



Office Use Only: PP#

Cover Sheet for In-State Institutions New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	Embry-Riddle Aeronautical University
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Each action below requires a separate proposal and cover sheet.

- | | |
|---|---|
| <input checked="" type="radio"/> New Academic Program | <input type="radio"/> Substantial Change to a Degree Program |
| <input type="radio"/> New Area of Concentration | <input type="radio"/> Substantial Change to an Area of Concentration |
| <input type="radio"/> New Degree Level Approval | <input type="radio"/> Substantial Change to a Certificate Program |
| <input type="radio"/> New Stand-Alone Certificate | <input type="radio"/> Cooperative Degree Program |
| <input type="radio"/> Off Campus Program | <input type="radio"/> Offer Program at Regional Higher Education Center |

Payment <input checked="" type="radio"/> Yes	Payment <input type="radio"/> R*STARS #	Payment Amount: \$6,800	Date Submitted: 09/06/23
Submitted: <input type="radio"/> No	Type: <input checked="" type="radio"/> Check # 4009872		

Department Proposing Program	College of Business		
Degree Level and Degree Type	Bachelor of Science		
Title of Proposed Program	B.S. in Business Analytics		
Total Number of Credits	120		
Suggested Codes	HEGIS:	CIP: 52.1301	
Program Modality	<input checked="" type="radio"/> On-campus <input type="radio"/> Distance Education (fully online) <input type="radio"/> Both		
Program Resources	<input checked="" type="radio"/> Using Existing Resources <input type="radio"/> Requiring New Resources		
Projected Implementation Date <small>(must be 60 days from proposal submission as per COMAR 13B.02.03.03)</small>	<input type="radio"/> Fall <input checked="" type="radio"/> Spring <input type="radio"/> Summer Year: 2024		
Provide Link to Most Recent Academic Catalog	URL: https://catalog.erau.edu/worldwide/business/bachelors/business-analytics/		
Preferred Contact for this Proposal	Name:	Nicole Wallace	
	Title:	Associate Director, State Authorizations	
	Phone:	(386) 481-9096	
	Email:	wwstateauth@erau.edu	
President/Chief Executive	Type Name:	John R. Watret, Ph.D.	
	Signature:	Date: 9/9/23	
	Date of Approval/Endorsement by Governing Board:		

Revised 1/2021

OOS NEW PROGRAM REVIEW FURTHER REQUEST

MARYLAND HIGHER EDUCATION COMMISSION

Application for New Academic Programs for Out-of-State Degree-Granting
Institutions that Operate in Maryland

This questionnaire, properly completed with supporting documentation, shall serve as an application for approval for new academic programs for Out-of-State Degree-Granting Institutions under extended operational approval that operate in Maryland under the Code of Maryland Regulations (COMAR) 13B.02.01.06

Out-of-State Degree-Granting Institutions that are not under extended operational approval can add additional programs using the Out-of-State Renewal Application, as per COMAR 13B.02.01.08, which can be found on the MHEC website.

[If these programs/classes are to be offered at a military installation and the recruitment and enrollment of students is limited to active duty personnel, their dependents, or civilians employed at the installation, and if the institution waives its right to claim veterans' benefits for enrolled students, do not complete this application. Complete an Application for Exemption to COMAR 13B.02.01 instead.]

Please Note: A separate application form must be completed and submitted with all supporting documentation for each proposed location in Maryland.

PROPOSED START DATE: 02/01/2024

Applications should be submitted at least 5 months prior to the proposed start date.

INSTITUTION APPLYING FOR APPROVAL.

Name of Institution: Embry-Riddle Aeronautical University

Web Address: www.erau.edu

OPEID Code: 001479

U.S. Department of Education, Office of Postsecondary Education, ID Code -- Title IV eligibility.

Chief Executives Officer: John R. Watret, Ph.D.

Mailing Address: 1 Aerospace Boulevard, Daytona Beach, FL 32114-3900

Telephone: 386-481-9096

Email: wwstateauth@erau.edu

Institutional Liaison: Name and title of the individual who will serve as liaison to the Maryland Higher Education Commission:

Name: Nicole Wallace

Title: Associate Director, State Authorizations

Mailing Address: 1 Aerospace Boulevard, Daytona Beach, FL 32114-3900

Telephone: 386-481-9096

Email: wwstateauth@erau.edu

***** CERTIFICATION *****

I hereby affirm that the answers given in this application and its attachments are accurate and complete and further agree to comply with the *Annotated Code of Maryland* and State regulations governing the operation of out-of-State degree-granting institutions (COMAR 13B.02.01).

