

DRAFT - Data Analytics
BMI 507/607 Seminar
June 30-September 19, 2014
Summer 2014 Hybrid
3 credit hours

PREREQUISITES:

BMI 510, BMI 540 or 565, BMI 544, and PHPM 524 or BSTA 511. Experience with R (or other scripted statistical language), SQL, AND spreadsheets a positive. Signature required.

COURSE DESCRIPTION:

Data Analytics will explore the role of analysts, and analytics, in healthcare organizations. The course will consist of six weeks of directed readings with online discussions, hands-on use of analytical tools for data extraction and analysis, one week on campus, and individual completion of a term project. The on-campus portion will consist of lectures, guest speakers, and hands-on lab sessions. This will be an applied course that introduces the concepts of the data analytics lifecycle, including:

- Data Analysis and its use in healthcare organizations
- The analytics consulting life cycle
- Framing an analytical problem
- Requirements and metric definition
- Data extraction
- Metadata and its importance within an organization
- Creating, validating, interpreting, and presenting analysis
- Current and emerging tools in data analysis
- Emerging topics in healthcare data analysis

INSTRUCTORS:

David Dorr, MD, MS

Associate Professor, Medical Informatics & Clinical Epidemiology

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Brian Sikora, MHA

Director, Data & Information Management Enhancement

Kaiser Permanente

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Delilah Moore, PhD

Lead Information Analyst, Data & Information Management Enhancement

Kaiser Permanente

Email: delilah.s.moore@kp.org

CLASS TIMES:**Note: Sakai will be available June 30**

On-campus sessions September 15-19, 9 a.m. to 4 p.m.

LOCATION:**September 15-19, 2014, BICC 124****TEXTBOOKS:**Required

- Davenport, Thomas; Harris, Jeanne; Morison, Robert (2010). *Analytics at Work*. Harvard Business Review Press - 1st Ed. ISBN-10: 1422177696. ISBN-13: 978-1422177693
- Boyer, John; Frank, Bill; Green, Brian, Harris, Tracy, Van De Vanter, Kay (2012). *5 Keys to Business Analytics Program Success*. Mc Press – 1st ed. ISBN-10: 1583473432. ISBN-13: 978-1583473436

Optional/Recommended:

- Few, Stephen (2006). *Information Dashboard Design: The Effective Visual Communication of Data*. O'Reilly Media – 1st ed. ISBN-10: 0596100167. ISBN-13: 978-0596100162

COURSE GRADING POLICY:

This seminar course is Pass/No Pass - A passing score will be given if a student receives a score of 70% or higher.

Graduate Studies in the OHSU School of Medicine is committed to providing grades to students in a timely manner. Course instructors will provide students with information in writing at the beginning of each course that describes the grading policies and procedures including but not limited to evaluation criteria, expected time needed to grade individual student examinations and type of feedback they will provide.

Class grades are due to the Registrar by the Friday following the week of finals. However, on those occasions when a grade has not been submitted by the deadline, the following procedure shall be followed:

- 1) The Department¹ /Program Coordinator² will immediately contact the Instructor requesting the missing grade, with a copy to the Program Director and Registrar.
- 2) If the grade is still overdue by the end of next week, the Department¹ /Program Coordinator² will email the Department Chair directly, with a copy to the Instructor and Program Director requesting resolution of the missing grade.
- 3) If, after an additional week the grade is still outstanding, the student or Department¹ /Program Coordinator² may petition the Office of Graduate students for final resolution.

1 For courses that are run by a specific department.

2 For the conjoined courses (course number is preceded by CON_ that are run by Graduate Studies

COURSE OBJECTIVES:

1. Understand the field of data analytics, the use of analytics within organizations, and the role of analysts within organizations.
2. Learn the skills to fully define problem and learn to assemble a team with the right components and approach to solve the problem. Ability to work through an operational problem end to end.
3. Understand where data comes from and how to extract the data (structure, unstructured and abstract data).
4. Learn how to effectively communicate the results of an analysis (interpreting data, how to tell if one is successful, analytical maturity, define the problem, presenting the analysis).
5. Learn about the common tools utilized to access and manipulate data.
6. Be able to design a new metric.

ACADEMIC HONESTY:

Course participants are expected to maintain academic honesty in their course work. Participants should refrain from seeking pat published solutions to any assignments. Literature and resources (including Internet resources) employed in fulfilling assignments must be cited. See <http://www.ohsu.edu/xd/education/schools/school-of-medicine/departments/clinical-departments/dmice/students/current-students.cfm> for details (click on “Professional Conduct Policy”).

