

## PUBHHMP 7673: Understanding Health Care Organization Data

1.5 credits – Spring, 2026

Fridays 9:15 a.m.-12 noon Room A109 Physical Activity and Education Services (PAES) Building

### Course Instructor

Sudipto Srivastava, MS Business Analytics and AI, MBA Information Systems [Srivastava.329@osu.edu](mailto:Srivastava.329@osu.edu)

### Instructor's Office Hours

By appointment (preference is before and after work hours)

### Faculty Feedback & Response Time:

The following gives you an idea of my intended availability during the course:

- **Grading:** You can generally expect feedback within 7 days.
- **E-mail:** I will reply to e-mails (sent via Carmen) within 48 hours on school days.
- **Discussion board:** Either the TA or the instructor will check and reply to messages in the discussion boards at least every 12 hours on school days, and every 24 hours on weekends, unless a different turnaround time (due to travel, etc.) is announced.

### Graduate Teaching Assistant (GTA)

Sophia Lou [lou.215@buckeyemail.osu.edu](mailto:lou.215@buckeyemail.osu.edu)

### GTA Responsibilities

The GTA assigned to the course will hold regular office hours and can answer basic questions about the course, materials, instructions, etc. The TA may assist with scoring assignments; however, final grades will be assigned by the professor. **Any questions regarding grading should be directed to the professor and not the TA.**

### Course Description

This course introduces students to the application of data from various sources to inform analysis and decision making in a healthcare environment. It will be taught from the perspectives of health analytics and decision-support in general and their applications in healthcare provider management in particular. The emphasis of the course will be to learn various concepts and techniques and apply the techniques to diverse decision-support contexts.

### Prerequisites

None

### Course Learning Objectives

| Objective   | MHA Competency  |
|---|---|
| Understand the importance of data in a healthcare setting and its role in the future healthcare system. | Management Functions (4, 6)<br>Leadership and Professionalism (6)<br>Business and Analytical Skills (3) |

|  |   |
|--|---|
| Understand the interconnections between various data domains.  | Management Functions (4, 6)<br>Leadership and Professionalism (6)<br>Business and Analytical Skills (3) |
| Identify sources of data within the health services environment.                                     | Management Functions (4, 6)<br>Business and Analytical Skills (6)                                       |
| Demonstrate data analysis strategies for problem identification and solving in a healthcare setting. | Management Functions (4, 6)<br>Business and Analytical Skills (5, 6)                                    |
| Use data analysis tools and understand appropriate ways to visualize and present data                | Business and Analytical Skills (1, 2, 3)  |
| Translate data to actionable insights to inform policy or management decisions                       | Leadership and Professionalism (6)<br>Business and Analytical Skills (3, 5, 6)                          |

### Text/Readings:

Class instructions will leverage concepts from the two books below.

Yasar A. Ozcan (2017), *Analytics and Decision Support in Health Care Operations Management, 3<sup>rd</sup> edition*, Jossey-Bass/Wiley (will be referred as **Ozcan**).

Knaflic, Cole Nussbaumer (2015), *Storytelling with Data: A Data Visualization Guide for Business Professionals*, John Wiley & Sons, Inc. (will be referred to as **Knaflic**)

For detailed concept reviews, print copies of Ozcan have been placed on reserve for students. The [Knaflic](#) text is available through the OSU library. If you are accessing the book from OSU campus, you will not be asked to sign in; off-campus students will need to log in and will be automatically prompted to do so once they click the link. You have the option to download the entire text as pdfs. If you experience issues access the text, please contact the OSU Library at (614) 292-OSUL (6785) or via their chat, found here <https://library.osu.edu/>.

Additional readings will be posted or linked on Carmen. We may use supplemental material (i.e. news articles) that are not currently listed in the Course Schedule. Any additional reading requirements will be announced in class and made available on Carmen. Class members are responsible for regularly checking Carmen.

### Carmen

There is a Carmen site for this course: <https://osu.instructure.com/courses/201584>. All course materials are available via Carmen.

You will need to use BuckeyePass ([buckeyepass.osu.edu](https://buckeyepass.osu.edu)) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions (<https://admin.resources.osu.edu/buckeyepass/adding-a-device>)

- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the Duo Mobile application (<https://admin.resources.osu.edu/buckeyepass/installing-the-duo-mobile-application>) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

### **Class Format: How this course works**

- **Mode of delivery:** In person.
- **Credit hours and work expectations:** This is a **1.5-credit-hour course**. According to Ohio State policy ([go.osu.edu/credithours](https://go.osu.edu/credithours)), students should expect around 3 hours per week of time spent on direct instruction in addition to 3-5 hours of homework/active learning activities to receive a grade of (C) average.
- **Attendance and participation requirements:** The class relies heavily on in class instructions and discussions. Students need to attend all the 7 lectures in this series. Any planned or emergency absences need to be communicated as soon as possible via email. Unexcused absences will have an impact on class participation grades.