9/8/23 _____
Date

Signature of Chief Executive Officer

Electronic applications are preferred for applications. You can send your application to ooauthorization.mhec@maryland.gov

All payments should be mailed to:
Maryland Higher Education Commission
Director of Academic Affairs
6 N. Liberty St., 10th Floor
Baltimore, Maryland 21201

A copy of these regulations can be found on the Maryland Higher Education Commission's web site www.mhec.state.md.us

I. SUPPORTING DOCUMENTATION.

Only a complete application can be acted upon. While separate application forms must be completed and submitted for each proposed location, the following Supporting Documentation needs to be included only once for the entire package of applications. **CHECK EACH ITEM AS ATTACHED.**

Cover letter from the chief academic officer addressed to the Secretary of Higher Education requesting the approval of the new program.

Out-of-State New Program and Sub Mod Cover Sheet with all required signatures.

Program Review Fees COMAR 13B.02.03.02-1

A. Except as provided in §C of this regulation, each institution of higher education shall pay an academic program review fee for each program review action as provided in this regulation.

B. The following schedule sets forth the fees for academic program review actions.

Click here for the Schedule

II. APPLICATION QUESTIONNAIRE

This questionnaire, properly completed with supporting documentation, shall serve as an application for approval for new academic programs for Out-of-State Degree-Granting Institutions that operate in Maryland under the Code of Maryland Regulations (COMAR) 13B.02.01.06

Please note: a separate application form must be completed and submitted with all supporting documentation for each proposed location in Maryland.

A/B. The institution shall present evidence demonstrating the educational need to establish operations, offer programs, and award the degrees in question in the State pursuant to COMAR 13B.02.01.06

(1) The degree to be awarded;

Bachelor of Science in Business Analytics (CIP Code: 52.1301)

(2) The area of specialization;

Business Analytics (30 credits core courses)

(3) The purpose or objective of the program or course of study to be offered;

The **purpose** of the Business Analytics Program is for students to learn to source, manipulate, and analyze data and to generate insightful results within an ethical framework. These results include infographics, visualizations, and executive reports suitable for a business audience. Students learn the hands-on skills needed to use popular analytic software platforms, manage large volumes of data, and report results. The goal of the program is to enable the student to look through a business lens, generate new insights with data, and influence key business decisions.

Courses are designed so that upon completion, students will achieve the following **academic outcomes**:

1. Describe underlying business challenges and determine/create appropriate sources of data/information.
2. Describe the foundations and techniques of big data analytics in business as part of evidence-based management.
3. Apply the appropriate technical skills in descriptive and predictive analytics methods to generate insights into business problems.
4. Synthesize data output into clear, actionable insights that inform the business problem of solutions that are executable outcomes.
5. Apply concepts in data presentation and visualization to effectively communicate results to a diverse audience.
6. Identify different business opportunities, constraints, and needs for data analytics as well as the ethical components of each.

(4) Specific academic content of the program or course of study;

GENERAL EDUCATION

Communication Theory and Skills

ENG 123 English Composition 3 credits
This course focuses on the principles of using writing for thinking, as well as a tool for expressing ideas. It addresses the composing process, research and documentation, and rhetorical strategies for various audiences and purposes. Students develop their communicative, evaluative, critical thinking, and research writing abilities. Pre-Requisite: Qualifying score on the ERAU English Skills Assessment or course listed.

ENGL 222 Business Communication 3 credits
This course is an introduction to effective business communication. Topics in oral, written, non-verbal and intercultural communications are covered. Research methods, effective speaking and the preparation of letters, memoranda and reports are emphasized.

Any Communication Theory and Skills course above ENGL 106 3 credits

Humanities

Humanities elective (lower or upper level) 3 credits

Humanities elective (upper level) 3 credits

Social Sciences

ECON 210 Microeconomics 3 credits
This course is an introduction to the economic principles of free enterprise supply and demand, private and social implications of revenue maximization, cost minimization, profit maximization, market structure, and resource markets. Current microeconomic issues in aviation (such as elasticity, pricing, taxes, subsidies, market implications, liability reform, evolution of airline completion, etc.) are discussed.

ECON 211 Macroeconomics 3 credits
This course is an introductory analysis of employment, inflation, recession, GDP economic growth, national income/output and international trade with an emphasis on practical policy alternatives. Macroeconomic aviation applications such as the counter-cyclical growth of start-up airlines and consideration of ATC privatization are incorporated.

Physical and Life Science

Physics/Biology/Meteorology/Chemistry, etc. 6 credits

Mathematics

Choice of one: 3 credits

STAT 211 Statistics with Aviation Applications
This course is a study of basic descriptive and inferential statistics. Topics include types of data, sampling techniques, measures of central tendency and dispersion, elementary probability, discrete and continuous probability distributions, sampling distributions, hypothesis testing, confidence intervals, and simple linear regression.

