



NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): University of Central Missouri

Program Title: Big Data and Business Analytics

Degree/Certificate: B.S.B.A.

Options: Click here to enter text.

Delivery Site(s): Warrensburg MO

CIP Classification: 110401

*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: Fall 2017

Cooperative Partners: Click here to enter text.

*If this is a collaborative program, form CL must be included with this proposal

AUTHORIZATION:

Kim Andrews, Vice Provost

03/31/2017

Name/Title of Institutional Officer

Signature

Date

Kim Andrews

660-543-4788 or 660-543-8059

Person to Contact for More Information

Telephone

1. New Program Proposal Form (Form NP)

Please see attached Form NP.

2. Rationale for the New Program

With advances in information technology, organizations have collected mountains of data ranging from customer preferences to trends in sales. This collected data is an organizational asset that can be effectively analyzed and leveraged to determine corporate strategy. Use of big data and analytics tools are now being used across various business disciplines. Examples are the use of big data to determine accounting fraud, market segmentation for products, selecting the best candidates for a job etc. Businesses also analyze and leverage the data asset to make organizations to operate more efficiently and effectively. Big data and analytics are now being used across all types of organizations; Fortune 100 companies, small businesses, universities, non-profit and government organizations. According to a recent survey by leading technology and research company Gartner, this field is a top priority for CIOs nationwide. The Harvard Business Review calls the position of business analyst the “sexiest job of the 21st century.” According to a recent McKinsey & Company big data report, by 2018, the United States alone could face a shortage of 140,000 to 190,000 professionals with deep analytical skills, as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions. To keep up with the demand and fill the talent void, colleges and universities are offering various programs at different levels. By the end of 2014, nationally, there are over 60 undergraduate programs and over 80 masters programs offering a specialization in data analytics. The Big Data and analytics major at UCM will focus on knowledge and training to help these organizations utilize and analyze the data for strategic decision making in business. Students learn various software tools, the real advantage to the program is that students learn how to use these tools, interpret the data and identify important business trends. Students will learn the applications of data analysis, business forecasting, modeling, operations management, market analysis and project management techniques. The major is based on the functional areas of business such as computer information systems, finance, economics, and enhanced with statistics. Students with this major are equipped for careers in any of the functional areas of business that requires business data analysis. The proposed major will be a collaborative effort between The Computer Information Systems program, and the Economics, and Finance programs.

3. Student Enrollment Projections (Form SE), including a rationale for how projections were calculated.

Please see attached Form SE.

4. Evidence of Market Demand/Societal Need – Supported by Research

Included with information in form SE

5. Address Program Duplication and Opportunities for Collaboration

There is no collaboration with other universities. Other public universities in Missouri do not have an undergraduate program in Big Data and Business Analytics.

6. Details on program structure (Form PS).

Please see attached form PS.

7. Financial Projections (Form FP)

Please see attached form FP.

8. Program Characteristics and Performance Goals (Form PG)

Please see attached form PG.

9. Plans for Accreditation, including a Rationale if It is not a Goal for the Program

Information is included in Form PG.

10. Institutional Characteristics Demonstrating Why Your Institution is Particularly Well Equipped to Support the Program

Information is included in Form PG.



STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	10	15	20	25	30
Part Time	5	5	10	10	10
Total	15	20	30	35	40

Please provide a rationale regarding how student enrollment projections were calculated:

New programs take time to establish. Therefore a low growth enrollment is projected initially. Once the program establishes itself, given the market demand for the program (see below) as well as the median salaries (around \$124,000 per year; Forbes 2016), it is expected that demand for the program will be very strong.

Provide a rationale for proposing this program, including evidence of market demand and societal need supported by research:

This program will provide Missouri students with nationwide opportunity in a growing field.

Mckinsey & Company Big Data Report shows, by 2018, the United States alone could face a shortage of 140,000 to 190,000 professionals with deep analytical skills, as well as 1.5 million managers and analysts with the know-how to use the analysis of big data to make effective decisions.

Forbes (<https://www.forbes.com/sites/louiscolumbus/2015/11/16/where-big-data-jobs-will-be-in-2016/#226855f7608c>), in a November 2016 article showed that CISCO, IBM, and Oracle had advertised 26,488 jobs in the past twelve months, and EMC (Dell) another 51,000 jobs in the past twelve months. This demand is expected to grow.