### **Course Technology**

*Technology skills needed for this course*

- Basic computer and web-browsing skills
- Navigating Carmen ([go.osu.edu/canvasstudent](https://go.osu.edu/canvasstudent))

*Required equipment*

- **Computer:** current Mac (Mac OSX) or PC (Windows 10+) with high-speed internet connection
- **Calculator:** Students should have access to a scientific calculator that can perform basic arithmetic, square roots, logarithms, and exponentiation.
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

*Required software*

- **Microsoft 365 Copilot (formerly Office 365)**  
All Ohio State students are now eligible for free Microsoft 365 Copilot (formerly Office 365). Full instructions can be found at [go.osu.edu/office365help](https://go.osu.edu/office365help).

*Technology support*

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** <http://it.osu.edu/help>
- **Phone:** 614-688-4357(HELP)
- **Email:** [servicedesk@osu.edu](mailto:servicedesk@osu.edu)

### **Assignments/Assessments**

*Final Presentation: 25%*

The final examination will be in the form of an individual presentation. It will cover both exploratory and explanatory concepts and the data visualization techniques learned discussed in class (students are encouraged to utilize Tableau in their final presentation). The emphasis will be on the student

demonstrating analysis of a data set and presenting it to a healthcare organization’s leadership team. Further details will be provided in class

*Homework: 60%*

This course will use the homework to evaluate comprehension and application of materials discussed in class as well as materials provided as case studies. This will help to sharpen your skills in understanding health care decision support systems and to present data in meaningful and effective manners.

*In Class Participation: 15%*

Class participation is important for this course. A lot of the learning in this course comes from students asking questions, proposing solutions, working through real life examples, and engaging with guest speakers. Therefore, active participation in class is essential.

**Grading**

Here, the weighting scheme for the course needs to be described (e.g., % each assignment counts towards final grade).

**Grading Scale**

|           |                     |  |
|-----------|---------------------|--|
| <b>A</b>  | <b>93 to 100</b>    | Outstanding work that reflects mastery of the material and the ability to apply it |
| <b>A-</b> | <b>90 to &lt;93</b> | Excellent work that reflects mastery of the material                               |
| <b>B+</b> | <b>87 to &lt;90</b> | Good work that reflects mastery of most of the material                            |
| <b>B</b>  | <b>83 to &lt;87</b> | Good work that reflects mastery of some of the material                            |
| <b>B-</b> | <b>80 to &lt;83</b> | Good work that reflects mastery of a few aspects of the material                   |
| <b>C+</b> | <b>77 to &lt;80</b> | Mediocre work that reflects familiarity with, but not mastery of the material      |
| <b>C</b>  | <b>73 to &lt;77</b> | Mediocre work that reflects familiarity with most of the material                  |
| <b>C-</b> | <b>70 to &lt;73</b> | Mediocre work that reflects little familiarity with the material                   |
| <b>D+</b> | <b>67 to &lt;70</b> |  |
| <b>D</b>  | <b>60 to &lt;67</b> |  |
| <b>E</b>  | <b>Below 60</b>     |  |

Class Participation will be graded on the following rubric:

| <b>Performance Elements and Levels</b> | <b>Inadequate (5 point)</b>   | <b>Developing (10 points)</b>  | <b>Accomplished (12 points)</b>  | <b>Exemplary (15 points)</b>   |
|--|---|--|--|--|
| Engagement and Active Participation    | Student is absent or never participates in class discussion; fails to respond to direct questions | Few contributions to class discussions; seldom volunteers but responds to direct questions | Proactively contributes to class discussion; asks questions and responds to direct questions | Proactively and regularly contributes to class discussion; initiates discussion on issues related to class topic |
| Listening skills                       | Does not listen when others talk (not paying attention); interrupts or makes                      | Does not listen carefully; comments are often nonresponsive to discussion                  | Listens and appropriately responds to the contributions of others                            | Listens without interrupting and incorporates and expands on the comments of other students                      |

|   |   |   |  |  |
|---|---|---|--|--|
|   | inappropriate comments  |   |  |  |
| Relevance of contribution of topic under discussion | Does not contribute or contributions are off-topic or distract from discussion                    | Contributions are sometimes off-topic or distract from discussion                                 | Contributions are always relevant                            | Contributions are relevant and promote deeper analysis of the topic                                    |
| Preparation   | Student is not adequately prepared; does not seem to have read the assigned material before class | Student has read the material but not closely, or has read only some of the material before class | Student has read and thought about the material before class | Student is consistently well prepared; sometimes adds relevant information beyond the assigned reading |

### Late Work Policies

Assignments turned in after the due date will subject to a 10% grade penalty.