Or

STAT 222 Business Statistics
This course is a study of basic descriptive and inferential statistics. Topics include types of data, sampling techniques, measures of central tendency and dispersion, elementary probability, discrete and continuous probability distributions, sampling distributions, hypothesis testing, confidence intervals, and simple linear regression.

Any college algebra or higher math or any statistics 3 credits

Computer Science

CSCI 123	Introduction to Computing for Data Analysis	3 credits
Total Credits -- General Education		36 credits

COMMON BUSINESS CORE

MGMT 201	Principles of Management	3 credits
<i>A comprehensive overview of relevant management principles and practices as applied in organizations with focus on management theories, philosophies, and functions; Focus on the nature, operating principles, activities, and theories that form the basis for the management functions of planning, organizing, leading, and controlling.</i>		
MMIS 221	Introduction to Management Information Systems	3 credits
<i>The course integrates many theories, concepts, and methodologies related to the implementation and use of Information Systems within an enterprise. Special attention is given to the following topics: Digital technology; Winning, engaging, and retaining consumers; Optimizing performance with enterprise systems and analytics; Managing business relationships, projects and codes of ethics.</i>		
MKTG 311	Marketing	3 credits
<i>An exploration of marketing theory and marketing management; market research, customer relations, promotion, distribution and sales management, and creating customer value.</i>		
ACCT 210	Financial Accounting	3 credits
<i>The use of financial accounting information in business operations. The accounting cycle; adjusting entries; merchandising operations; inventory; depreciation; accounting for assets, liabilities, and stockholder's equity; financial statement analysis.</i>		
ACCT 312	Managerial Accounting	3 credits
<i>The use of managerial accounting information in business operations. Job order costing, process costing; cost management systems; cost-volume-profit analysis; costing methods; business decisions; budgets; control activities; performance measurement.</i>		
OBLD 317	Organizational Behavior	3 credits
<i>Overview and analysis of various behavioral concepts affecting individual and group performance within business organizations with an emphasis on research, theory, and practice.</i>		
MGMT 325	Social Responsibility and Ethics in Management	3 credits
<i>Inquiry into ethics and social responsibility for managers. Economic, legal, political, environmental, technological social issues. Interactions between government, business, and society.</i>		
FINE 332	Corporate Finance I	3 credits
<i>Finance functions as used by management including financial analysis and control, financial planning, short and long-term financings, risk and return relationship, capital investment evaluation, cost of capital, and risk in planning financial strategies. Aviation-related businesses are emphasized.</i>		
BUSW 335	International Business	3 credits
<i>Attention is focused on the impact of foreign trade on the broader aviation industry and their contribution to economic development. Analysis of economic development and international trade with an examination of the opportunities and threats of the complex environment of international business and current U.S. relations with other nations.</i>		
BUSW 390	Business Law	3 credits
<i>A survey of the legal aspects of business transactions is provided. Areas covered include contracts, partnerships, corporations, consumer credit, and the government's influence over business law.</i>		
LGMT 420	Management of Production and Operations	3 credits
<i>An intensive study of management of production and operations in all organizations, both service-oriented and</i>		

product-oriented, will be conducted. Scheduling, inventory control procurement, quality control, and safety are investigated. Particular attention is given to applications of aviation-oriented activities.

MGMT 436 Strategic Management 3 credits
This course introduces students to strategic management principles involving strategy, formulation, implementation, evaluation and organization analysis are studied. Case analysis, employing strategic management principles, is used to solve and examine organizational problems. Total Quality Management concepts are studied for improvement of organizational effectiveness.

Total Credits – Common Business Core 36 credits

BUSINESS ANALYTICS CORE

BUSW 352 Business Quantitative Methods 3 credits
Development, implementation, and utilization of business models for managerial decision making. Various techniques for modeling, such as statistical analyses techniques, data analysis, regression and correlation analysis, forecasting, simulation, and optimization models are covered. Developing models needed in decision support systems using Microsoft Excel.

BUAN 301 Evidence-Based Management: The Need for Data Intelligence 3 credits
Students are introduced to the theories of Evidence-Based Management (EBM) and the importance of making data-driven decisions. Through several course examples, students will be asked to look for publicly available data sets to address their working hypothesis as well as bridge existing data sets to form new data relationships. Students will be exposed to consumer, economic, demographic, sales, and other types of data often used in making business decisions with prescriptive analytics. Students will also be exposed to the scientific method and the role of quantitative and qualitative analysis in generating business intelligence.

BUAN 428 Business Analytics and Data Intelligence 3 credits
The massive growth of the Internet and the rapid expansion of communication and information technology Business have resulted in a great flow of data -- both structured and unstructured, and while accessing and gathering data is important, analyzing and making sense of that data is even more important. This course introduces students to how businesses can use applications and technologies to effectively manage, analyze, and distribute enterprise data to arrive to more accurate analysis that can lead to more confident decision making and greater operational efficiencies, cost reduction, greater revenue, and reduced risks.

