**DEPARTMENT OF**
**HIGHER EDUCATION &**
**WORKFORCE DEVELOPMENT**

# New Program Report

**Date Submitted:**
11/17/2022

Institution
Missouri Southern State University

Site Information

**Implementation Date:**
8/1/2023 12:00:00 AM

Added Site(s):

Selected Site(s):

Missouri Southern State University, 3950 E. Newman Road, Joplin, MO, 64801-1595

CIP Information

**CIP Code:**
307101

**CIP Description:**
A program that prepares individuals to apply data science to generate insights from data and identify and predict trends. Includes instruction in computer databases, computer programming, inferehce, machine learning, optimization, probability and stochastic models, statistics, strategy, uncertainty quantification, and visual analytics.

**CIP Program Title:**
Data Analytics, General

**Institution Program Title:**
Data Analytics

Degree Level/Type

**Degree Level:**
Master Degree

**Degree Type:**
Master of Science

**Options Added:**

Collaborative Program:
N

Mode of Delivery

Current Mode of Delivery

Classroom

Online

Student Preparation

Special Admissions Procedure or Student Qualifications required:
n/a

# New Program Report

Specific Population Characteristics to be served:
The program is designed to serve local, regional, national, and international students; however, it is expected that most graduates will be located in western Missouri.

## Faculty Characteristics

Special Requirements for Assignment of Teaching for this Degree/Certificate:
All assigned faculty will meet HLC standards for faculty qualifications.

Estimate Percentage of Credit Hours that will be assigned to full time faculty:
Full-time faculty = 100%

Expectations for professional activities, special student contact, teaching/learning innovation:
Standard faculty teaching, service, and scholarship requirements; student mentoring for capstone experiences; and collaboration with regional industry partners to determine needs of potential employers and shape curriculum and obtain scrubbed data sets to enhance student learning.

## Student Enrollment Projections Year One-Five

| Year 1 | Full Time: 10 | Part Time: 5 | |
| Year 2 | Full Time: 10 | Part Time: 5 | |
| Year 3 | Full Time: 20 | Part Time: 10 | Number of Graduates: 30 |
| Year 4 | Full Time: 40 | Part Time: 20 | |
| Year 5 | Full Time: 80 | Part Time: 40 | Number of Graduates: 60 |

**Percentage Statement:**
n/a

## Program Accreditation

Institutional Plans for Accreditation:
n/a

## Program Structure

**Total Credits:**
30

**Residency Requirements:**
21 credit hours toward the M.S. in data Analytics must be earned at MSSU.

**General Education Total Credits:**
0

**Major Requirements Total Credits:**
18

**Course(s) Added**

| COURSE NUMBER | CREDITS | COURSE TITLE |
| --- | --- | --- |
| DAT 520 | 3 | Enterprise Data Management |
| DAT 540 | 3 | Multivariate Data Analysis |

# New Program Report

| | | |
|---|---|---|
| DAT 530 | 3 | Programming for Data Analysis |
| DAT 510 | 3 | Foundations In Analytics |

**Free Elective Credits:**
12

**Internship or other Capstone Experience:**
n/a

## Assurances

I certify that the program is clearly within the institution's CBHE-approved mission. The proposed new program must be consistent with the institutional mission, as well as the principal planning priorities of the public institution, as set forth in the public institution's approved plan or plan update.

I certify that the program will be offered within the proposing institution's main campus or CBHE-approved off-site location.

I certify that the program will not unnecessarily duplicate an existing program of another Missouri institution in accordance with 6 CSR 10-4.010, subsection (9)(C) Submission of Academic Information, Data and New Programs.

I certify that the program will build upon existing programs and faculty expertise.

I certify that the program can be launched with minimal expense and falls within the institution's current operating budget.

I certify that the institution has conducted research on the feasibility of the proposal and it is likely the program will be successful. Institutions' decision to implement a program shall be based upon demand and/or need for the program in terms of meeting present and future needs of the locale, state, and nation based upon societal needs, and/or student needs.

Contact Information

First and Last Name: WENDY MCGRANE

Email: mcgrane-w@mssu.edu

Phone: 417-625-9801

# DEPARTMENT OF HIGHER EDUCATION & WORKFORCE DEVELOPMENT

**TO BE COMPLETED BY PUBLIC INSTITUTIONS ONLY:**

As additional state funding for new programs will not be available in the immediate future so information about program finances must be very clear. Within this context, please complete the following financial projections table and questions below.  The boxes are fillable.  When you have completed this form, please save, and upload.

