

University of Florida
College of Public Health & Health Professions Syllabus
HAS 6395, section 2181
Healthcare Data Analytics 1
Fall, 2015
Delivery Format: On-Campus
Readings/lectures will be posted on canvas: lss.at.ufl.edu

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Teaching Assistants: Muna Oli, MPH candidate, munaoli@ufl.edu
Preferred Course Communications (e.g. email, office phone): Please direct all questions to Muna

Prerequisites: Must be a first year student accepted in the Master's of Health Administration Program.

PURPOSE AND OUTCOME

Course Overview

Health care organizations produce enormous amounts of data on their patients, their communities, the costs of care, supplies, staffing, quality of care, and procedures. Health care administrators are challenged with developing insights from these data in order to improve patient care, develop population health strategies, and maximize business efficiencies. Decision support tools are available to managers. They need to know how to use them and how to interpret the information that comes from them. Healthcare can and should learn from the best analytics of other industries but understand how to adapt them to the uniqueness of the healthcare environment.

Relation to Program Outcomes

This course is an introduction to the use of data analytics in health care decision-making. It is the first in a two course series in the Masters of Health Administration degree program. In addition, topics covered in this course will provide a foundation for the analytic approaches that are highlighted in HSA 6196 (Healthcare Data Analytics II), HSA 6198 (Information Management in Health Administration) and HSA 6385 (Performance Management for Health Care Managers)

There are two components to the course. Part 1 will define healthcare intelligence and data analytics. Part 2 will focus on the quantitative methods that can be applied to analyze health care data. Students will become adept at using EXCEL and SAS to manipulate data and perform analyses.

The concepts of the course will be taught through a variety of modalities. There will be extensive use of case studies for real world applications. Textbook chapters will be presented for understanding concepts. Group projects will be assigned for team building, collaboration and opportunities for problem solving. Finally, group presentations will be utilized to develop organization and speaking skills.

Course Objectives and/or Goals

Course Objectives	Competencies Addressed
Describe the basic terminology and definitions of business intelligence and data analytics	Continually scan and interpret key trends and activities in the health care environment
Describe the principles of business intelligence including data warehousing, data mining how to create a data driven organization	
Define a strategic or operational question that can be analyzed using basic measurement tools	Measure and improve clinical and organizational performance and as needed redesign organizational systems and processes
Discover how to answer strategic or operational questions using basic analytic techniques	Use statistical and analytical tools to measure and improve organizational performance. Identify and effectively use appropriate communication vehicles based on audience characteristics and communication goals
Learn a defined process for analyzing a set of health care related data	
Understand how to read, produce, and present data analytic reports	

Instructional Methods

Lecture, discussion and hands-on practice

DESCRIPTION OF COURSE CONTENT**Topical Outline/Course Schedule**

Week	Date(s)	Topic(s)	Readings
1	8/25	Introductions, syllabus and overview of concepts Excel skills	TBA
2	9/1	Basic Analytics and Statistics Excel skills	TBA
3	9/8	Basic Analytics and Statistics Excel skills	TBA
4	9/15	Providing value to the organization through data analytics Excel skills	TBA
5	9/22	What constitutes data and how to organize it? Excel skills	TBA
6	9/29	Data warehousing and information architecture Excel skills	TBA
7	10/6	Information integration and asking an intelligent question Excel skills	TBA
8	10/13	Class presentations and case studies Excel skills	TBA

Week	Date(s)	Topic(s)	Readings
9	10/20	Inferential statistical approaches to business analytics Excel skills	TBA
10	10/27	Introduction to SQL and SAS	TBA
11	11/3	Data Mining and Big Data approaches	TBA
12	11/10	Measurement issues and summarizing and interpreting results	TBA
13	11/17	Class presentations and case studies	TBA
14	11/24	Class presentations and case studies	TBA
15	12/1	FINAL EXAM	TBA

Course Materials and Technology

Required Materials

1. *Business Intelligence: Practices, Technologies, and Management*. Rajiv Sabherwal & Irma Becerra-Fernandez; John Wiley & Sons, Inc., 2011
2. *Health Analytics: Gaining the Insights to Transform Health Care*. Jason Burke; John Wiley & Sons, Inc., 2013
3. Course readings distributed by instructor
4. A computer with excel capabilities

Optional Materials

Business Analytics for Managers: Taking Business Intelligence Beyond Reporting. Gert H.N. Laursen & Jesper Thorlund; John Wiley & Sons, Inc., 2010

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

ACADEMIC REQUIREMENTS AND GRADING

Assignments

TBA

Grading

Requirement	Points or % of final grade (% must sum to 100%)
Homework	20%
Exams	30%
Presentations	30%
Written Analysis	20%
Participation will be counted as 'extra credit.' Students will be able to earn 0,1 or 2 points towards their final exam based on how often they participate in class discussions and involve themselves in the course	

Point system used (i.e., how do course points translate into letter grades).

Points earned	95-100	90-94	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	0-60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Please be aware that a C- is not an acceptable grade for graduate students. A grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A. In addition, the Bachelor of Health Science Program does not use C- grades.

You must include the letter grade to grade point conversion table below. Letter grade to grade point conversions are fixed by UF and cannot be changed.

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
Grade Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Exam Policy

Policy Related to Make up Exams or Other Work

Please contact Muna with any scheduling conflicts at the beginning of the semester. In general, homework turned in late will not be accepted.

Please note: Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance

Class attendance is required.

All faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

Students are expected to pay full attention during class. All cellphones should be turned off or on silent, and put away during class time. Students will discuss readings and will be called on randomly during class.

Communication Guidelines

Please direct all communication to Muna.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

“We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.”

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>
<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Online Faculty Course Evaluation Process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

SUPPORT SERVICES

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class. The Dean of Students Office will provide documentation of accommodations to you, which you then give to me as the instructor of the course to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services.

The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: <https://shcc.ufl.edu/>

- Crisis intervention is always available 24/7 from:
Alachua County Crisis Center
(352) 264-6789
<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.
