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February 27, 2018

James D. Fielder, Jr., Ph.D.
Secretary of Higher Education
Maryland Higher Education Commission
6 North Baltimore Street
Baltimore, MD 21201

Dear Dr. Fielder:

McDaniel College is submitting four (4) new program proposals:

- Master of Science: Disability Support Services in Higher Education
- Post-Baccalaureate Certificate: Disability Support Services in Higher Education
- Master of Science: Data Analytics
- Post-Baccalaureate Certificate: Data Analytics

The faculty and Board of Trustees of McDaniel College endorses these programs.

Along with all four of these New Instructional Programs is a copy of each check (\$250.00) which will be placed in the mail today.

Please let me know if you have any questions about these programs.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Jasken'.

Julia Jasken, Ph.D.
Provost and Dean of the Faculty

MARYLAND HIGHER EDUCATION COMMISSION ACADEMIC
PROGRAM PROPOSAL

PROPOSAL FOR:

- NEW INSTRUCTIONAL PROGRAM
 SUBSTANTIAL EXPANSION/MAJOR MODIFICATION
 COOPERATIVE DEGREE PROGRAM
 WITHIN EXISTING RESOURCES or REQUIRING NEW RESOURCES

(For each proposed program, attach a separate cover page. For example, two cover pages would accompany a proposal for a degree program and a certificate program.)

McDaniel College

Institution Submitting Proposal

August, 2018

Projected Implementation Date

Master of Science

Data Analytics

Award to be Offered

Title of Proposed Program

0507

Suggested HEGIS Code

13.0402

Suggested CIP Code

Graduate and Professional Studies

J. Michael Tyler, PhD

Department of Proposed Program

Name of Department Head

Sheila Deane

sdeane@mcDaniel.edu

410.857.2518

Contact Name

Contact E-Mail Address

Contact Phone Number

Signature and Date

President/Chief Executive Approval

Date Endorsed/Approved by Governing Board

2/27/18

Date

McDaniel College

Graduate and Professional Studies

Proposal for New Master's Degree

Program Title : Master of Science in Data Analytics

A. Centrality to institutional mission statement and planning priorities:

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The proposed program is a Master of Science in Data Analytics. The program will be offered in both a traditional face-to-face format and a 100% online format. The program is 33-credit hours in length and comprised of 11 courses. The program is designed to allow existing professionals, across a range of industries to acquire skills necessary to collect, analyze, and use data within their work environment to drive decision-making processes. The program will focus on allowing individuals to leverage their current professional knowledge as industry experts, and combine that knowledge and skill with data skills to enhance decision processes. Individuals will learn to utilize data already available within their industry and to design processes to collect new data sets to increase planning, decision-making, and ROI. The program as planned will take a generalist approach, focusing on a broad set of data analysis skills that will be applicable across industries and will not provide specific concentrations.

The mission of Graduate and Professional Studies is to prepare culturally competent professionals committed to leadership in their field. Students are placed in the center of a community rich in the liberal arts tradition. An emphasis on the foundation of knowledge and critical decision-making based on current research, theory and practice are central to the various programs.

To accomplish this mission, the Graduate and Professional Studies program at the College prepares professionals who:

- are specialists in their field of study and who value the balance and interdependence of current theory, research and practice;
- advocate for and facilitate the personal growth and well-being of a diverse clientele;
- use appropriate technology, assessment and analytical tools to solve problems and make decisions in their field;
- are prepared to interact, communicate and practice in a variety of settings with unique constraints and cultures; and
- are committed to lifelong learning and continuing their own personal growth in order to stay current in their profession.

As a professional focused graduate division, Graduate and Professional Studies has long concentrated on the development of leaders across a variety of disciplines. While primarily focused on leaders in educational settings, the division maintains programs intended to develop leaders in geriatrics, counseling, human services, and human resources. Each of these areas, along with education, is undergoing rapid change as a result of the increasing importance of the field of analytics in all aspects of institutional and organizational management. The proposed Master of Science program in Data Analytics will provide an opportunity for leaders already being educated at McDaniel to add important new skills and knowledge allowing them to be better prepared for today's decision-making environment. In each of these areas currently, decision-making, data analysis, and technology tools are a part of the curriculum. The new program brings together these tools in a much more sophisticated and integrated manner, providing the opportunity for the developing professional to become true citizen-data analysts in

their professional roles. These are individuals that leverage data to create models for decision-making. Supporting these roles through a strengthening of offerings and expertise is an acknowledgement of the need to update rather than expand our focus. The proposal for the Master of Science in Data Analytics is an extension of this trend.

