to B+), unless prior approval is granted by the instructor.**

<u>Grade Appeals</u>
Grades on assignments are intended to reflect the overall quality of performance of the student. You may appeal your grade on an assignment if you think the grade does not reflect the quality of your performance on the assignment. To appeal a grade, submit a clear written explanation via email describing why you believe the assigned grade is inappropriate **within one week after your work is returned**.

<u>Academic Integrity</u>
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.

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 excessive quotation and paraphrasing of other's work with or without citation. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct.

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

<u>Glenn College Diversity Values</u>
The Glenn College is committed to nurturing a diverse and inclusive environment for our students, faculty, staff, and guests that celebrates the fundamental value and dignity of everyone by recognizing differences and supporting individuality. We are dedicated to creating a safe space and promoting civil discourse that acknowledges and embraces diverse perspectives on issues and challenges that affect our community.

<u>Accommodation Policy</u>

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 098 Baker Hall, 113 W. 12th Ave.; telephone 292-3307, TDD 292-0901; https://slds.osu.edu/

<u>Mental Health Statement</u>

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know is suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at suicidepreventionlifeline.org.

Course Schedule

<u>Week 1: October 18</u>

Topics:
➢ Welcome and introduction to course
➢ Brief overview of syllabus and course requirements
➢ IT/Public policy interaction
➢ Myths and Realities of IT
➢ Process analysis/improvement
➢ Database design
➢ Overview of project

Access Topic: Introduction/Familiarization (MacDonald, Chapter 1)

Read:
➢ Reddick, Chapter 1: Public Administration and Information Technology
➢ Shark, Pages 16-18: Common Myths and Realities of IT
➢ Optional readings on Healthcare.gov

Lab: Access Overview/Introduction

Week 2: October 25
Topics:
 ➢ Data normalization
 ➢ OCAP Overview

Access Topics:

 ➢ Tables, Data Integrity, Data Import (MacDonald, Chapters 2-4 and 20)
 ➢ Linking Tables (MacDonald, Chapters 5)

Read:
 ➢ White, Chapter 4: Managing the Agency's Data Resources
 ➢ OCAP Systems Analysis (Spring 2017)

Lab:
 ➢ Build data tables and data rules for project. Import data for tables.
 ➢ Build table relationships for project.

Week 3: November 1
Topics:
 ➢ Interoperability and data sharing
 ➢ Open Data and Transparency
 ➢ **Due**: Current Trend Memo is to be submitted to Carmen by 5:00 PM on Monday, November 1.

Access Topics:
 ➢ Queries (MacDonald, Chapters 6-7, Optional: Chapter 9)

Read:
 ➢ Reddick, Chapter 7: Enterprise Architecture
 ➢ Lanthrop & Ruma, Chapter 28: Toads on the Road to Open Government Data

Lab:
 ➢ Build queries for project

Week 4: November 8
Topics:
- Big data
- Information quality

Access Topic: Reports (MacDonald, Chapters 10-11)

Read:
- Redman, The Impact of Poor Data Quality on the Typical Enterprise

Lab: Build reports for project

Due: All documentation and files related to the Interim Database Check are to be submitted to Carmen by Monday, November 8, at 5:00 PM.

Week 5: November 15
Topics:
- Security/Privacy

Access Topic: Forms (MacDonald 12-13)

Read:
- Reddick, Chapter 10: Information Security and Privacy
- Shark, Trend 7: Protecting the Enterprise; Power, Grid, Network, and Cyber Security
- Why changing your password regularly may do more harm than good

Lab: Build forms for project

Week 6: November 22
Topics:
- Usability of data systems

Access Topic: User Interface (MacDonald 14)

Read: None

Lab: Build/enhance the user interface for your project

Week 7: November 29
Topics:
➢ The cloud
➢ Challenges to data informed governance

Access Topic: None

Read:
➢ Shark, Trend 3: Cloud-based Solutions
➢ Goldsmith and Crawford, Chapter 7: Rethinking Government

Lab: Wrap up project/submit if complete

Week 8: December 6
Topics:
➢ Artificial intelligence, big data, and algorithmic bias

Access Topic: None

Read:
➢ To be assigned

Lab: Wrap up project/submit if complete

Due: All documentation and files related to the Final Database Project are to be submitted to Carmen by Thursday, December 16 at 8:00 PM.