BUAN 302 Communication and Ethics in Data Analysis 3 credits
This course focuses on how data is communicated as well as best practices in data ethics. Understanding ethics, the ethical use of data, and the role of ethics in communicating data will be explored as well as common pitfalls in the overall presentation of data. Students will use recent cases that involve communications and ethical challenges from which to explore and understand how properly communicating data can be as important as the analysis itself.

MMIS 385 Programming Concepts 3 credits
This course presents a language-independent introduction to programming concepts in design and implementation. Topics covered include data types, control structures, arrays, files, functions, top-down modules design, and data validation. The course discusses the design issues of the various languages construct, examining the design choices for these constructs in some of the most common programming languages, and critically comparing design alternatives.

MMIS 392 Database Management 3 credits
Database systems are powerful, complex facilities for managing data. The advent of database management systems for personal computers in the 1980s moved database management into the hands of everyday users from all segments of the population. This course presents the fundamental concepts of database management. It covers key topics related to any database management system, including database models, database design and implementation, database management systems functions, and database management approaches.

BUAN 304 **Advanced Statistics and Analytics Concepts** **3 credits**
This course builds on the math core and business statistics to focus on mathematical models, simulation models, and forecasting tools that enable the student to work with big data in an applied business format. The student will use data cleansing concepts and prepare data for analysis and choose the proper method of analysis based on the structure of the data. Students will use the SAS suite of products and learn the hands-on skills for data cleansing, model building and forecasting using real life scenarios.

BUAN 405 **Applied Analytics I – Descriptive Analytics** **3 credits**
This course focuses on descriptive analysis of a large data set to test a hypothesis. Sentiment analysis will also be introduced to manage qualitative data and obtain additional insights from qualitative sources. Live data dashboards will be introduced as an integrative bridge between descriptive analytics and data presentation. Complete analysis models will be built and tested using a variety of different data sets using the SAS suite of products as well as less structured programming languages.

BUAN 406 **Applied Analytics II – Predictive Analytics** **3 credits**
This course uses the SAS suite of products to make predictions and forecast results from large data sets. Students will understand the different predictive nodes of SAS suit products to include neural networks, regression models, and other predictive concepts and how to apply those models to a data set and interpret model comparison output. Students will also utilize compiled and/or interpreted coding languages to build applications for predictions.

BUAN 407 **Business Intelligence in Industry Capstone** **3 credits**
This Capstone experience will include a student-selected project that encompasses the entire problem- solving process from data sourcing through the presentation of results using data visualizations. The project will require a report-out to an executive audience including decision recommendations. Students will also be introduced to the application of business intelligence concepts within the aviation industry as well as be exposed to marketing metrics, psychometrics, etc. and how business can use big data in everyday operations.

Total Credits – Business Analytics Core **30 credits**

ELECTIVES

Transfer Credit, COB Minor, or COB non-duplicated undergraduate level courses **15 credits**

Open Electives **3 credits**

Total credit – Electives **18 credits**

TOTAL DEGREE REQUIREMENTS **120 CREDITS**

(5) The quality of the proposed program in comparison to existing programs;

The University of Maryland, Robert H. Smith School of Business, offers an undergraduate major in Operations Management and Business Analytics.

The table below presents the degree requirements of the ERAU bachelor’s degree in Business Analytics as compared to similar requirements of the University of Maryland major.

ERAU Degree Requirements	Comparable University of Maryland Requirements
General Education: 36 credit hours	General Education:
ENGL 123, ENGL 222 and any course in communication theory and skills above ENGL 106 (9 credits)	ENGL 101 (3 credits) COMM100/107/200: Public Speaking and Gen Ed Oral Communication

