

Instructor: Dr. Reginald Silver  
 Office: 304-A Friday Building  
 Phone: 704-687-6181  
 Email: [rsilver5@uncc.edu](mailto:rsilver5@uncc.edu)

Course Website: Canvas ([www.canvas.uncc.edu](http://www.canvas.uncc.edu))

Section Information:

Section	Day(s)	Location	Time(s)
Section U01	T	801 Center City	12:30 pm – 3:15 pm

Office Hours:

Day(s)	Time(s)
T	10:00 am – 11:30 am
R	10:00 am – 11:30 am

**Course Description and Objectives:**

DSBA 6213/MBAD 6213/HCIP 6213 - Applied Healthcare Business Analytics: Applying analytics within the healthcare setting. This course focuses on analytical tools used to synthesize big data into meaningful management information that is used in making key business decisions that impact the delivery of healthcare services. Case studies will be utilized to prepare students for delivering boardroom level presentations of their findings.

**Prerequisites:**

- Proficiency with MS Excel
- Applied Statistics (e.g., MBAD 5141, STAT/HCIP 5123)
- Decision Modeling & Analysis (e.g., MBAD/DSBA 6122, HADM/HCIP 6108)

**Learning Objectives:**

Students will:

- a) Understand the importance of using data to make critical decisions in the healthcare setting
- b) Define both quantitative and qualitative Key Performance Indicators (KPIs) that measure performance within the domains of finance, operations, and data from surveys
- c) Develop skills in presenting visual illustrations of data to be used in decision making
- d) Apply analytical concepts in solving complex business cases
- e) Enhance presentation skills in a live presentation setting
- f) Work within a multidisciplinary team setting

**Course Materials:**

1. Textbook:

*Strome, T. L. (2013). Healthcare analytics for quality and performance improvement.*

ISBN: 978-1-118-51969-1

2. Additional Course Materials:

- a. Harvard Business Review Coursepack

Each student must purchase the HBR coursepack that has been created specifically for the course. The coursepack can be purchased for \$17.00.

<http://cb.hbsp.harvard.edu/cbmp/access/58146467>

- b. Software for quantitative analytics (MS Excel or other)

The analytics exercises that will be conducted in the course will require students to use Microsoft Excel, Tableau, and possibly other analytical software applications. Details for other analytical tools will be provided via canvas.

Students may obtain a free version of Tableau for use in the course.

<http://www.tableau.com/academic/students>

- c. Software for qualitative analytics (MAXQDA)

Students can download the trial version of MAXQDA. Each student will receive a temporary activation key from the instructor. This activation key will fully unlock the software for 100 days. The activation key is only good for one activation per student on one machine.

<http://www.maxqda.com/demo>

- d. Software for enterprise resource planning (SAP)

Students will be provided with access to an SAP application that will allow them to complete an assignment using the SAP platform. This access will be provided later in the semester. Details for the SAP assignment will be provided via Canvas.

- e. Software for group presentations (MS PowerPoint)

**Course Evaluation:**

Course Component	Weight
Attendance & Participation	10%
Homework Assignments	10%
Group Project	40%
Exams	40%
	<b>100.00%</b>

**Grading Scale:**

Score	Grade
90 -100	A
80 – 89.99	B
70 – 79.99	C
60 – 69.99	D
0 – 59.99	F

**Attendance and Participation:**

Students are expected to attend all class activities. The first two absences from any class activity are automatically excused. Attendance and participation grades are impacted beginning with the third absence. Students with four or more absences will receive a zero for the attendance and participation grade.

Note: Some topics discussed in the classroom may not be covered by the textbook or other materials. The class discussions are an integral part of the course and all students are expected to participate. Students are responsible for obtaining any information that they miss due to being absent from class.

**Homework Assignments:**

There will be four homework assignments that are designed to reinforce material covered in the classroom sessions. To complete these assignments, students will apply analytical techniques that will assist them with learning how to manage both quantitative and qualitative data sets. The homework assignments will cover data definitions, data sources, data collection, data storage, and data analytics. Material for the homework assignments will be drawn from the recommended textbook and case studies that will be identified throughout the semester.