Currently, the leadership outcomes in our programs assume a broad generalist approach. While all graduate programs invest in educating in using data to make decisions, current offerings limit the choices of our students by focusing on research and decision-making that is patterned after patterns of data usage in an academic environment. The Master of Science in Analytics recognizes that the data decision-making needs in organizations have expanded beyond past requirements. The new program maintains the professional focus of our graduate education division, and does so in the context of business (human resource), non-profits (human services, gerontology), and education (education leadership) while focusing on a side of these disciplines that cannot be adequately met with academic focused research courses. Finally, the program at the MS level is designed to serve students with diverse backgrounds, including the liberal arts, providing them with essential skills to succeed in today's workplace.

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

This new program area will directly address three of the five objectives noted above in the GPS mission. Objective 3 (use of technology to solve problems) is at the core of the new program. The program will teach students to use the latest technologies and techniques to address current and future organizational challenges. The program will also address objective 4 (communication) with an appropriate focus on helping others understand and utilize the data analysis available to them. This is central to success as the importance of data analysis in organizational settings is the creation and communication of meaning drawn from the data. Finally, the program will address objective 5 (lifelong learning). The proposed Data Analytics program at the graduate level is intended to create new pathways for lifelong learners to advance in their current role, or move to new roles in emerging fields.

As part of the McDaniel College Strategic Framework, the expansion of curricular offerings is a central tenant to sustainability of the institution. Goal 3 of the Framework commits McDaniel College to updating curriculum pathways to allow students to access 21st century careers. The addition of programs that combine data sciences with leadership skills are consistent with this institutional priority as well as the institution's mission. The College faculty as well as the Board of Trustees have affirmed this priority in the approval and funding of this program.

B. Critical and compelling regional or Statewide need as identified in the State Plan:

1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:
 - o The need for the advancement and evolution of knowledge;
 - o Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education;
 - o The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs.

Research studies indicate a looming shortage of employees with analytics skills. EAB (Education Advisory Board) reported in *Data Analytics: Capitalizing on Creative Disruption (2017)* that by 2021, 69% of employers will seek employees with analytics skills. However, only 23% of college graduates are likely to possess these skills. Programs that can help bridge this gap are highly desired.

Burning Glass Labor/Insight data (EAB 2017) demonstrates a very high demand and strong growth in the field. Demand for data analysts (post-baccalaureate to master's degrees) has been growing in

recent years by 24%, while demand for data scientists (master's degree and above) has grown at 293%. Additionally, existing programs have been experiencing rapid and sustained growth suggesting that there remains room in the market for new offerings. Many current programs are offered through traditional business and computer science divisions where costs of attendance can be a barrier to entry. Because average base salaries for data analysts are above \$60,000 and average base salaries for data scientists are above \$120,000, potential students are often willing to pay the price when they can, but even with promises of high salaries, many potential students are seeking more cost-effective alternatives.

In a recent 30-day period, Glassdoor (glassdoor.com) reported 446 job postings for data scientists in the state of Maryland (glassdoor.com, February 13, 2018). The research clearly indicates a need for an increased number of professionals with data analysis skills. Situated in Carroll County, McDaniel College is well positioned to provide graduate education to individuals living throughout a large section of the state where few other graduate opportunities exist. Research indicates that even in online education programs, most students choose to attend an institution less than 50 miles from their home. McDaniel College is well positioned to provide access to graduate programs in a portion of the state where graduate education is not readily obtainable for many students. The proposed online model further reduces costs and increases access for students.

2. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

One important goal of the Maryland State Plan is to remove barriers that inhibit institutions from responding to workforce needs. There is clearly a strong workforce need in the data analytics field. The proposed program seeks to develop a pathway for a range of professionals in the state, not just individuals that possess an undergraduate degree in computers, business, or math. This is an important step. If data analytics are to gain a footing in organizations outside of large business, then the knowledge and skills of the discipline need to be accessible to a broader array of professionals. Many business settings have already hired data analysts and are using this specialized knowledge to improve performance and returns on investment. However, many industries, including education, human services, non-profits, and public administration do not have the hiring capacity to bring in dedicated data scientists. These organizations are struggling to capitalize on the new market forces, and are struggling to find workers that can bridge their organizational culture with data analysis. The proposed McDaniel program will specifically seek to educate industry leaders to bridge this divide.

Further, McDaniel College has long had a commitment to non-traditional and first-generation students. While a large percentage of the undergraduate population at McDaniel are first-generation students, many of these individuals do not continue their graduate education at the institution because the focus of current graduate programs is not consistent with their professional goals. As a result, many individuals leave the area and the state to pursue graduate education in other settings. The expansion of graduate programs aligned with the professional goals of students will help to retain more Maryland talent in Maryland.

C. Quantifiable & reliable evidence and documentation of market supply & demand in the region and State:

1. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

As noted in Section B1 above, there is a strong market demand for individuals in this area. Market analysis, performed by McDaniel College partner Educational Advisory Board has found this discipline to be among the fastest growing and most in-demand areas in the country today. According to PwC (Investing in America's Data Science and Analytics Talent, 2017), there is a looming shortage of talent in

this area. Their report notes that 69% of employers will prefer and seek individuals with data analysis skills, while only 23% of college graduates will be equipped to respond. A 2016 Burning Glass/Labor Insight report noted that 95% of surveyed employers stated it was difficult to find analytics talent.

A Glassdoor search on February 13, 2018 found 446 positions posted in the state of Maryland for data scientists. Searching for data analysts, 198 positions were found to have been posted. A search on specific skill sets (e.g. SQL) results in 1600 jobs posted in a 30-day period. This data clearly shows a strong market for individuals with training in this discipline.

2. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

At the current time, there is no single occupational classification that encompasses data analytics professionals. The skill sets associated with this discipline are increasingly being used in every professional arena to seek competitive advantage. Because there isn't a single classification, occupational trends must be inferred from occupations that are related to and rely on the skills and knowledge developed in data analytic programs.

The Bureau of Labor Statistics expects a 26% increase in the number of computer and information scientists in the state of Maryland between 2017 and 2024. This increase of approximately 660 professionals means that over 100 new professionals will need to be graduated every year to meet the demand for new positions. Additional individuals will be needed to backfill others that are leaving the profession.

In a variety of other professions where analytics skills are necessary, the trend is the same. Table 1 presents Maryland projections for a number of occupations that may be sought by graduates from data analytics programs. In each case, both the percentage change and the absolute change in numbers demonstrates a strong need for increased training to meet Maryland workforce needs.

Table 1: Maryland Occupational Demand

	2014	2024	Change	% Change
Computer Systems Analysts	15,794	21,566	5,772	36.55
Management Analysts	18,517	22,068	3,551	19.18
Financial Analysts	6,360	8,234	1,874	29.47

3. Data showing the current and projected supply of prospective graduates.

The Education Advisory Board (Data Analytics: Capitalizing on Disruption, 2017) has found in their research that the need for analytics professionals across fields is among the fastest growing in all market areas in the U.S. Importantly, EAB notes that opening programs that allow liberal arts undergraduates to advance their skills in this area is an important avenue to opening up the field and meeting demand. McDaniel College is ideally situated to help strong undergraduates from the liberal arts disciplines transition into careers in the analytics field.

In launching an MS in Data Analytics, McDaniel College anticipates a program graduating approximately 14 students annually. Based on Maryland occupational demand data (Table 1), McDaniel College anticipates a program that will have a minimal impact on local demand. Additionally, because students will have an option to complete the McDaniel program 100% online, the student base, while primarily from Maryland, will include individuals from outside of the state, further limiting the impact of the program on local employment needs.

D. Reasonableness of program duplication:

1. Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.