See http://www.ohsu.edu/xd/education/library/research-assistance/plagiarism.cfm?WT_rank=1# for information on code of conduct for OHSU and <http://www.ohsu.edu/xd/education/teaching-and-learning-center/for-students/index.cfm> for more information on citing sources and recognizing plagiarism.

In an effort to uphold the principles and practice of academic honesty, faculty members at OHSU may use originality checking systems such as Turnitin to compare a student’s submitted work against multiple sources.

To protect student privacy in this process, it will be necessary to remove all personal information, i.e. student name, email address, student u-number, or any other personal information, from documents BEFORE submission.

STUDENT ACCESS

OHSU is committed to providing equal access to qualified students with disabilities. Student Access determines and facilitates reasonable accommodations, including academic adjustments and auxiliary aids, for students with documented disabilities. A qualified student with a disability is a person who meets the academic and technical standards requisite to admission or participation in a particular program of study. As defined by the Americans with Disability Act (ADA), a person with a disability has a physical or mental impairment that substantially limits one or more major life activities of the individual. This may include, but is not limited to, physical conditions, chronic health issues, sensory impairments, mental health conditions, learning disabilities and ADHD. Student Access works with students with disabilities from all of OHSU’s educational programs and at each campus.

Each school has an assigned Program Accommodation Liaison (PAL), who acts as an “in-house” resource for students and faculty concerning access issues for students with disabilities. The PAL works in collaboration with Student Access to implement recommended accommodations for students with disabilities.

It is recommended that you contact Student Access to consult about possible accommodations if you a) received disability accommodations in the past, b) begin experiencing academic difficulties, and/or c) are given a new diagnosis from your healthcare provider.

Learn more about Student Access:

Phone: 503 494-0082

Email: studentaccess@ohsu.edu

Website: www.ohsu.edu/student-access

NOTE:

This syllabus and class schedule is subject to change by the instructors. Changes will be made with as much advance notice as possible.

USE OF SAKAI

This course will have an online component, which can be accessed through Sakai, OHSU’s online course management system. For any technical questions or if you need help logging in, please contact the Sakai Help Desk.

Students having difficulties with Sakai should contact the Sakai Help Desk. Do not contact the instructor.

The Sakai Help Desk is available:

Mon – Fri, 8 am – 10 pm

Weekends and holidays, 12 pm – 5 pm

Contact Information:

(Local) 503-494-7074 (4-7074 on campus)

(Toll-free) 877-972-5249

(Web) <http://atech.ohsu.edu/help>

(Email) sakai@ohsu.edu

DMICE COMMUNICATION POLICY

1. If the syllabus directs the student to contact the TA before contacting the instructor, the student should do so. Otherwise, the student should contact the instructor and allow 2 business days (not including weekends) for a response.
2. If the student does not receive a response from the instructor within 2 business days, s/he should contact the TA (if there is one). When contacting the TA s/he should cc the instructor and Diane Doctor at doctord@ohsu.edu.

3. If a student does not receive a response from the TA within 1 business day (not including weekends), s/he should contact Diane Doctor at doctord@ohsu.edu and cc the instructor and the TA.
4. If Diane does not reply within 1 business day (not including weekends), the student should contact Andrea Ilg at ilgan@ohsu.edu.

COURSE SCHEDULE

Pre-Campus Sessions – TBA

On-Campus Session

	AM		PM	
Monday	Introductions/Background Data Analytics - What is it? Org, Industry,	Recap from pre-work Applications to the KP world Analyst skillsets	Consulting Life Cycle	Pull it together/Set stage for morning Intro to CMS 2 midnights rule Discuss data sources in hospitals
Tuesday	Frame the Problem 2 midnights rule Guest speakers	Requirements <ul style="list-style-type: none"> - Measures - Dimensions - Breaking down data elements 	Defining Metrics	Pull it together <ul style="list-style-type: none"> - Iterate through requirements - Goal--think about what metrics they would use, what kind of analysis.
Wednesday	Data Extraction	Meta data ← ERD →	VA data dictionary	Pull it together <ul style="list-style-type: none"> - Build metadata for data set
Thursday	Creating Metrics	Validating Metrics	Interpretation/Benchmarks	Pull it together
Friday	Presenting Analysis Examples from our experience (good & bad)	Tools	Emerging Trends	X