## FINANCIAL PROJECTIONS

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
|---|---|---|---|---|---|
| **1. Expenditures** | | | | | |
| | | | | | |
| **A. One-time:** | | | | | |
| New/renovated space | 0 | 0 | 0 | 0 | 0 |
| Equipment | 0 | 0 | 0 | 0 | 0 |
| Library | 0 | 0 | 0 | 0 | 0 |
| Consultants | 0 | 0 | 0 | 0 | 0 |
| Institutional Overhead | 10,000 | 10,000 | 6,250 | 0 | 0 |
| Other | | | | | |
| *Inst. overhead projection for marketing | | | | | |
| Total for One-time Expenditures | 10,000 | 10,000 | 6,250 | 0 | 0 |
| | | | | | |
| **B. Recurring:** | | | | | |
| Faculty | 105,000 | 210,000 | 210,000 | 210,000 | 210,000 |
| Staff | 0 | 0 | 0 | 0 | 0 |
| Benefits | 45,000 | 90,000 | 90,000 | 90,000 | 90,000 |
| Equipment | 2,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Library | 0 | 0 | 0 | 0 | 0 |
| Institutional Overhead | 10,000 | 10,000 | 6,250 | 0 | 0 |
| Other | | | | | |
| *Inst. overhead marketing / donor funded | | | | | |
| Total for Recurring Expenditures | 162,000 | 315,000 | 311,250 | 305,000 | 305,000 |
| | | | | | |
| **TOTAL (A + B)** | | | | | |
| | | | | | |
| **2. Revenues** | | | | | |
| | | | | | |
| *State Aid - CBHE | | | | | |
| *State Aid - DESE | | | | | |
| Tuition/Fees | 84,600 | 84,600 | 169,200 | 338,400 | 676,800 |
| Institutional/Resources | | | | | |
| Other  Donor Commitment | 162,000 | 95,000 | 112,500 | 80,500 | 50,000 |

**Please provide response to the statements below.**

1. What are the specific sources of funds to support the new proposed program?

Missouri Southern has received a private donor commitment of $500,000, spread over a five-year period, to cover the start-up for the MS in Data Analytics.

2. If the new program is being funded through the "core institutional budget," what amount of funds will be reallocated and from which areas?

Institutional funds will be used to help cover marketing costs in years one through three. This expense will not divert resources from other academic programs because funds have been budgeted for establishing new academic programs.

3. Are there any programs that will be deleted as a result of implementing this new program?

Not applicable

4. If the program will be supported by external funds, have the funding agency, the amount of funds, and whether they are one-time or ongoing funding been identified?

Missouri Southern has received a private donor commitment of $500,000, spread over a five-year period, to cover the start-up for the MS in Data Analytics.

5. In those circumstances for which one-time or limited duration funds are an integral component of the financing arrangements for the new program, please define a transition plan for the period when the one-time or limited duration funds cease to be available.

The anticipated revenue and expenses for the five-year start-up period make this a cost-neutral program implementation for the university. Projections in enrollment indicate that the program will break-even and become self-sufficient in year five.

**NEW MAJOR/CERTIFICATE** Proposal No. GC 22-23:19

## MISSOURI SOUTHERN STATE UNIVERSITY
### School Curriculum Oversight Committee/Academic Policies Committee

### Proposal for a NEW MAJOR or CERTIFICATE

· 1. **School:** <u>Business, Communication, and Technology</u> **Department:** <u>MRKT, MGMT, IB & GB</u>
   **Date:** <u>10/13/2022</u>

2. **Title:** <u>Master of Science in Data Analytics</u>   **Course #:** ___   **CIP Code:** <u>30.7101</u>

3. **New Major or Certificate:** <u>Major</u> or **New Option:** _____in _____

4. **Date first offered:** Fall 2023

   **Attach information for items 5-12 as needed.**
5. **Describe the need for this new major including evidence of student demand for the program and market or societal need for the skills being developed.**

   See New Major Form Addendum below

6. **Is the major interdisciplinary? Yes __, No __x__. If so, has it been approved by all departments concerned? Yes __, No __ . If interdisciplinary, how will coordination between the departments be accomplished?**

7. **Are there similar programs offered at other Missouri institutions? Yes__x__, No____. If so, how is this program unique or different from existing programs?**

   Four universities in Missouri have graduate degrees in data analytics. None of the universities are in or near southwest Missouri. Two private universities in St. Louis, one private university in Kansas City, and one public university in Maryville. Through engagement opportunities with regional industry partners, this program should attract students from southwest Missouri (in addition to world-wide). Completers are likely to remain working and living in southwest Missouri. This will enable organizations in southwest Missouri to make strategic data-driven decisions, which should enhance their competitive advantage.

8. **Describe the curriculum requirements for the major.**

   See New Major Form Addendum below

9. **What are the student learning objectives for the program?**

   1. Extract relevant data for analysis
   2. Transform data into useful information for decision making
   3. Identify patterns in data via visualization and statistical analysis
   4. Devise data driven solutions to support organizational goals
   5. Create data-driven action plans

6. Communicate data-driven information to various organizational stakeholders
7. Evaluate ethical issues in data analyses

## 10. How will the objectives be assessed?

Assessment measures will include assignments, tests, projects, data set analysis, project assignments, and final exams. Each instructor will develop assessment assignments that measure competency in the above program learning objectives.

## 11. If this major is approved –
a. **Will additional staff be needed? Yes _x_ , No ___ . If yes, describe.** Two full-time faculty will be necessary to support this program.

b. **Will additional space, equipment, special library materials, or any major expense be involved? Yes _x_ , No ___ . If yes, specify program needs.**
Remodel of space in Plaster Hall (institutional effectiveness) for faculty offices and classrooms.

## 12. Include any additional information about the program that would be helpful.

### APPROVED

_____ Date: _____    _____ Date: _____
Department Chair                              School Dean

| For office use only.  Dates Approved: | School Curriculum Oversight Committee _____ |
|---|---|
| Academic Policies _____     Faculty Senate _____ | Board of Governors _____ |

# New MS, Data Analytics Major Form Addendum

## Describe the need for this new major including evidence of student demand for the program and market or societal need for the skills being developed.

