Graduate Certificate in Healthcare Business Analytics

a. Curriculum Outline – List of courses in new program – Underline required courses

The twelve (12) hour Graduate Certificate in Healthcare Business Analytics credential (intra-college program between the Sam M. Walton College of Business and the College of Education and Health Professionals) is a unique professional credential focused on business analytics applications in healthcare and healthcare analytics applications.

Graduate Certificate in Healthcare Business Analytics: (12 hours)

Required Courses 9

ESRM 5303 Healthcare Analytics Fundamentals 3

ISYS 5503 Decision Support and Analytics 3

ESRM 5823 Healthcare Business Analytics I 3

Students should choose 3 hours of coursework from among the following: 3

ISYS 5833 Data Management Systems 3

ISYS 5843 Sem in Bus Intelligence and Knowledge Mgmt 3

ESRM 5853 Healthcare Business Analytics II 3

Total Hours 12

b. Total semester credit hours required for the proposed program (Program range CP: 6-21 SCH, TS: 21-45 SCH GC 12-21 SCH):

12

c. New courses and new course descriptions

ESRM 5303 Healthcare Analytics Fundamentals

Description: The Healthcare Analytics Fundamentals course provides fundamental knowledge and skills in several major areas of healthcare and business data analytics in a modular format. Several modules that emphasize healthcare analytics as well as data fundamentals, concepts, and problems are used and include – Healthcare Analytics Concepts, Problems, and Management; Intermediate & Advanced Spreadsheet Topics; Relational Databases & SQL; and Introductory Programming with Python.

ESRM 5823 Healthcare Business Analytics I

Description: Fundamentals of healthcare analytics to include data patterns, forecasting techniques , and linear prediction models, including theoretical and mathematical study of assumptions in model building.

ESRM 5853 Healthcare Business Analytics II

Description: Intermediate healthcare analytics to include categorical analyses and logistic regression for binary and polytomous models applied to healthcare.

d. Program goals and objectives

The Graduate Certificate in Healthcare Business Analytics is a part-time/full-time program offered on campus, blended, and online. It is designed to provide graduate students with

knowledge and experience in healthcare business analytics used in modern healthcare environments. The demand for skilled professionals in analytics healthcare continues to outpace the supply of qualified applicants.

The Graduate Certificate in Healthcare Business Analytics program is a professional twelve (12) hour Certificate focusing on business analytics applications in healthcare and healthcare analytics applications.

The certificate will address barriers and facilitators to adoption of new procedures in the healthcare environment, as well as how analytics can achieve modern healthcare system goals: high-quality, responsive, affordable, and efficient care.

Healthcare systems capture enormous amounts of information (such as electronic health records, billing information, patient wait times, supply records) as well as more novel forms of data (such as chronic disease monitoring, radio-frequency identification tracking, etc.).

Managerial issues such as how to get electronic data users to employ it consistently for improving healthcare delivery, managing the reporting and sharing of data, and leveraging data and resources to improve health at a manageable cost.

This program is designed to provide professional preparation for positions in healthcare business, government, and public service. Sufficient flexibility is provided to meet the needs of students with various backgrounds and foster lifelong learning and innovation.

The graduate certificate program is intended to be completed part-time (ordinarily no more than six hours per semester) and is open to individuals with backgrounds in any discipline. Up to twelve (12) hours of the Graduate Certificate course credit with a grade of “B” or better can be used in the Master of Healthcare Business Analytics and Master of Applied Business Analytics programs as applicable to the respective degree.

e. Expected student learning outcomes

Upon completion of the Graduate Certificate program, students will be able to –

- apply healthcare business descriptive analytics to real-world data resulting in healthcare

data story-telling

- apply healthcare business analytics to real-world experiences in health-related fields

recommending solutions

- analyze basic trends and develop healthcare business analytics hypotheses

- develop healthcare models using linear regression

- develop healthcare prediction models, build models, apply regression inference, as well

as understand assumptions and influence of multicollinearity, residual analysis, outliers and influential data, heteroscedasticity corrections, dummy and effect coding, and testing for interactions.

- test the applicability and usefulness of models -- tests of independence, measures of

association, comparisons of exact vs approximate tests of hypotheses, odds ratios, logistic regression with binary and polytomous outcomes

- understand and utilize measures of association, the effects of and dependence of

variables, on intermediate linear and logistic regression models,

- apply intermediate and advanced healthcare business analytics to real-world

experiences in health-related fields

f. Documentation that program meets employer needs

In conjunction with the Master of Healthcare Business Analytics, we plan to initially utilize the Information Systems Enterprise Advisory Board (as well as members of the College Deans’ Advisory Boards) to provide ongoing feedback and suggestions on the content of the program and student placement. Then, a Healthcare Business Analytics Advisory Board will be constituted. The advisory committee will meet bi-annually.

Recently, for several new Walton College Master’s degree programs (Master of Applied Business Analytics, Master of Economic Analytics, and others), an employer needs survey form was sent to several individuals working in prominent positions in the corporate sector. The individuals who responded on previous surveys come from firms such as Wal-Mart, Tyson Foods, J. B. Hunt, Blue Cross, Visa, Amazon, IRI, and Toyota, among others. Some companies have employer tuition assistance programs dependent upon employee time with the company.

The digital revolution ignited an explosion of data in many areas; this is the case in healthcare – patient data, hospital data, provider data and other. The availability of data is no longer a constraint to answering important questions. The critical constraint is now the ability to analyze, digest, visualize, and ultimately harness the data to drive decision making in business, science, and society. The Graduate Certificate in Healthcare Business Analytics program will guide students through application modeling to practice using cutting-edge tools and providing a thorough training in descriptive, predictive, and prescriptive healthcare business analytics. Students will be armed with a solid knowledge of healthcare business analytics as well as methods and tools available. These “big-data” skills, combined with knowledge of healthcare and business application modeling, will enable students to identify, assess, and seize the opportunity for data-driven value creation in the private and public sector.

Alumni from the current Master of Information Systems, Master of Applied Business Analytics and Business Analytics Graduate Certificate in Enterprise Systems who currently work in data analytics in the corporate sector have communicated the need for the skills and training this program will provide. In addition, we have had meetings with executives from a number of firms, such as Dillard’s, J. B. Hunt, Arkansas Blue Cross Blue Shield, Wal-Mart, Tyson Foods, etc. who have an urgent need for employees with this training.

g. Student demand (projected enrollment) for proposed program

Year 1 – 10-15 students

Year 2 – 15 – 20 students

Year 3 – 20 – 25 students

h. Program approval letter from licensure/certification entity, if required

NA

j. Scheduled program review date (within 10 years of program)

2026-2027, coordinated with AACSB