### Copyright Statement

This syllabus and all course materials (e.g., homework assignments, solution keys, course materials) are under copyright by the instructor and cannot be posted elsewhere without written permission.

### Generative AI Policy

This course will have a discussion of the use of AI in healthcare. The students will also have an opportunity to explore use cases of AI. AI use to enhance the student’s learning experience is encouraged. However, the use of AI (unless explicitly stated by the instructor) for completion of homework and assignments is not allowed. If I suspect that you have used GenAI on an assignment for which it is prohibited, I will ask you to explain your process for completing the assignment in question. Submission of GenAI-generated content as your own original work is considered a violation of Ohio State’s Academic Integrity policy and [Code of Student Conduct](#) (opens in new window) because the work is not your own. The unauthorized use of GenAI tools will result in referral to the [Committee on Academic Misconduct](#).

### Office of Student Life: Disability Services

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; or [slds.osu.edu](http://slds.osu.edu).

## **Mental Health Services**

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 are 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's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](https://ccs.osu.edu) or calling [614-292-5766](tel: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](tel:614-292-5766) and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

## **Religious Beliefs or Practices Accommodations**

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the [Civil Rights Compliance Office](#). (Policy: [Religious Holidays, Holy Days and Observances](#))

## **Academic Misconduct**

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all

instances of alleged academic misconduct to the committee ([Faculty Rule 3335-5-48.7 \(B\)](#)). For additional information, see the [Code of Student Conduct](#).

### **Intellectual Diversity**

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

### **Grievances and Solving Problems**

A student who encounters a problem related to his/her educational program has a variety of avenues available to seek resolution. According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, you may take your case to the department chairperson. Specific procedures are outlined in [Faculty Rule 3335-8-23](#), the [CPH Graduate Student Handbook](#), and the [CPH Undergraduate Student Handbook](#). Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

### **Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct**

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office:

Online reporting form at <http://civilrights.osu.edu/>,

Call 614-247-5838 or TTY 614-688-8605,

Or Email [civilrights@osu.edu](mailto:civilrights@osu.edu)

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any

human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

### Course Outline

| Week | Dates | Topics   | Assignments Due Thursdays at 11:59PM |
|------|-------|--|--------------------------------------|
| 1    | 1/16  | Course Introduction                                | HMWK 1                               |
|      |       | Data types   |                                      |
|      |       | Introduction to Quantitative Decision Making       |                                      |
|      |       | The Importance of Context                          |                                      |
| 2    | 1/23  | Forecasting-Predictive Analytics                   | HMWK 2                               |
|      |       | Effective Visuals                                  |                                      |
|      |       | Decision Making in Healthcare Facilities           |                                      |
|      |       | Avoiding Clutter                                   |                                      |
|      |       | Introduction to Tableau                            |                                      |
| 3    | 1/30  | Facility Location & Layout                         | HMWK 3                               |
|      |       | Focus Audience Attention                           |                                      |
|      |       | Tableau: Utilizing ER Data                         |                                      |
| 4    | 2/6   | Staffing   | HMWK 4                               |
|      |       | Scheduling   |                                      |
|      |       | Think Like a Designer                              |                                      |
|      |       | Telling an Effective Story                         |                                      |
|      |       | Tableau: Predictive Modelling + Tableau extensions |                                      |
| 5    | 2/13  | Productivity                                       | HMWK 5                               |
|      |       | Resource Allocation                                |                                      |
|      |       | Supply Chain                                       |                                      |
|      |       | Revenue Cycle                                      |                                      |
|      |       | Tableau: Visualizing scheduling data               |                                      |
| 6    | 2/20  | Quality Control continued                          | No HW                                |
|      |       | Pulling it all together                            |                                      |

| <b>Week</b> | <b>Dates</b> | <b>Topics</b>                                    | <b>Assignments<br/>Due Thursdays at<br/>11:59PM</b> |
|-------------|--------------|--|---|
|             |              | Tableau: AI + Spatial visualizations + data prep |   |
| 7           | 2/27         | Final Presentations                              |   |