With 6,996 relevant job postings for data analysts in the southwest corner of Missouri and surround areas in June 2022, it is obvious that there is a need for education and training in the field. According to The Bureau of Labor Statistics, the robust labor market demand for data analytics workers can be attributed to organizations seeking "to improve business planning and decision-making." The healthcare, manufacturing, law enforcement, marketing, and financial industries all collect large amounts of data that are valuable, but need more qualified staff to organize, analyze and present the data in a usable way (Harvard Business Review). As a result, employers with business intelligence needs have high demand for data analysts. Four universities in Missouri currently have graduate degrees in data analytics. None of these are in or near southwest Missouri, with two private institutions in Saint Louis, one private institution in Kansas City, and one public institution in Maryville.

## Describe the curriculum requirements for the major.

**Master of Science in Data Analytics (Proposed Curriculum)**

| Data Analytics Core (18 Credit Hours) | | |
|---|---|---|
| Course # | Course Name | Cr. Hrs. |
| DAT 510 | Foundations of Data Analytics | 3 |
| DAT 520 | Enterprise Data Management | 3 |
| DAT 530 | Programming for Data Analysis | 3 |
| DAT 540 | Multivariate Data Analysis | 3 |
| DAT 550 | Machine Learning | 3 |
| DAT 560 | Data Models and Structured Analysis | 3 |
| **Total Core Hours** | | **18** |
| | | |
| **Business Analytics Emphasis (12 Credit Hours)** | | |
| Course # | Course Name | Cr. Hrs. |
| GB 525 | Narrative and Persuasion Using Data Analysis | 3 |
| GB 530 | Data Visualization | 3 |
| GB 540 | Business Forecasting Using Time Series Analysis | 3 |
| GB 550 | Revenue Management | 3 |
| **Total Emphasis Hours** | | **12** |
| | | |
| **Total Program Hours** | | **30** |

# Master of Science in Data Analytics (10 courses / 30 credits)

## Data Analytics Core (6 courses / 18 credits)

### DAT 510 Foundations of Data Analytics (3 cr.)
This course is designed to introduce students the analysis of organizational decision-making. The course covers data analysis, modeling and simulation of complex problems. Students will examine the impact of Big Data on organizations, data analysis, modeling and simulation of complex problems.

### DAT 520 Enterprise Data Management (3 cr.)
This course explores how the data warehouse provides the foundation for analytics within the enterprise. Students will explore data management as an essential resource to organizational success through a deeper understanding of concepts and techniques for managing the design, development, and maintenance of all the components of enterprise information management. The course will examine the roles and responsibilities of various professionals that manage data and information in an organization.

### DAT 530 Programming for Data Analysis (3 cr.)
This course introduces students to programming languages, such as Python and R, using various organizational applications. Students will learn fundamentals of relevant programming languages and will be exposed to cutting-edge packages and libraries to execute analytical tasks.

### DAT 540 Multivariate Data Analysis (3 cr.)
This course provides an overview of the statistical tools commonly used to process, analyze, and visualize data. Topics include simple linear regression, multiple regression, logistic regression, analysis of variance, and survival analysis. The statistical packages are used, such as R, with a focus on the interpretation of output and visualization of results. Prerequisite: DAT 530

### DAT 550 Machine Learning (3 cr.)
This course covers analytical techniques and skills needed to build and evaluate machine learning models using software, such as Python. This course will help build necessary statistical, visualization and other data science skills for effective use of data science in a variety of applications. Prerequisite: DAT 530

### DAT 560 Data Models and Structured Analyses (3 cr.)
This course covers concepts and techniques used to analyze and report structured data. Students will learn tools and methods for understanding the data models supporting various organizational processes and for analyzing data from structured databases.

## Business Analytics Emphasis (4 courses / 12 credits)

### GB 525 Narrative and Persuasion Using Data Analysis (3 cr.)
This course outlines how to create a structured narrative using a data set. The course explores the theory and skills to present a cohesive story to field expert and non-experts. Students will learn the effective integration of business writing and visualizations.

### GB 530 Data Visualization (3 cr.)
This course provides hands-on experience in data visualization. It introduces students to design principles for creating meaningful displays of quantitative and qualitative data to facilitate managerial decision-making. Students will learn to use business intelligence tools, such as Power BI and Tableau, for creating applications and dashboards in the context of fact-based decision-making.

### GB 540 Business Forecasting Using Time Series Analysis (3 cr.)
This course focuses on statistical and analytical tools for analyzing data that are observed sequentially over time. Students will learn time series analysis as both science and an art of making rational predictions based on previous records.

### GB 550 Revenue Management (3 cr.)
This course focuses on strategies related to pricing and product availability decisions to maximize profitability. Analytics and models are used to solve for profit-maximizing business strategies. Topics include price optimization, price differentiation, market segmentation, and capacity allocation.

Proposal No. __GC 22-23:14__

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology   **Department:** MRKT, MGMT, IB & GB   **Date:** 10/12/2022

2. **Course Title:** Narrative and Persuasion Using Data Analysis   **Subject/Course#** GB 525

3. **CIP Code:** 30.7003   (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3   **Lecture:** 3   **Lab:** _____

5. **Term first offered:** Fall 2023   **To be offered:** Fall _x_   Spring _____   Summer _____

6. **COURSE DESCRIPTION: Attach a syllabus prepared according to established guidelines.**

7. **Will this course duplicate any courses now offered?**   No _____   Yes _x_
   **If yes, list for which programs below**
   
8. **This course is designed for which curricula?**   Master of Science in Data Analytics
   **Will it be cross-listed? If so, list courses.**   No

9. **How does this course address the student learning objectives for the curricula?**
   This course will enable students to transform data into useful information, create data-driven action plans, and communicate data-driven information to organizational stakeholders.