**Group Project:**

Students will be expected to complete a group project that emphasizes the business value of conducting big data analysis and interpretive analytics within the healthcare domain. The project will consist of an analysis of a large data set, a problem identification, research, solution identification, predictive analytics, and a final group presentation. Details for the group project will be provided via Canvas.

**Exams:**

There will be four exams given during the semester. A fifth, cumulative, exam will be given at the end of the semester. The lowest of these five exam grades will be dropped prior to the computation of the final grade in the course. For students that maintain an average greater than 70%, the cumulative final exam is optional. For students with an average that is lower than 70%, the final exam is mandatory.

If a student is aware of a pending absence during the semester, the student may take an exam early by scheduling it with the instructor. Advanced notice is required and confirmation must be provided by the instructor before an exam can be taken early. There will be no makeup exams after the fact, except in extreme emergencies and with proper documentation.

Exams are closed book and the use of notes during exams is not permitted. Written exams or exams administered electronically follow the same guidelines. If an exam is administered electronically and a student accesses any information except the files needed to complete the exam, the student will receive a zero for that exam. Computer access is routinely monitored during the administration of electronic exams.

Exams are a form of intellectual property belonging to those who create them. Consequently, exams must remain in the instructor's possession or under their control at all times. This means that exams may not be taken out of the room or copied. Students are encouraged to review their exams during office hours or by appointment. Failure to return an exam, removing an exam at any time, or copying an exam will be considered theft of intellectual property. Such action will result in an exam grade of zero and may warrant further disciplinary action.

### Tentative Course Schedule

The course schedule is subject to be changed by the instructor at any given point during the semester. These possible changes refer to any changes in class meeting dates or times, assignment due dates or times, or the number of assignments in the course.

Week	Date	Topic	Reading & Assignments
1	10 January	Fundamentals of Healthcare Analytics	Strome Chapters 1-2
2	17 January	Data Quality and Governance	Strome Chapter 5
3	24 January	Applications of Business Analytics in Healthcare	HBR Case #1
4	31 January		Exam 1
5	7 February	Working with Data	Strome Chapter 6
6	14 February	Developing Effective Indicators	Strome Chapter 7
7	21 February	Basic Statistical Methods	Strome Chapter 9
8	28 February		Exam 2
9	7 March	Spring Break – No Classes	
10	14 March	Big Data and Pharma	HBR Case #2
11	21 March	Advanced Analytics in Healthcare	Strome Chapter 11
12	28 March		Exam 3
13	4 April	Analyze Big Data Using SAS	HBR Case #3
14	11 April	Predictive Analytics	HBR Case #4
15	18 April	Predictive Analytics	HBR Case #4 (continued)
16	25 April		Exam 4
17	2 May		Group Project Presentations
18	9 May		Final Exam

**Classroom Policies:*****Due Dates***

Written homework must be handed in within 5 minutes of the scheduled start time for the class period on which it is due. Late homework will not be accepted. Not turning in a homework assignment on time will result in a zero for that assignment. In the event that a student is unable to attend class when an assignment is due, the student is responsible for making arrangement to turn the assignment in early.

***Grade Appeals***

If a student believes that the grade that they received on an assignment or an exam was in error or unfair, the student can appeal to the professor in writing within 7 calendar days after the grades are posted. The appeal should clearly state the reasons why the grade is believed to be unfair or the nature of the error. Overdue appeals will not be considered.

***Class Behavior***

Disruptive behavior distracts from the learning experience of others. Such behavior includes, but is not limited to, arriving late, leaving early, having side conversations, making unnecessary comments that add no value to the class, surfing the net, and any activities that negatively impact the ability of other students to learn and/or listen in class.

Rude and inappropriate behavior will not be tolerated. Points will be deducted from the grade of any student who chooses to repeatedly distract others. In particularly egregious cases, the student will be permanently removed from the class.

Under no circumstances will students be permitted to spend their class time working on assignments for other classes, checking e-mail, surfing the Web, texting, or engaging in activities not related to the class. Attempts to engage in such behavior will be reflected in lower grades and may lead to removal from the course.