Humanities elective (Lower or Upper level) and Humanities (Upper Level) (6 credits)	DSHU: Humanities (3 credits) DSHU: Humanities (3 credits)
Social Science: ECON 210 Microeconomics and ECON 211 Macroeconomics (6 credits)	DSHS: History/Social Sciences (satisfied by ECON200: Principles of Micro-Economics or ECON201: Principles of Macro-Economics) (3 credits)
Physics/Biology/Meteorology (6 credits)	DSNL: Natural Science Lab (4 credits) DSNS/DSNL: Natural Science Non-Lab or Lab (3/4 credits)
STAT 211 Statistics with Aviation Applications or STAT 222 Business Statistics (3 credits)	BMGT230 or 231 Business Statistics (Lower-level core) (3 credits)
Any College Algebra or Higher Math or Statistics (300 – 400 Level) (3 credits)	MATH120(220) or MATH140 (or MATH130 Calculus I (3/4 credits) Analytic Reasoning (satisfied by MATH120(220)/130/140
Any Computer Science (3 credits)	
Core/Major – Business Core: 36 credit hours	
MGMT 201: Principles of Management (3 credits)	BMGT364: Managing People & Organizations (3 credits)
MMIS 221: Introduction to Management Information Systems (3 credits)	BMGT301: Introduction to Info Systems (3 credits)
MKTG 311: Marketing (3 credits)	BMGT350: Marketing Principles (3 credits)
ACCT 210: Financial Accounting (3 credits)	BMGT220: Principles of Accounting I (3 credits) BMGT221: Principles of Accounting II (3 credits)
ACCT 312: Managerial Accounting (3 credits)	BMGT301: Intermediate Accounting (3 credits) BMGT326: Accounting Systems (3 credits)
OBLD 317: Organizational Behavior (3 credits)	BMGT363: Leadership and Teamwork in Organizations (3credits)
MGMT 325: Social Responsibility in Ethics in Management (3 credits)	
FINE: 332: Corporate Finance (3 credits)	BMGT340: Business Finance (3 credits)
BUSW 335: International Business (3 credits)	BMGT446: International Finance (3 credits)
BUSW 390: Business Law (3 credits)	BMGT380: Business Law 1 (3 credits)
LGMT 420: Management of Production and Operations (3 credits)	BMGT385: Operations Management (3 credits)
MGMT 436: Strategic Management (3 credits)	BMGT495: Strategic Management (3 credits)
Core/Major – Business Analytics: 21 credit hours	
BUSW 352: Business Quantitative methods (3 credits)	BMGT332: Quantitative Models for Management Decisions (3 credits)
BUAN 301: Evidence-Based Management: The Need for Data Intelligence (3 credits)	
BUAN 428: Business Analytics and Data Intelligence (3 credits)	BMGT431: Data Analytics (3 credits)
BUAN 302: Communication and Ethics in Data Analysis (3 credits)	
MMIS 385: Programming Concepts (3 credits)	
MMIS 392: Database Management (3 credits)	BMGT404 Essential Data Skills for Business Analytics (3 credits)
BUAN 304: Advanced Statistics and Analytics Concepts (3 credits)	
BUAN 405: Applied Analytics I – Descriptive Analytics (3 credits)	
BUAN 406: Applied Analytics II – Predictive Analytics (3 credits)	BMGT434: Analytics Consulting: Cases and Projects BMGT435: Business Process Simulation
BUAN 407: Business Intelligence in Industry -- Capstone (3 credits)	(BMGT434 and 435 above)

Electives – Transfer Credit, Minor, or COB Electives	
Transfer credit, COB minor, or COB non-duplicated undergraduate level courses (15 credits)	
Open electives (3 credits)	Lower and upper-level electives (5-19 credits/15 credits)
Total Degree Requirements: 120 credit hours	Total Degree Requirements: 120 credit hours

Program Learning Outcomes

The following table compares the student learning outcomes of the Embry-Riddle Business Analytics Program with the University of Maryland Operations Management & Business Analytics Major.

Embry-Riddle’s Learning Outcomes	University of Maryland’s Learning Outcomes
Describe underlying business challenges and determine/create appropriate sources of data/information.	Apply elements of critical thinking.
Describe the foundations and techniques of big data analytics in business as part of evidence-based management.	Identify common situations in chosen career that could result in ethical dilemma.
Apply the appropriate technical skills in descriptive and predictive analytics methods to generate insights into business problems.	Analyze ethical scenarios and apply frameworks to develop solutions.
Synthesize data output into clear, actionable insights that inform the business problem or solutions that are executable outcomes.	Foster and sustain team environments that are inclusive of ideas from all contributing members.
Apply concepts in data presentation and visualization to effectively communicate results to a diverse audience.	Apply leadership skills to motivate and coordinate with others to achieve goals.
Identify different business opportunities, constraints, and needs for data analytics as well as the ethical components of each.	Write professional-grade business documents.
	Develop and deliver effective oral presentations.
	Identify and use appropriate quantitative tools and techniques.
	Use software applications to analyze and solve problems.
	Explain how functional areas interact and drive one another.
	Select and justify the best solution option(s) for a given management problem.
	Classify the sources of uncertainty within a process and apply operations management approaches to manage uncertainty so as to minimize waste and improve efficiency.
	Describe and effectively use advanced data modeling techniques to predict and infer from real-world data sets.

(6) An analysis of the market for the program;

Note: A variety of occupational titles within the field of data analysis are similar, such as *data analyst*, *business analyst*, *management analyst*, and others. The skill sets within the job descriptions of these titles are also similar, suggesting that an individual’s education and experience in this field is transferable within the workforce.