10. **Will this course be required or elective?**   Required _x_   Elective _____
    **If this course is required, which list the programs that require it below**
    Master of Science in Data Analytics – **Business Analytics Emphasis**

11. **Has this course been approved by the faculty of the department(s) concerned?**   Yes _x_   No _____

12. **If this course is approved –**
    a. **Will additional staff be needed?**   Yes _x_   No _____
    b. **Will additional space, equipment, or any major expensed be involved?**   Yes _x_   No _____
    c. **Will a course and/or program fee will be added to this course?**   Yes _____   No _X_
    **Amount** _____   **Description** _____
    d. **What library resources would you like to have for this course?**
    None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. **Will this course be part of our general education offerings?**   Yes _____   No _X_

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** GB 525

**COURSE TITLE:** Narrative and Persuasion Using Data Analysis

**COURSE CIP NO:** 30.7003

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____
Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
GB 525 (Fall) 3 hrs. cr.
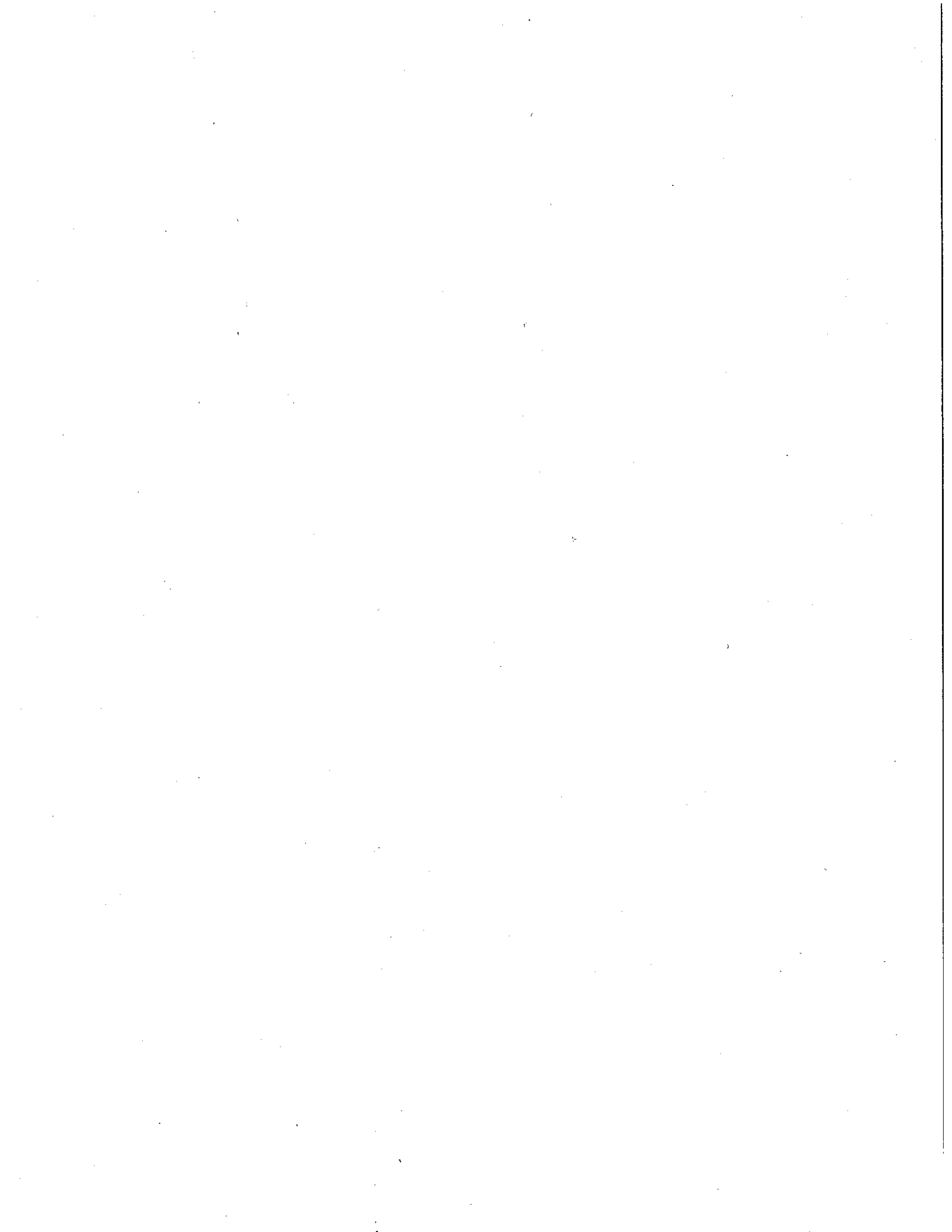Narrative and Persuasion Using Data Analysis

This course outlines how to create a structured narrative using a data set. The course explores the theory and skills to present a cohesive story to field expert and non-experts. Students will learn the effective integration of business writing and visualizations.

