

**PBHL T580 - HEALTH CARE DATA ANALYTICS  
COURSE SYLLABUS  
Fall Quarter 2015**

**Instructors**

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<p>Office Phone: 267-359-6163 Office Hours:  <ul style="list-style-type: none"> <li>▪ After class on Wednesdays (12-1 pm) - no appointment necessary</li> <li>▪ By appointment on Tuesdays (9:00-11:45 am)</li> </ul>           Make appointments online:  <a href="http://professor-kanter-office.lattiss.com/">http://professor-kanter-office.lattiss.com/</a>            Office Location: Nesbitt Hall, Room 315            Email: gpkanter@drexel.edu</p>	<p>Office Phone: 609-658-0900 Office Hours:  <ul style="list-style-type: none"> <li>▪ After class on Wednesdays (12-1 pm) - no appointment necessary</li> <li>▪ By appointment on Monday - Friday (9:00AM - 7:00PM)</li> </ul>           Make appointments by email            Email: Asc48@drexel.edu (To Be Confirmed)</p>

**1. Course Description**

PBHL T580 (Health Care Data Analytics) is an introduction to health care data analytics concepts and methods for students who have had little previous data analytics coursework or experience. Topics to be covered in this course include: the creation of datasets, the structure of datasets, an introduction to data warehousing and working with large databases, an introduction to public health and healthcare datasets, methods for descriptive analytics, and an introduction to predictive analytics. Students will gain skills in data manipulation for program evaluation and analysis. Some SAS programming will be required and students are expected to have some facility with working with SAS.

**2. Course Learning Objectives and Core Competencies**

**2.1. Course Learning Objectives**

- Understand conceptual and practical issues related to the collection, sharing, and structuring of healthcare data
- Know how to find, download/extract, clean, and do descriptive analyses on a variety of healthcare datasets
- Apply critical thinking and technical skills to the use of data to inform business and policy decisions
- Understand concepts related to healthcare data innovation, "Big Data" analytics, descriptive data analytics, and predictive data analytics.
- Understand current barriers in healthcare management and how data analytics can provide potential solutions to improve quality, lower cost, and advance outcomes

## 2.2. Core Competencies

- Discuss the policy process for improving the health status of populations
- Apply "systems thinking" for resolving organizational problems
- Apply quality and performance improvement concepts to address organizational performance issues
- Describe how the public health information infrastructure is used to collect, process, maintain, and disseminate data
- Use information technology to access, evaluate, and interpret public health data
- Use informatics methods and resources as strategic tools to promote public health

## 3. Readings and Software

### 3.1. Readings

Readings will be from a variety of books and articles, and will be made available on-line through Blackboard.

### 3.2. Software

Excel

SAS Version 9.3 or higher

[SAS University Edition: [http://www.sas.com/en\\_us/software/university-edition.html](http://www.sas.com/en_us/software/university-edition.html)]

## 4. Evaluation

The course grade will be based on homework assignments, a final group presentation, a final group paper, peer evaluation for group work, attendance, and class participation.

Homework Assignments	35%
Final Presentation	25%
Final Paper	25%
Attendance and Class Participation	10%
Peer Evaluation	5%

### 4.1. Homework Assignments

There will be 4 homework assignments throughout the duration of the course. The assignments are intended to provide students with the opportunity to practice analyzing datasets, and evaluating and interpreting healthcare data. Homework assignments are due in the beginning of each class. Late assignments will be accepted with 10% deducted from the value of the assignment each day the homework is turned in late. Students may consult with each other on the homework but each student must write up (and code up if necessary) his or her own assignment.

### 4.2. Final Presentation

Each student should work collaboratively in a group of 2-3 students to prepare and deliver a final presentation on their data analytics project. The final presentation should reflect a thoughtful synthesis and use of the concepts and methods taught throughout the course. Students should use data analytic techniques to examine and interpret data to identify a need or gap within a population of their choosing. Student should then provide data-driven recommendations on improving the population's health. Presentations should be 15-20 minutes in length. The last class session (Wednesday, December 2) is reserved for oral presentations.

#### 4.3 Final Paper

The final paper should reflect, in written form, a thoughtful synthesis and use of the concepts and methods of the course, and will be a professional business case incorporating data analysis and data-driven recommendations. As with the presentation, the final paper should be the product of a collaboration of 2-3 students per group. The final paper should be written in a business case format, identifying the specific population health need or opportunity for improvement, providing supporting data (i.e. charts and analysis), discussing and interpreting findings, and presenting recommendations with a focus on return on health outcomes. Papers, which should be about 6-8 pages double-spaced not including figures and tables, are due 12 noon, Thursday, December 3, 2015, and should incorporate instructor comments and feedback from the oral presentation. There will be a 10% deduction per day for late papers.

#### 4.4. Attendance and Class Participation

Attendance is required for all class sessions for the entirety of each session, and will be recorded at the start of each class. Students are responsible for obtaining any missed material from classmates. Evaluation of class participation will include students' preparedness for each class session, including those with guest lecturers, as well as participation (both quantity and quality) in each session's discussions.

#### 4.5 Peer Evaluation

The purpose of the peer evaluation is to identify group members' roles in and contribution to all group assignments. Students will be asked to rate group members' contributions to, separately, the final presentation and the final paper. Details of and late penalties relating to the peer evaluation process will be presented in detail by the instructor towards the end of the course.

#### 4.6. Grading scale

A+	98-100
A	94-97
A-	90-93
B+	88-89
B	84-87
B-	80-83
C+	78-79
C	74-77
C-	70-73

## Drexel University Policies

**Disability Statement:** Student with disabilities requesting accommodations and services at Drexel University need to present a current Accommodation Verification Letter (AVL) to faculty before accommodations can be made. AVL's are issued by the Office of Disability Resources (ODR). For additional information, contact ODR at [www.drexel.edu/odr](http://www.drexel.edu/odr), 3201 Arch St., Street, Suite 210, Philadelphia, PA 19104, 215.895.1401 (V), or 215.895.2299 (TTY).

**Academic Integrity Policy:** Drexel University is committed to a learning environment that embraces academic honesty. In order to protect members of our community from results of dishonest conduct, the University has adopted policies to deal with cases of academic dishonesty. Please read, under, and follow the academic integrity policy in Code of Conduct as written in the Official Student Handbook, page 135: ([http://www.drexel.edu/studentaffairs/community\\_standards/studentHandbook/](http://www.drexel.edu/studentaffairs/community_standards/studentHandbook/)).

**Course Drop Policy:** Please note that “dropping” a course and “withdrawing” from a course are distinct actions and are governed by different policies. (See “Course Withdrawal Policy” below.)

For both graduate and undergraduate students, courses may only be dropped during the “drop period” lasting from the beginning of the enrollment period through the end of the second week of the quarter. Dropping a course results in the course being removed from the student’s academic record without a “W” appearing on the transcript—specifically, neither the course nor the grade of “W” appears on the student’s transcript. Freshmen and new first-term transfer students must meet with their academic advisors to drop courses during the first quarter. Undergraduate upper-class and graduate students may use BannerWeb to drop courses; no approvals are required for upper-class and graduate students.

Students drop a course for the term in which they are enrolled by using BannerWeb for students. Approval of the instructor is not required to drop a course (but is required to withdraw from a course).

For “accelerated courses,” which normally last five weeks, the drop period is limited to the first week of the course. Thus, for accelerated courses given during weeks one through five of the regular term, the drop period is week one; for accelerated courses given during weeks six through ten of the regular term, the drop period is week six (of the regular term).