Northern Marianas College
CURRICULUM ACTION REQUEST
Course: MG270 Introduction to Business Analytics

Effective Semester / Session: Fall 2025

Type of Action:

X	New
__	Modification
__	Move to Inactive (Stop Out)
__	Cancellation

Course Alpha and Number: MG270

Course Title: Introduction to Business Analytics

Reason for initiating, revising, or canceling:
This business analytics course is being created to fill the gap in this growing business field and to increase the number of electives offered at the School of Business.

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Proposer   Date

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Academic Unit Head   Date

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Language & Format Review Specialist   Date

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Academic Council Chair   Date

Lorraine C. Maui _____   03/18/2025
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Interim Dean of Academic Programs & Services   Date

1. **Department**
   School of Business

2. **Purpose**
   Business Analytics is a fast-growing field in business with exciting career options. This Introduction to Business Analytics course aims to integrate business analytics principles, knowledge, skills, and Business Intelligence tools into the School of Business's course offerings under its various degree programs. Students will explore key principles and concepts in both descriptive and predictive analytics. The course will cover various data types and sources, data cleaning and transformation, data processing, summarization, and visualization. Through hands-on experiences with industry-standard Business Intelligence tools, students will learn to extract, edit, transform, and visualize data from multiple sources, gaining valuable insights to support business decision-making.

3. **Description**

   A. **Required/Recommended Textbook(s) and Related Materials**
   Required:
   The most recent edition of the following Cengage textbooks included in Cengage Unlimited.

   Business Analytics, 5th Edition by Camm, Cochran, Fry, & Ohlmann. Cengage Learning, 2024. ISBN: 978-0-357-90220-2

   Data Visualization, 2nd Edition by Camm, Cochran, Fry, & Ohlmann. Cengage Learning, 2025. ISBN: 978-0-357-92976-6

   Business Analytics: Data Analysis and Decision Making, 8th Edition by Albright and Winston. Cengage Learning, 2025. ISBN: 978-0-357-98458-1

   Other scholarly papers and trade publications may be assigned throughout the course by the instructor.

   Recommended: None

   B. **Contact Hours**
   1. **Lecture:** 3 per week / 45 per semester
   2. **Lab:** None
   3. **Other:** None

   C. **Credits**
   1. **Number:** 3
   2. **Type:** Regular Degree Credits

D. Catalog Course Description
This course provides an introduction to Business Analytics and Business Intelligence tools, essential for a successful career in this field. Students will explore key principles and concepts in both descriptive and predictive analytics. The curriculum covers various data types and sources, data cleaning and transformation, data processing, summarization, and visualization. Through hands-on experiences with industry-standard Business Intelligence tools, students will learn to extract, edit, transform, and visualize data from multiple sources, gaining valuable insights to support business decision-making. By the end of the course, students will be equipped with foundational knowledge, skills, and insights to pursue further studies or careers in management and other business areas. English Placement Level: EN095. Math Placement Level: MA091. (Offered Fall & Spring).

E. Degree or Certificate Requirements Met by Course
This course will serve as an elective for the A.A.S. Business Management degrees (Accounting, Computer, and Business Management) and will assist students in the pathway for the BSBM program, and in the workforce.

F. Course Activities and Design
The course incorporates short lectures, discussion, reading assignments, quizzes, homework, small group activities, guest speakers, videos, oral presentations, field trips, and other related instructional activities.

4. Course Prerequisite(s); Concurrent Course Enrollment
Prerequisites: CS103
Concurrent Course Enrollment: None

Required English/Mathematics Proficiency Level(s)
English Placement Level: EN095
Mathematics Placement Level: MA091

5. Estimated Cost of Course; Instructional Resources Needed
Cost to the Student: Tuition for a 3-credit course, instructional materials fee, and the cost of the textbooks.

Cost to the College: Instructor's salary and/or any additional costs to NMC.

Instructional resources needed for this course include: Microsoft 365 subscription with Power BI Online, MindTap or SPSS subscription, Tableau, Zoom, multimedia projector and screen, whiteboard and markers, and access to scholarly articles in research.

6. **Method of Evaluation**
   Student learning will be evaluated based on group activities, homework assignments, quizzes, midterm and final exams. NMC's grading and attendance policies will be followed.

7. Course Outline
This is a topical outline and does not necessarily indicate the sequence in which the material will be presented.

1.0   Introduction to Business Analytics
      1.1   Definition, importance, and applications of business analytics
      1.2   Overview of the analytics process

2.0   Descriptive Analytics
      2.1   Data types
      2.2   Data sources and extraction
      2.3   Data cleaning and transformation
      2.4   Data summarization: single variable
           2.4.1   Frequency, relative frequency, and percent frequency
           2.4.2   Measures of central tendency
           2.4.3   Measures of variability
           2.4.4   Distribution
      2.5   Data summarization: two variables
           2.5.1   Cross-Tabulation
           2.5.2   Relationship between two variables

3.0   Predictive Analytics Basics
      3.1   Regressive analysis
      3.2   Time series analysis

4.0   Data Visualization
      4.1   Introduction to Business Intelligence tools
      4.2   Selecting a chart type
      4.3   Visualization and design
      4.4   Use of colors
      4.5   Visualizing variability
      4.6   Explaining visually to influence with data
      4.7   Data dashboard

5.0   Data Modeling
      5.1   Structured vs. Unstructured data
      5.2   The star and snowflake models
      5.3   Data warehouse

6.0   Data-Driven Decision Making
      6.1   Decision-making framework
      6.2   Role of analytics in strategic planning

7.0   Applications in Business Functions
    7.1   Marketing analysts
    7.2   Financial analytics
    7.3   Operations management analytics

8.0   Ethical Considerations in Analytics
    8.1   Data privacy and security
    8.2   Bias and fairness

8. **Instructional Goals**

   The course will introduce students to:

   1.0 Foundation principles, concepts, and knowledge of business analytics and their applications;

   2.0 Different types and sources of data, editing, transforming, and preparing data for analysis;

   3.0 Summarization of datasets to produce descriptive and predictive analytics in different business areas;

   4.0 Data visualization techniques to summarize and present insights effectively;

   5.0 Business Intelligence tools to create data models from various sources and produce information effectively and efficiently;

   6.0 Creating dashboards to communicate analytic findings; and

   7.0 Privacy and ethical issues related to data use in business.

9. **Student Learning Outcomes**
   Upon successful completion of this course, students will be able to:

   1.0   Demonstrate proficiency in business analytics methods;

   2.0   Differentiate types and sources of data; extract, edit, transform, and prepare data for analysis;

   3.0   Analyze datasets to identify trends and patterns for decision-making purposes;

   4.0   Apply Business Intelligence tools (e.g., Power BI, Excel Power tools, or Tableau) to create visuals;

   5.0   Construct data-driven business recommendations based on quantitative analysis;

   6.0   Create a dashboard to communicate analytic findings; and

   7.0   Communicate analytic findings through professional reports and presentations.

10. **Assessment Measures of Student Learning Outcomes**
    Assessment of student learning may include, but not be limited to, the following:

    1.0   Group Activities;

    2.0   Assignments;

    3.0   Exams; and

    4.0   Capstone Project.

MG270

Final Audit Report

2025-03-18

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