- **LEARNING OBJECTIVES**
  - Apply multiple theoretical techniques in writing and presentation
  - Construct reports and presentations that integrate use of various mediums to communicate results
  - Discriminate between the use of effective and non-effective arguments and recommended changes
  - Create a narrative that communicates the message of data

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

Proposal No. __GC 22-23:15__

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology    **Department:** MRKT, MGMT, IB & GB    **Date:** 10/12/2022

2. **Course Title:** Data Visualization    **Subject/Course#** GB 530

3. **CIP Code:** 30.7003    (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3   **Lecture:** 3   **Lab:** _____

5. **Term first offered:** Fall 2023   **To be offered:** Fall __x__   Spring _____   Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. Will this course duplicate any courses now offered?   No _____   Yes __X__
   If yes, list for which programs below

8. This course is designed for which curricula?   __Master of Science in Data Analytics__
   Will it be cross-listed? If so, list courses.   __No__

9. How does this course address the student learning objectives for the curricula?
   This course will enable students to transform data into useful information, create data-driven action plans, and communicate data-driven information to organizational stakeholders.

10. Will this course be required or elective?   Required __x__   Elective _____
    If this course is required, which list the programs that require it below
    Master of Science in Data Analytics – Business Analytics Emphasis

11. Has this course been approved by the faculty of the department(s) concerned?   Yes __x__   No _____

12. If this course is approved –
    a. Will additional staff be needed?   Yes __x__   No _____
    b. Will additional space, equipment, or any major expensed be involved?   Yes __x__   No _____
    c. Will a course and/or program fee will be added to this course?   Yes _____   No __X__
       Amount _____   Description _____
    d. What library resources would you like to have for this course?
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. Will this course be part of our general education offerings?   Yes _____   No __X__

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** GB 530

**COURSE TITLE:** Data Visualization

**COURSE CIP NO:** 30.7003

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____
                    Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
GB 530 (Fall) 3 hrs. cr.
Data Visualization

This course provides hands-on experience in data visualization. It introduces students to design principles for creating meaningful displays of quantitative and qualitative data to facilitate managerial decision-making. Students will learn to use business intelligence tools, such as Power BI and Tableau, for creating applications and dashboards in the context of fact-based decision-making.

- **LEARNING OBJECTIVES**
  - Describe data visualization based on principles of analytic design
  - Explain best practices in data visualization
  - Apply visualization tools to conduct exploratory analysis
  - Use data visualizations to support relevant communication for diverse audiences
  - Create interactive dashboards that combine several visualizations

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**Proposal No.** GC 22-23:16

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology    **Department:** MRKT, MGMT, IB & GB    **Date:** 10/12/2022

2. **Course Title:** Business Forecasting Using Time Series Analysis    **Subject/Course#** GB 540

3. **CIP Code:** 30.7102    (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3    **Lecture:** 3    **Lab:** _____

5. **Term first offered:** Spring 2024    **To be offered:** Fall _____    Spring x    Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. Will this course duplicate any courses now offered?    No _____    Yes x

   If yes, list for which programs below

8. This course is designed for which curricula?    **Master of Science in Data Analytics**

   Will it be cross-listed? If so, list courses.    **No**

9. **How does this course address the student learning objectives for the curricula?**

   This course will enable students to transform data into useful information, devise data-driven solutions to support organizational goals, and create data-driven action plans.

10. Will this course be required or elective?    Required x    Elective _____

    If this course is required, which list the programs that require it below

    Master of Science in Data Analytics – Business Analytics Emphasis

11. Has this course been approved by the faculty of the department(s) concerned?    Yes x    No _____

12. If this course is approved -
   a. Will additional staff be needed?    Yes x    No _____
   b. Will additional space, equipment, or any major expensed be involved?    Yes x    No _____
   c. Will a course and/or program fee will be added to this course?    Yes _____    No x
      Amount _____    Description _____
   d. What library resources would you like to have for this course?
      None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**

New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. Will this course be part of our general education offerings?    Yes _____    No x

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** GB 540

**COURSE TITLE:** Business Forecasting Using Time Series Analysis

**COURSE CIP NO:** 30.7102

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022

**SIGNATURE:** _____
     Dominic Buccieri, DBA, *Department Chair*

## COURSE DESCRIPTION FOR CATALOG
GB 540 (Spring) 3 hrs. cr.
Business Forecasting Using Time Series Analysis

This course focuses on statistical and analytical tools for analyzing data that are observed sequentially over time. Students will learn time series analysis as both science and an art of making rational predictions based on previous records.

- **LEARNING OBJECTIVES**
  - Explain underpinnings of prediction theory
  - Describe fundamentals of time series analysis
  - Apply statistical software to estimate time series models
  - Assemble forecast values from a sequence of data points over a time interval
  - Formulate decisions based on obtained forecasts

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**MISSOURI SOUTHERN STATE UNIVERSITY**
**Academic Policies Committee/Graduate Council**

**Proposal for a NEW COURSE**

1. **College:** Business, Communication & Technology  **Department:** MRKT, MGMT, IB & GB  **Date:** 10/12/2022

2. **Course Title:** Revenue Management   **Subject/Course#** GB 550

3. **CIP Code:** 45.0603   (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3  **Lecture:** 3  **Lab:** _____

5. **Term first offered:** Spring 2024  **To be offered:** Fall _____  Spring __x__  Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. **Will this course duplicate any courses now offered?**  No _____  Yes __X__
   **If yes, list for which programs below**

8. **This course is designed for which curricula?**  Master of Science in Data Analytics
   **Will it be cross-listed? If so, list courses.**  No

9. **How does this course address the student learning objectives for the curricula?**
   This course will enable students to transform identify patterns in statistical analysis, devise data-driven solutions to support organizational goals, and create data-driven action plans.