According to the *Occupational Handbook* of the Bureau of Labor Statistics, US. Dept of Labor, Management Analysts (the most closely named occupation in the Handbook) in 2021 received a median pay of \$93,000 per year. Typical entry-level education was a bachelor’s degree with work experience in a related occupation fewer than 5 years. There was no information in the Handbook for on-the-job training. The number of jobs (U.S.) were 950,600, and the projected growth for 2021-31 was 11%, which represents 108,400 jobs. This increase was noted to be “much faster than average.”

O*NET Online on February 10, 2023, reported 1,480 job openings in Maryland in the occupational category of Management Analysts. This occupation was designated by O*NET Online as a “bright outlook” occupation, which are those “expected to grow rapidly in the next several years, will have large numbers of job openings, or are new and emerging occupations.” According to O*NET OnLine, the following are projections in Maryland from 2020 through 2030 for (specifically) Management Analysts:

Employment (2020) – 25,590 employees
Projected employment (2030) – 29,620 employees
Projected growth (2020-2030) – 16 %
Projected annual job openings (2020-2030) – 2,880

Source: <https://www.onetonline.org/link/localtrends/13-1111.00?st=MD>

According to the Maryland Department of Labor, Office of Workforce Information and Performance, the following are Maryland Long Term Occupational Projections for 2020—2030 for Management Analysts:

Number of openings (2020) – 25,588
Projected number of openings (2030) – 29,617
Percent change – 15.75%

Source: <https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml>

On September 1, 2023, *Indeed.com* advertised 522 positions for Business Analyst in Maryland. ZipRecruiter advertised 18,197 Data Analyst openings, 18,556 Business Analyst openings, and 27,242 Management Analyst openings in Maryland.

Dataquest, a private online service for training and education in data science, published their job outlook for a Business Analyst (June 21, 2022):

Business analysts are increasingly in demand as organizations turn to data to make key decisions. These job growth predictions prove it.

The future isn't set in stone, but job outlook analysts try to predict it anyway. To that end, various sources report good, if not tremendous, growth in business analysis. That also includes adjacent positions that use the same skill set as business analysts.

According to the U.S. Bureau of Labor Statistics (BLS), the country's most authoritative source for career outlook, business analysts are on track for growth of up to 25% by 2030. It's a far cry from the country's 8% average growth expected by 2030. That's almost unprecedented growth for a job outside the hugely prominent field of computer science.

(7) The State's equal educational opportunity obligations under State and federal law.

Embry-Riddle Aeronautical University is committed to ensuring that women and minorities are equitably represented among the student body, faculty, staff, and administration of the university, and to devote ample resources to achieving equal opportunity employment. These commitments are in alignment with the Maryland Code, Title 12, Subtitle 1, Section 12-107; Florida's Statute, Title XLIV, Civil Rights, ss. 760.01-760.11; and the federal Civil Rights Act of 1964.

The following, an excerpt from “Civil Rights Equity and Sex/Gender-Based Harassment, Discrimination, and Sexual Misconduct Policy,” is the published Embry-Riddle policy on nondiscrimination:

Embry-Riddle Aeronautical University continually strives to recognize, respect, and celebrate the differences and cultural identities among individuals as we recruit, support, and embrace our diverse community. We work to provide a safe environment where self-expression is welcome. We strive to create a campus climate free of discrimination, so that networks, partnerships, and cultural competency continue to be fostered through leadership, integrity, care, and respect. In doing so, Embry-Riddle does not permit discrimination or harassment in its programs and activities on the basis of race, color, national origin, sex, gender identity, gender expression, sexual orientation, disability, veteran status, predisposing genetic characteristic, age, religion, pregnancy status or any other characteristic protected by university policy or state, local, or federal law.

This policy covers nondiscrimination in employment and in access to educational opportunities. Therefore, any member of the campus community, guest or visitor who acts to deny, deprive, or limit the educational, employment, and/or social access, benefits and/or opportunities of any member of the campus community on the basis of their actual or perceived membership in the protected classes listed above is in violation of the University policy on nondiscrimination. When brought to the attention of the University, any such discrimination will be appropriately remedied by the University according to the procedures below.

The following is an official statement of Embry-Riddle's policy on nondiscrimination in employment, which appears in Policy 8.3.1 of the *Administrative Policy and Procedures Manual: Equal Employment Opportunity Policy*:

Purpose and Scope

To promote an employment environment free from all aspects of illegal discrimination. This policy applies to all employees at all locations of the University.