According to data from the Maryland Higher Education Commission, there are four institutions in the state offering an approved master's program in analytics. Table 2 lists those programs. Of these, two programs take a more generalist approach which is comparable to the McDaniel College program. These offerings are both 36 credits in duration. The McDaniel College advisory board has recommended a slightly shorter program at 33 hours. The 33 hour program is comparable to many programs around the U.S. and has been built to meet local employer expectations. These three generalist programs while serving similar student populations, can all operate at capacity and will still not be able to meet in-state demand in the coming years.

As a McDaniel College program, the proposed program is unique as an outgrowth of McDaniel College's First Principles. With an embedded focus on ethics, community, and communication, the program will offer a unique appeal to individuals coming out of a liberal arts tradition. Additionally, the 33-credit hour model meets the needs of students that want to move quickly through a graduate program. Students that cannot demonstrate appropriate pre-requisite technical and statistical skills may be required to complete additional coursework in those areas.

Table 2

Institution	Program Title	Credits	Total Cost	Delivery
Johns Hopkins University	Government Analytics	36 Credits	\$46,764	Online
Notre Dame of Maryland University	Analytics	36 Credits	\$18,000 plus fees	Online
University of Maryland University College	Data Analytics	36 Credits	\$24,984	Online
University of Maryland College Park	Business Analytics	30 credits	\$49,042 in-state \$62,422 out-of-state	Face-to-face
University of Maryland College Park	Marketing Analytics	30 credits	\$49,042 in-state \$62,422 out-of-state	Face-to-face

2. Provide justification for the proposed program.

McDaniel College is well known in the state of Maryland for our professionally-oriented graduate programs. Programs in counselor education and educational leadership are among the largest in the state. We have proven throughout the years that, by working with students within their current professional environments to grow their skills, we are preparing them for the next stage in their career. In a very real sense, Graduate and Professional Studies has operated to provide the terminal educational program for thousands of our graduates seeking career opportunity and stability. Undergraduate programs at McDaniel launch the early career professional, but it is the graduate division that seeks to solidify the professional credentials of students regardless of their undergraduate experience. We have been successful by understanding student needs and responding to them locally.

In the past decade, there has been a fundamental shift in how all organizations operate. The availability of data has disrupted industrial/organizational practice in virtually every area in the U.S. economy. Large organizations have become larger by using data to understand consumer behavior and drive consumer desire. Lacking expertise and resources, many smaller organizations have turned to consulting partners in an attempt to gain access to the power and knowledge to be obtained from emerging data science practices.

Educational institutions have responded by creating programs in data analysis, informatics, statistics, and associated fields. Often housed in larger research institutions and colleges of business or computer science, these programs are reflections of the cultural value sets that pervade the institution. In some cases, there is a strong push to affiliate with the largest corporate partners. In other cases the primary focus is on the advancement of the field rather than teaching and the development of practicing professionals not interested in joining academia. Growth may be seen as a product of status, and status may come from inputs, affiliations, and scholarly productivity rather than meeting the needs of local students. This is the opening for McDaniel College.

Over the years we have invested in developing relationships to understand local needs, and we respond to those needs in a way that helps the average teacher, the average counselor, the average student develop to their potential. Celebrated on the undergraduate side, the principle of helping everyone transform to new levels is what Graduate and Professional Studies does. The recognition of our graduates as Teacher of the Year, Counselor of the Year, Superintendent of the Year, etc. provides the evidence of our success. We believe there is a need to bring this same level of high quality graduate education to those interested in the data analytics field.

The National Association of Graduate Admissions Professionals (NAGAP) has been studying common factors reported by applicants as to why they are not pursuing higher education. McDaniel College can successfully address these concerns.

1) GRE/GMAT scores: McDaniel College does not require standardized test scores for admission to most of our graduate programs. We believe that by working with competent professionals, and providing education that expands professional roles, the defining characteristics are not found in test scores, but in individual's commitments- to themselves, their profession, and their educational goals. We believe we can bring this same sensibility to admission in data analytics. Recognizing specific programmatic challenges, particularly related to mathematical and technical skills, we have to start the program by meeting our potential students where they are in current skill development, rather than demanding they meet us at levels that create artificial barriers, particularly to those that have been out of education for a period of time. To accomplish this task the program will provide supports to individuals to remediate needs that exist, that will allow students to enter this program and be successful.