10. **Will this course be required or elective?**  Required __x__  Elective _____
    **If this course is required, which list the programs that require it below**
    Master of Science in Data Analytics – Business Analytics Emphasis

11. **Has this course been approved by the faculty of the department(s) concerned?**  Yes __x__  No _____

12. **If this course is approved -**
    a. **Will additional staff be needed?**  Yes __x__  No _____
    b. **Will additional space, equipment, or any major expensed be involved?**  Yes __x__  No _____
    c. **Will a course and/or program fee will be added to this course?**  Yes _____  No __X__
       Amount _____  Description _____
    d. **What library resources would you like to have for this course?**
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. **Will this course be part of our general education offerings?**  Yes _____  No __X__

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** GB 550

**COURSE TITLE:** Revenue Management

**COURSE CIP NO:** 45.0603

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____
Dominic Buccieri, DBA, *Department Chair*


# COURSE DESCRIPTION FOR CATALOG
GB 550 (Spring) 3 hrs. cr.
Revenue Management

This course focuses on strategies related to pricing and product availability decisions to maximize profitability. Analytics and models are used to solve for profit-maximizing business strategies. Topics include price optimization, price differentiation, market segmentation, and capacity allocation.

- **LEARNING OBJECTIVES**
    - Explain theoretical underpinnings of pricing
    - Evaluate models associated with revenue management
    - Analyze methodologies to optimize revenue in different business contexts
    - Design a data-driven revenue management model

- **ASSURANCE OF LEARNING**
    - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

Proposal No. __GC 22-23:08__

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology  **Department:** MRKT, MGMT, IB & GB  **Date:** 10/12/2022

2. **Course Title:** Foundations of Data Analytics  **Subject/Course#** DAT 510

3. **CIP Code:** 30.7101  (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3  **Lecture:** 3  **Lab:** _____

5. **Term first offered:** Fall 2023  **To be offered:** Fall  x  Spring, _____  Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. **Will this course duplicate any courses now offered?** No _____  Yes  X
   **If yes, list for which programs below** _____

8. **This course is designed for which curricula?** Master of Science in Data Analytics
   **Will it be cross-listed? If so, list courses.** No

9. **How does this course address the student learning objectives for the curricula?**
   This course will introduce the concepts of extracting and transforming relevant data into useful information for decision-making

10. **Will this course be required or elective?** Required  x  Elective _____
    **If this course is required, which list the programs that require it below**
    Master of Science in Data Analytics

11. **Has this course been approved by the faculty of the department(s) concerned?** Yes  x  No _____

12. **If this course is approved -**
    a. **Will additional staff be needed?** Yes  x  No _____
    b. **Will additional space, equipment, or any major expensed be involved?** Yes  x  No _____
    c. **Will a course and/or program fee will be added to this course?** Yes _____  No  X
       Amount _____ Description _____
    d. **What library resources would you like to have for this course?**
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. **Will this course be part of our general education offerings?** Yes _____  No  X

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 510

**COURSE TITLE:** Foundations of Data Analytics

**COURSE CIP NO:** 30.7101

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____

Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
DAT 510 (Fall) 3 hrs. cr.
Foundations of Data Analytics

This course is designed to introduce students the analysis of organizational decision-making. The course covers data analysis, modeling and simulation of complex problems. Students will examine the impact of Big Data on organizations, data analysis, modeling and simulation of complex problems.


- **LEARNING OBJECTIVES**
    o Explain role of data analytics in decision making
    o Describe analytical competences
    o Explain best practices associated with data analytics
    o Evaluate strengths and weakness of various data base technologies


- **ASSURANCE OF LEARNING**
    o *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**Proposal No.** GC 22-23:09

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology    **Department:** MRKT, MGMT, IB & GB    **Date:** 10/12/2022

2. **Course Title:** Enterprise Data Management    **Subject/Course#** DAT 520

3. **CIP Code:** 11.0901    (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3   **Lecture:** 3   **Lab:** _____

5. **Term first offered:** Fall 2023    **To be offered:** Fall  x     Spring _____    Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. Will this course duplicate any courses now offered?    No _____    Yes  X
   If yes, list for which programs below

8. This course is designed for which curricula?    Master of Science in Data Analytics
   Will it be cross-listed? If so, list courses.    No

9. **How does this course address the student learning objectives for the curricula?**
   This course will explore issues related to responsible and ethical practices in data management.

10. **Will this course be required or elective?**    Required  x     Elective _____
    If this course is required, which list the programs that require it below
    Master of Science in Data Analytics

11. Has this course been approved by the faculty of the department(s) concerned?    Yes  x     No _____

12. If this course is approved -
    a. Will additional staff be needed?    Yes  x     No _____
    b. Will additional space, equipment, or any major expensed be involved?    Yes  x     No _____
    c. Will a course and/or program fee will be added to this course?    Yes _____    No  X
       Amount _____    Description _____
    d. What library resources would you like to have for this course?
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**

New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. Will this course be part of our general education offerings?    Yes _____    No  X

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 520

**COURSE TITLE:** Enterprise Data Management

**COURSE CIP NO:** 11.0901

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____
                Dominic Buccieri, DBA, *Department Chair*

## COURSE DESCRIPTION FOR CATALOG
DAT 520 (Fall) 3 hrs. cr.
Enterprise Data Management

This course explores how the data warehouse provides the foundation for analytics within the enterprise. Students will explore data management as an essential resource to organizational success through a deeper understanding of concepts and techniques for managing the design, development, and maintenance of all the components of enterprise information management. The course will examine the roles and responsibilities of various professionals that manage data and information in an organization.