***Use of Electronic Devices in Class***

Use of computing, communication, or other devices during the class time for purposes other than those required for the class is prohibited and may result in being asked to leave the classroom for the remainder of the class period. This includes the use of laptops, lab computers, phones or other devices for Internet browsing, game playing, reading news, emailing, texting, chatting, IM, Facebook, or other activities not required for the class. Cellular phones and other communication devices must be silenced and stored away during class.

***Use of Tobacco and e-Vapor Products in Class***

The use of tobacco and e-Vapor products in class is prohibited. If a student uses any form of tobacco or e-Vapor product during class, the student may be asked to leave the class.

**University Policies:*****Academic Integrity***

As a program that helps to create business and government leaders, the College of Business has an obligation to ensure academic integrity is of the highest standards. Standards of academic integrity will be enforced in this course.

University regulations will be strictly enforced in all cases of **academic irregularities, cheating or plagiarism** or any variations thereof. Students assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work.

All UNCC students have the responsibility to be familiar with and to observe the requirements of The **UNCC Code of Student Academic Integrity** (see the Catalog and also <http://integrity.uncc.edu/>). This code forbids cheating, fabrication or falsification of information, multiple submission of academic work, plagiarism of written materials and software projects, abuse of academic materials (such as Library books on reserve), and **complicity in academic dishonesty** (helping others to violate the code). Additional examples of violation of the Code include:

- Representing the work of others as your own.
- Using or obtaining unauthorized assistance in any academic work.
- Giving unauthorized assistance to other students.
- Modifying, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
- Misrepresenting the content of submitted work.

For this course, it is permissible to assist classmates in general discussions of computing techniques. General advice and interaction are encouraged. Each person, however, must develop his or her own solutions to the assigned homework and laboratory exercises. Students may not "work together" on graded assignments. Such collaboration constitutes cheating, unless it is a group assignment. A student may not use or copy (by any means) another's work (or portions of it) and represent it as his/her own. If you need help on an assignment, contact your instructor or the TA, not other classmates.

Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course.

Students who violate the code can be punished to the extent of being **permanently expelled** from UNCC and having this fact recorded on their official transcripts. The normal penalty is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to "F." If you are unclear about whether a particular situation may constitute an honor code violation, you should meet with the instructor to discuss the situation.

If you do not have a copy of the code, you can obtain one from the Dean of Students Office.

Students are expected to **report cases of academic dishonesty** they become aware of to the course instructor who is responsible for dealing with them.

Feel free to discuss the definition of cheating and/or plagiarism with me if you are unclear on these terms or have questions about the acceptability of a particular type of action.

### ***Use of Computing Resources Policy***

For the purposes of the course you will be given access to a variety of computing resources. These resources are to be used only for the purposes of this course. Intentional or grossly negligent disruptive and/or illegal use of the resources will result at a minimum in a loss of access privileges and a failing grade for the course. Further action will be taken as necessary. All [University Policies on the use of Computing Resources](#) apply.



***Accommodations or Disabilities***

In compliance with the Americans with Disabilities Act (ADA), all qualified students enrolled in this course are entitled to “reasonable accommodations.” Please notify the instructor during the first week of class of any accommodations needed for the course.

***Diversity***

The Belk College of Business strives to create an inclusive academic climate in which the dignity of all individuals is respected and maintained. Therefore, we celebrate diversity that includes, but is not limited to ability/disability, age, culture, ethnicity, gender, language, race, religion, sexual orientation, and socio-economic status.

***Incomplete Grades***

Students will not be given an incomplete grade in the course without sound reason and documented evidence as described in the Student Handbook. In any case, for a student to receive an incomplete, he or she must be passing the course and must have completed a significant portion of the course.

***Course Changes***

The instructor reserves the right to make any necessary changes to the course content, schedule, and policies. Changes will be announced in class and will also be posted online and communicated via email.

***Religious Accommodations***

The instructor will observe University Policy 409 (<https://legal.uncc.edu/policies/up-409>) on matters of religious accommodation. Please note that the procedure prescribed by this policy requires a notice to the instructor prior to the census date of the semester (typically the tenth day of instruction).