

PHCY/5146: Introduction to HEOR Data Analytics Using SAS I

3 Semester Credit Hours

Course Purpose:

The purpose of this course is an introduction to analyzing medical and pharmacy data using programming techniques in SAS and SQL. This course will explore the features and complexities of medical and pharmacy data and will focus on all the corresponding aspects of the introductory/preparatory phases of the data life cycle in health economics and outcomes research, including importing and cleansing data, manipulating and creating new variables, merging data, and subsequently preparing a final analytic data set to address specific clinical questions related to a patient population to achieve the objectives of a research study. This course will also provide introductory exposure to generating descriptive statistics using SAS and SQL.

Course Faculty and Office Hours

Course Coordinator:

Jason Scott, M.Sc., M.P.H., M.B.A.

Email: jscott53@uwyo.edu

Office: N/A

Phone: 502-709-2812

Office Hours

By Appointment

Place and Time of Class Sessions: Sundays 7:00pm – 9:00pm (All times Eastern) and recorded lectures to be viewed during the week when feasible for the student

Course Objectives

Upon completion of this course, the student will:

- Articulate the differences between data and knowledge as they apply in the patient care and medication use process
- Describe the prominent issues and resolutions used when working with pharmacy claims data.
- Describe the rationale and impact of analytics in the pharmaceutical, pharmacy and medical services, and insurance markets.
- Discuss legal and regulatory issues related to pharmaceutical data analysis.
- Describe career options for a pharmacist in the information technology and data analytics field.

Course Structure & Outline

Course Structure. Live online video and recorded class sessions, homework assignments, pharmacy application papers, and other self-directed learning activities are required (e.g. videos, readings, web-based learning, etc.).

Course Outline/Activities. Refer to Appendix A for the tentative class schedule.

Required Software SAS Enterprise Guide – provided to student

Recommended Textbooks Course materials are provided to student
See Appendix B for a complete list of reading assignments.

Student Evaluation & Grading

Evaluation Methods

- Midterm Exam 25%
- Final Exam 25%
- Pharmacy Application Papers 30%
- SAS/SQL Homeworks 15%
- Class Participation 5%

Pharmacy Application Papers

You are expected to apply material by submitting a topic paper and completing homework assignments in SAS and participating in the group discussion during the workshops.

Weekly topic paper should be single-spaced with one-inch margins and at most one page long using Times New Roman 12 point font. The paper should be well-organized and written in a professional tone. It should be concise and relate the topic to the class material. (ONLY 3 PAPERS ARE REQUIRED THIS SEMESTER)

SAS/SQL Homeworks

3 homework assignments using data sets provided to you are assigned throughout the semester and you will answer the questions using SAS/SQL.

Exams

The exam will consist of completing a series of questions using the data set of a patient population provided to the student. The exam will cover the concepts from class lectures and the assigned textbooks.

Grading Scale

95-100 = A

90-94 = A-

86-89 = B+

83-85 = B

80-82 = B-

76-79 = C+

73-75 = C

70-72 = C-

66-69 = D+

63-65 = D

60-62 = D-

<60 = E

Class Attendance Policy

Attendance to live sessions is required. Class participation grades will be reduced for not attending.

Make-up Quiz/Exam Policy

Make-up exams for the exams will be given only if you have written official documentation of a valid excuse.

Policy on Old Quizzes and Assignments

No old quizzes or assignments are provided.

Assignment Deadlines

Late assignments will not be accepted.

General College of Pharmacy Course Policies

The College of Pharmacy has a website that lists course policies that are common to all courses. This website covers the following:

- 1.University Grading Policies
- 2.Academic Integrity Policy
- 3.How to request learning accommodations
- 4.Faculty and course evaluations
- 5.Student expectations in class
- 6.Discussion board policy
- 7.Email communications
- 8.Religious holidays
- 9.Counseling & student health
- 10.How to access services for student success

Appendix A: Class Schedule

See corresponding Excel spreadsheet

Appendix B: Reading Assignments

Varies by semester, includes contemporary empirical literature on pharmacy informatics and health economics and outcomes research that are informative and applicable to the student to integrate into course material. Please refer to the documentation that has been posted in the corresponding folders by subject matter in Canvas. SUGI (SAS Users Group International) papers have been posted in Canvas for your use to provide supplemental materials to aid understanding the course concepts. Additional learning materials as provided by the SAS Institute will also be posted in Canvas.