- **LEARNING OBJECTIVES**
  - Explain principles of data governance
  - Explain the foundation of database design
  - Execute the conversion of a set of requirements into a database structure
  - Design a database using a commercial database management system

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**Proposal No.** _GC 22-23:10_

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology    **Department:** MRKT, MGMT, IB & GB    **Date:** 10/12/2022

2. **Course Title:** Programming for Data Analysis    **Subject/Course#** DAT 530

3. **CIP Code:** 11.0202    (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** _3_    **Lecture:** _3_    **Lab:** _____

5. **Term first offered:** _Fall 2023_    **To be offered:** Fall _x_    Spring _____    Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. Will this course duplicate any courses now offered?    No _____    Yes _X_
   If yes, list for which programs below

8. This course is designed for which curricula?    Master of Science in Data Analytics
   Will it be cross-listed? If so, list courses.    No

9. **How does this course address the student learning objectives for the curricula?**
   This course will enables students to identify patterns in data and transform data into useful information.

10. Will this course be required or elective?    Required _x_    Elective _____
    If this course is required, which list the programs that require it below
    Master of Science in Data Analytics

11. Has this course been approved by the faculty of the department(s) concerned?    Yes _x_    No _____

12. If this course is approved -
    a. Will additional staff be needed?    Yes _x_    No _____
    b. Will additional space, equipment, or any major expensed be involved?    Yes _x_    No _____
    c. Will a course and/or program fee will be added to this course?    Yes _____    No , _X_
       Amount _____    Description _____
    d. What library resources would you like to have for this course?
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. Will this course be part of our general education offerings?    Yes _____    No _X_

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 530

**COURSE TITLE:** Programming for Data Analysis

**COURSE CIP NO:** 11.0202

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022

**SIGNATURE:** _____
Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
DAT 530 (Fall) 3 hrs. cr.
Programming for Data Analysis

This course introduces students to programming languages, such as Python and R, using various organizational applications. Students will learn fundamentals of relevant programming languages and will be exposed to cutting-edge packages and libraries to execute analytical tasks.

- **LEARNING OBJECTIVES**
  - Explain basic concepts in programming
  - Execute basic programs in Python and R
  - Execute basic algorithms in Python and R
  - Apply external libraries with Python and R-packages
  - Create graphical visualizations of data with results

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**Proposal No.**  GC 22-23: 11

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology    **Department:** MRKT, MGMT, IB & GB    **Date:** 10/12/2022

2. **Course Title:** Multivariate Data Analysis    **Subject/Course#** DAT 540

3. **CIP Code:** 30.7001    (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3    **Lecture:** 3    **Lab:** _____

5. **Term first offered:** Spring 2024    **To be offered:** Fall _____   Spring  x    Summer _____

6.    **COURSE DESCRIPTION: Attach a syllabus prepared according to established guidelines.**

7. **Will this course duplicate any courses now offered?**    No _____   Yes  X
   If yes, list for which programs below

8.  **This course is designed for which curricula?**    Master of Science in Data Analytics
    **Will it be cross-listed? If so, list courses.**    No

9. **How does this course address the student learning objectives for the curricula?**
   This course will enable students to extract relevant data for analysis, identify patterns in data, and transform data into useful information.

10. **Will this course be required or elective?**    Required  x    Elective _____
    **If this course is required, which list the programs that require it below**
    Master of Science in Data Analytics

11. **Has this course been approved by the faculty of the department(s) concerned?**    Yes  x    No _____

12. **If this course is approved -**
    a. **Will additional staff be needed?**    Yes  x    No _____
    b. **Will additional space, equipment, or any major expensed be involved?**    Yes  x    No _____
    c. **Will a course and/or program fee will be added to this course?**    Yes _____   No  X
       Amount _____   Description _____
    d. **What library resources would you like to have for this course?**
       None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. **Will this course be part of our general education offerings?**    Yes _____   No  X

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 540

**COURSE TITLE:** Multivariate Data Analysis

**COURSE CIP NO:** 30.7001

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____

Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
DAT 540 (Spring) 3 hrs. cr.
Multivariate Data Analysis

This course provides an overview of the statistical tools commonly used to process, analyze, and visualize data. Topics include simple linear regression, multiple regression, logistic regression, analysis of variance, and survival analysis. The statistical packages are used, with a focus on the interpretation of output and visualization of results. Prerequisite: DAT 530

- **LEARNING OBJECTIVES**
  o  Explain underlying theory for the analysis of multivariate data
  o  Apply appropriate technique for multivariate analysis
  o  Demonstrate proficiency in multivariate statistical techniques
  o  Construct outputs of statistical analyses

- **ASSURANCE OF LEARNING**
  o  *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

## Proposal for a NEW COURSE

1.  **College:** Business, Communication & Technology  **Department:** MRKT, MGMT, IB & GB  **Date:** 10/12/2022

2.  **Course Title:** Machine Learning    **Subject/Course#** DAT 550

3.  **CIP Code:** 30.7101    (contact Associate VP for Academic Affairs)

4.  **Credit Hrs:** 3  **Lecture:** 3  **Lab:** _____

5.  **Term first offered:** Spring 2024  **To be offered:** Fall _____  Spring x  Summer _____

6.  **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7.  **Will this course duplicate any courses now offered?** No _____ Yes x
    **If yes, list for which programs below**

8.  **This course is designed for which curricula?** Master of Science in Data Analytics
    **Will it be cross-listed? If so, list courses.** No

9.  **How does this course address the student learning objectives for the curricula?**
    This course will enable students to extract relevant data for analysis, identify patterns in data, and transform data into useful information.