Policy

- 1. The University will maintain a policy of nondiscrimination with all employees and applicants for employment. All aspects of employment within the University will be governed on the basis of merit, competence, and qualifications, and will not be influenced in any manner by race, creed, color, religion, gender, age, national origin, disability, protected veteran status, genetic information, sexual orientation, gender identity, or any other status protected by federal, state or local law. The university will provide equal employment opportunity and affirmative action for qualified individuals.*
- 2. All decisions made with respect to recruiting, hiring, and promotions for all job classifications will be made solely on the basis of individual qualifications related to the requirements of the position. Likewise, the administration of all other personnel matters such as compensation, benefits, transfers, reduction-in-force, recall, training, education, and social/recreational programs will be free from any illegal discriminatory practices.*

The statement below is found in the Embry-Riddle -- Worldwide Campus student handbook:

<https://worldwide.erau.edu/administration/student-handbook>

Our campus culture nurtures and celebrates different and unique perspectives, while valuing the ideas and efforts of individual contributors in a safe and non-judgmental environment. We are committed to attracting and retaining a diverse group of students, faculty, and staff. We promote civility and respect. We consider one of our missions to be the stewardship of students, who are our primary focus. Their well-being and feeling of belonging are paramount to Embry-Riddle Aeronautical University – Worldwide (ERAU-WW). We ensure that students feel welcomed and included into the ERAU-WW "family."

C. In addition, the out-of-State institution shall demonstrate that the proposed

program, for which the institution is making application:

(1) Meets a critical and compelling regional or Statewide need; and

The information presented above in Section A/B (6) suggests that there are numerous opportunities in Maryland for data analysts, management analysts, and business analysts. Job descriptions among these categories are similar.

The Occupational Handbook of the US Bureau of Labor Statistics predicts that the employment of management analysts will grow 11% nationwide from 2021 to 2031. The metropolitan area of Washington-Arlington-Alexandria, District of Columbia, Maryland, Virginia, and West Virginia is represented in the Occupational Handbook as one of the US locations with “the highest employment level in Management Analysts.” Employment in this category was 64,320 with an annual mean wage of \$113,420.

The Occupational Handbook names the following industries with the highest employment and wages for Management Analysts: management, scientific, and technical consulting services; the federal executive branch, state government, computer systems design and related services, and management of companies and enterprises.

(2) Is consistent with the Maryland State Plan for Postsecondary Education.

The Maryland State Plan for Postsecondary Education (<https://mhec.maryland.gov/About/Pages/2017StatePlanforPostsecondaryEducation.aspx>) is aligned broadly with the Embry-Riddle Aeronautical University Strategic Plan. (<https://erau.edu/leadership/president/our-strategic-plan>)

The Maryland plan is built on the overarching goals of *access*, *success*, and *innovation*.

- *Access*: The Maryland Plan seeks to “Ensure equitable access to affordable and quality postsecondary education for all Maryland residents.” Similarly, the ERAU Plan supports an increase in institutional and philanthropic financial aid.
- *Success*: The Maryland Plan, Strategy 5, ensures “that statutes, regulations, policies, and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students.” Embry-Riddle’s Worldwide Campus, as the university’s online provider, has for decades served the non-traditional adult working student. Course curricula, class schedules, tuition rates, academic advisement, and other components of the educational experience are specifically geared to the non-traditional student.

The Maryland Plan, Strategy 5, includes a sub-strategy for improved “policies regarding academic program review that meet the State’s needs – e.g., workforce shortages, do not duplicate, do not saturate...” Embry-Riddle’s Business Analytics program offers skills that are clearly in demand in Maryland organizations that value employees who can advise in data-driven decisions and help solve complex business problems. [Section D (1) below]

The Maryland Plan, Strategy 6, is to “Improve the student experience by providing better options and services that are designed to facilitate prompt completion of degree requirements.” Embry-Riddle’s online delivery of courses helps students complete their programs through frequent course offerings, nine-week terms, and asynchronous classes.

- *Innovation*: The Maryland Plan pledges to “Foster innovation in all aspects of Maryland higher education to improve access and student success.” Maryland’s Strategy 8 seeks to “support workforce development and improve workforce readiness.” Maryland’s Strategy 10 expands “support for research and research partnerships.” Embry-Riddle’s plan includes a strategy, “Undergraduate Discovery,” which integrates research “as a critical element to enrich the undergraduate curriculum and spur innovation.” Another strategy, “Innovation,” is designed to strengthen industry partnerships.

D. The out-of-State institution shall clearly state the demand and need for a program, for which the institution is making application, in terms of meeting present and future needs of the region and the State in general. Two kinds of need may be identified:

(1) Societal needs, including the tradition of liberal arts education, which provides immeasurable returns to the State in part by instilling in citizens a capacity for advanced learning and individual and societal benefits regardless of workforce or market demand considerations; and

Graduates of the ERAU Business Analytics program will benefit from both the liberal arts and skill-specific components of the program. Students will learn and experience the values of student teamwork, critical thinking, intellectual curiosity, and other important qualities that benefit both the individual and society.