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PROGRAM STRUCTURE

A. Total credits required for graduation: 120

B. Residency requirements, if any: 30

C. General education: Total credits: 43

Courses (specific courses OR distribution area and credits):

Course Number	Credits	Course Title
CIS 1600	3	Business Information Management
CIS 1612	3	Ethics in Information Technology
COMM 1000	3	Public Speaking or
COMM 1050		Fund. Of Oral Comm. Competency
ECON 1010	3	Principles of Macroeconomics
MATH 1111	3	College Algebra
		In addition to the above courses, the following areas will have to be fulfilled:
	3	Writing I
	3	Writing II
	3	Literature
	3	Fine Arts
	3	Languages/Humanities
	4	Science with a Laboratory
	3	Listed additional courses related to Science
	3	History
	3	Listed additional course

D. Major requirements: Total credits: 77

Course Number	Credits	Course Title
CIS 2605	3	Programming with Visual C#
CIS 2615	3	Introduction to Java
CIS 2665	3	Principles of Data Comm. and LAN
CIS 3630	3	Management Information Systems
CIS 3650	3	Database Management Systems
CIS 4645	3	Network and Systems Security
CIS 4680	3	Data Resource Management
CIS 4681	3	Big Data for the Enterprise
CIS 4683	3	Big Data Visualization and Reporting
ACCT 2101	3	Principles of Financial Accounting
ACCT 2102	3	Principles of Managerial Accounting
BLAW 2720	3	Legal Environment for Business
ECON 1011	3	Principles of Microeconomics
ECON 4085	3	Predictive Analytics
ECON 4090	3	Analytical Applications to Business
FIN 2801	3	Business Statistics

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FIN 3801	3	Business Statistics II
FIN 3850	3	Principles of Finance
MGT 3315	3	Management of Organizations
MGT 3325	3	Business Communications
MGT 3360	3	Supply Chain and Operations Management
MGT 4357	3	Organizational Policy and Strategy
MKT 3405	3	Marketing Policy
Electives from the following list:	8	
CIS 4610	1-3	Special Projects in CIS
CIS 4640	3	Web Application Development
CIS 4645	3	Network and System Security
CIS 4655	3	Software Engineering
ECON 4030	3	Directed Studies in Economics
CIS 3690	3	Internship in Big Data and Business Analytics 30

E. Free elective credits:

0

(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

MGT 4357: Organizational Policy and Strategy is a required capstone course. Internship is elective.

G. Any unique features such as interdepartmental cooperation:

The program is a cooperative degree with the Department of Economics, Finance, and School of Accountancy.

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Form PS – Program Structure



PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name University of Central Missouri
Program Name BS in Business Administration (BSBA) with Major in Big Data and
Business Analytics
Date March 30, 2017

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

1. Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
Students should be admitted to the BSBA program
- Characteristics of a specific population to be served, if applicable.
[Click here to enter text.](#)

2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
M.S./Ph.D. for faculty in computing and/or business.
- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.
67 percentage (Current CIS/Economics Full time faculty will be assigned. Adjuncts will be hired to teach lower division CIS/Economics courses).
- Expectations for professional activities, special student contact, teaching/learning innovation.
[Click here to enter text.](#)

3. Enrollment Projections

- Student FTE majoring in program by the end of five years.
40
- Percent of full time and part time enrollment by the end of five years.

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90 percent full-time, 10 percent part-time

4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.
15, 20
- Special skills specific to the program.
Storage and retrieval of Big Data, Analyzing Big Data, Using Big Data and Predictive Analytics Tools for Business Decision Making
- Proportion of students who will achieve licensing, certification, or registration.
[Click here to enter text.](#)
- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.
Same as current university standards.
- Placement rates in related fields, in other fields, unemployed.
Placement rates are 100%
- Transfer rates, continuous study.
[Click here to enter text.](#)

5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**
Be part of Harmon College of Business AACSB International Accreditation

6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys.*
Alumni will be surveyed by a questionnaire every five years. Expect to have high satisfaction rates.
- Expected satisfaction rates for employers, including timing and method of surveys.
Employers will be surveyed by a questionnaire every five years. Expect to have high satisfaction rates.

7. Institutional Characteristics

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- Characteristics demonstrating why your institution is particularly well-equipped to support the program.

The Department of Computer Information Systems and Analytics and the Department of Economics, Finance, and the School of Accountancy at University of Central Missouri has outstanding faculty. The CISA department has many specialized labs, including multiple labs that can handle the software needed for Big Data and Predictive Analytics.