10. **Will this course be required or elective?** Required x  Elective _____
    **If this course is required, which list the programs that require it below**
    Master of Science in Data Analytics

11. **Has this course been approved by the faculty of the department(s) concerned?** Yes x  No _____

12. **If this course is approved –**
    a.  **Will additional staff be needed?** Yes x  No _____
    b.  **Will additional space, equipment, or any major expensed be involved?** Yes x  No _____
    c.  **Will a course and/or program fee will be added to this course?** Yes _____  No X
        Amount _____  Description _____
    d.  **What library resources would you like to have for this course?**
        None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. **Will this course be part of our general education offerings?** Yes _____  No X

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 550

**COURSE TITLE:** Machine Learning

**COURSE CIP NO:** 30.7101

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____

Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
DAT 550 (Spring) 3 hrs. cr.
Machine Learning

This course covers analytical techniques and skills needed to build and evaluate machine learning models using software, such as Python. This course will help build necessary statistical, visualization and other data science skills for effective use of data science in a variety of applications. Prerequisite: DAT 530

- **LEARNING OBJECTIVES**
  o Describe the principal models used in machine learning
  o Explain the types of problems machine learning can solve
  o Describe how statistical modeling relates to machine learning
  o Evaluate which models are most appropriate to solve specific problems
  o Apply principal models in machine learning on real-world problems


- **ASSURANCE OF LEARNING**
  o *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

**Proposal No.** GC 22-23:13

# MISSOURI SOUTHERN STATE UNIVERSITY
## Academic Policies Committee/Graduate Council

### Proposal for a NEW COURSE

1. **College:** Business, Communication & Technology   **Department:** MRKT, MGMT, IB & GB   **Date:** 10/12/2022

2. **Course Title:** Data Models and Structured Analyses   **Subject/Course#** DAT 560

3. **CIP Code:** 30.7001   (contact Associate VP for Academic Affairs)

4. **Credit Hrs:** 3   **Lecture:** 3   **Lab:** _____

5. **Term first offered:** Spring 2024   **To be offered:** Fall _____   Spring x   Summer _____

6. **COURSE DESCRIPTION:** Attach a syllabus prepared according to established guidelines.

7. Will this course duplicate any courses now offered?   No _____   Yes x
   If yes, list for which programs below

8. This course is designed for which curricula?   Master of Science in Data Analytics
   Will it be cross-listed? If so, list courses.   No

9. **How does this course address the student learning objectives for the curricula?**
   This course will enable students to extract relevant data for analysis, identify patterns in data, and transform data into useful information.

10. Will this course be required or elective?   Required x   Elective _____
    If this course is required, which list the programs that require it below
    Master of Science in Data Analytics

11. Has this course been approved by the faculty of the department(s) concerned?   Yes x   No _____

12. If this course is approved -
   a. Will additional staff be needed?                                      Yes x   No _____
   b. Will additional space, equipment, or any major expensed be involved?  Yes x   No _____
   c. Will a course and/or program fee will be added to this course?        Yes _____   No X
      Amount _____   Description _____
   d. What library resources would you like to have for this course?
      None

**IF THE ANSWER TO ANY PART OF QUESTION 12 IS "YES", PLEASE EXPLAIN**
New faculty will be hired to run this program. The former institutional effectiveness suite in Plaster will need renovations to accommodate the program.

13. Will this course be part of our general education offerings?   Yes _____   No X

**SCHOOL:** College of Business, Communication & Technology

**DEPARTMENT:** Marketing, Management, International Business & General Business

**COURSE NUMBER:** DAT 560

**COURSE TITLE:** Data Models and Structured Analyses

**COURSE CIP NO:** 30.7001

**CREDIT:** 3 cr. hrs.

**PREPARED BY:** Dominic Buccieri, DBA

**DATE APPROVED BY DEPARTMENT:** 10/14/2022


**SIGNATURE:** _____

               Dominic Buccieri, DBA, *Department Chair*


## COURSE DESCRIPTION FOR CATALOG
DAT 560 (Spring) 3 hrs. cr.
Data Models and Structured Analyses

This course covers concepts and techniques used to analyze and report structured data. Students will learn tools and methods for understanding the data models supporting various organizational processes and for analyzing data from structured databases.

- **LEARNING OBJECTIVES**
  - Describe principles behind structured data
  - Evaluate impact of big data on structured data analytics
  - Describe fundamentals of basic database design
  - Apply techniques for structured prediction tasks

- **ASSURANCE OF LEARNING**
  - *In 34 CFR 600.2 of the final regulations, we defined a credit hour for Federal programs, including the Federal student financial assistance programs, as--An amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time.*

# MISSOURI SOUTHERN STATE UNIVERSITY

# COLLEGE OF BUSINESS, COMMUNICATION AND TECHNOLOGY

## <u>MEMORANDUM</u>

DATE:      10/13/2022

TO:         Graduate Council

FROM:     Dominic Buccieri, DBA, Assistant Professor, Plaster School of Business
            Lucas Dille, PhD, Assistant Professor, Plaster School of Business

SUBJECT:  Creation of new "DAT" course prefix

CC:         Dr. Lisa Toms, Provost

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This memo is to request approval for the creation of a new course prefix to support the development of the Master of Science in Data Analytics. We request a "DAT" prefix be created to support these new courses. Specific course numbers are provided in the New Major Form and New Course Proposals.