(2) Occupational needs relative to meeting workforce requirements or upgrading vocational or technical skills.

The employment of data analysts is expected to grow in number between 2020 and 2030. As noted above in Section C (1), it appears that Maryland graduates of Embry-Riddle’s bachelor’s degree program in Business Analytics will have sufficient career opportunities in Maryland.

O*NET Online on February 10, 2023, reported 1,480 job openings in Maryland in the occupational category of Management Analysts. This occupation was designated by O*NET Online as a “bright outlook” occupation, which are those “expected to grow rapidly in the next several years, will have large numbers of job openings, or are new and emerging occupations.” According to O*NET OnLine, the following are projections in Maryland from 2020 through 2030 for (specifically) Management Analysts:

Employment (2020) – 25,590 employees
Projected employment (2030) – 29,620 employees
Projected growth (2020-2030) – 16%
Projected annual job openings (2020-2030) – 2,880

Source: <https://www.onetonline.org/link/localtrends/13-1111.00?st=MD>

According to the Maryland Department of Labor, Office of Workforce Information and Performance, the following are Maryland Long Term Occupational Projections for 2020—2030 for Management Analysts:

Number of openings (2020) – 25,588
Projected number of openings (2030) – 29,617
Percent change – 15.75%

Source: <https://www.dllr.state.md.us/lmi/iandoproj/maryland.shtml>

E. Market Demand Data

(1) The out-of-State institution shall present data projecting market demand and the availability of openings in the job market to be served by the new program for which the institution is making application. The type of information submitted will vary, depending on the program, but may include workforce and employment projections prepared by the federal and State governments as well as professional and trade associations.

Note: Information regarding market demand for Maryland is also included in Section D (2) above.

The U.S. Bureau of Labor Statistics (2021) published the following U.S. projections for a major occupational group that would likely include data analysts. (<https://www.bls.gov/emp/tables/emp-by-major-occupational-group.htm>)

Business and Financial Operations (13-0000): 9,987,000 employment 2021
10,702,500 employment 2031

The Occupational Handbook of the US Bureau of Labor Statistics predicts that the employment of management analysts will grow 11% nationwide from 2021 to 2031. The metropolitan area of Washington-Arlington-Alexandria, District of Columbia, Maryland, Virginia, and West Virginia is represented in the Occupational Handbook as one of the US locations with “the highest employment level in Management Analysts.” Employment in this category was 64,320 with an annual mean wage of \$113,420.

The Occupational Handbook names the industries with the highest employment and wages for Management Analysts: management, scientific, and technical consulting services; the federal executive branch, state government, computer systems design and related services, and management of companies and enterprises.

(2) With the exception of programs in the liberal arts, recently collected, existing, or new market surveys shall be used which clearly provide quantifiable and reliable data from prospective employers on the educational and training needs, and the anticipated number of vacancies, expected over the next 5 years.

Educational and Training Needs:

The Occupational Handbook of the U.S. Bureau of Labor Statistics suggests that management analysts need at least a bachelor’s degree. Related education and work experience may be important, particularly in the fields of business, social science, and engineering. An MBA would be preferred by some employers. Also valued are skills in analysis, communication, problem-solving, time-management, and interpersonal relationships.

Careerexplorer.com advises that to qualify as a data analyst, “a university education is essential for this sort of work.” The article continues, “Most data analysts will have degrees in fields like mathematics, finance, statistics, economics, or computer science.”

O*NET OnLine advises that most of the occupations in their Job Zone Four, which includes data analysis, require “considerable preparation.” Most of the occupations require a four-year bachelor’s degree. Employees usually need work-related experience or training. <https://www.onetonline.org/link/summary/15-2051.00>

Anticipated number of vacancies in the next five years:

Data provided in the preceding sections of this proposal suggest that there is a growing need for data analysts (management analysts, business analysts) in Maryland. As noted in Section C (1), on September 1, 2023, Indeed.com advertised 522 Business Analyst positions needing to be filled in Maryland. *Zip Recruiter* advertised 18,197 data analysis jobs in Maryland.

(3) In assessing demand for a new program, for which the institution is making application, an institution shall also present data showing the current supply of graduates in that program area in the State and region.

In FY22, the University of Maryland College Park awarded 901 bachelor’s degrees in Business and Management. The University of Maryland Data Dashboard <https://www.usmd.edu/IRIS/DataJournal/Degrees/?report=Degrees-by-Program-Area-and-Degree-Type> does not provide a breakout of majors, such as Operations Management and Business Analytics. However, in view of the projected need in the data analytics field in Maryland as noted in the preceding sections, there is employment opportunity within the state to accommodate both University of Maryland and Embry-Riddle graduates.