2) Geographic/Temporal Barriers: McDaniel Currently serves a large online student population. Some of these students cannot easily get to a college or university that offers their chosen degree. Other students may have local options, but time commitments to a professional life, family, and community commitments make scheduling weekly class sessions difficult. With approximately 1/3 of all graduate enrollments online, McDaniel has created an infrastructure to build and maintain quality online classes. Recent changes in hiring and on-boarding practices have strengthened the support provided to those teaching online. Well established training and support means that McDaniel is well positioned to extend beyond its current offerings in education to support new programs, including data analytics.

3) Cost: Cost of attendance is a problem for students in all disciplines. The cost of analytics programs is no exception as noted in Table 2 above. McDaniel College has maintained reasonable tuition across its graduate division and will maintain competitive tuition in this area. While not the

low-cost provider in the state, McDaniel will provide a competitive program along with scholarship assistance that will provide greater access to students in the state.

4) **Appropriateness of Fit:** Existing programs are largely built based on the industry players that have had the resources to fund and hire data scientists. This means that practices taught and methods used are aimed at the largest employers. Case studies focusing on national health care databases, industry leaders including Google, or massive educational data sets from large universities like Arizona State are common. These examples define the current state of the industry and the driving forces that exist today. The next wave in analytics however is not going to occur among industry giants. The next frontier is small to medium-size organizations that recognize the need to use analytics to remain competitive, but do not have the resources of larger competitors. McDaniel will focus on the creation of a niche program that addresses small to medium-sized for-profit and not-for-profit entities. This will allow McDaniel to create differentiation.

E. Relevance to high-demand programs at Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

At the current time, none of the HBI's in the state of Maryland offer a program in data analytics at the graduate level. While there are programs in Management Information Systems (Bowie State University), Computer Science (Coppin State University) and Applied Computer Science (University of Maryland Eastern Shore), these related programs are all fundamentally different than data analytics. As such, the students seeking admission are a different group of individuals interested in seeking different career paths. Therefore, there is no reason to believe that there will be significant impact at any state HBI.

F. Relevance to the identity of Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

Because there is no direct programmatic crossover, there is little likelihood of any impact on institutional identity or mission of Maryland HBIs.

G. Adequacy of curriculum design and delivery to related learning outcomes consistent with Regulation .10 of this chapter:

1. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.

ANA 500 – Foundations of Data Analytics (3 Credits): This course introduces fundamental techniques of data analysis, emphasizing complex and/or large data sets. Students will be introduced to common software including SAS and will begin to connect analysis technique with decision-making process, visualization, and advanced data mining.

ANA 510 – Computational Statistics (3 Credits): This course introduces fundamental techniques of data analysis, emphasizing complex and/or large data sets. Students will be introduced to common software including SAS and will begin to connect analysis technique with decision-making process, visualization, and advanced data mining.

ANA 520 –Data Mining (3 Credits): This course is an extension of Foundations of Data Analytics. Focusing on techniques of data mining, students will continue to develop their skills using SAS to learn SQL coding and use SQL Server and/or Oracle to implement algorithms for basic data mining techniques. Students will learn to prepare data, address classification, performance evaluation and

clustering among other practices.

ANA 511 – Information Design and Visualization (3 Credits): This course will focus on the use of data visualization technique to understand, communicate, and use data in decision-making. Use of tools such as Tableau, PowerBI, IBM Cognos and Qlikview will prepare students to transition their work to professional settings.

ANA 561 – Data Architecture (3 Credits): This course focuses on technologies necessary to address large amounts of semi-structured and unstructured data sets. Students will learn about architecture, security, structure and storage. An emphasis on tools for retrieval will help students prepare to address issues through case studies focusing on building systems that scale.

ANA 508 – Python (3 Credits): Using the Python language, students will learn concepts around problem solving and algorithm creation, data types and expressions. Python will be presented as both an interpreted and compiled language to work with a variety of data types and to manage data.

ANA 512 – Business Intelligence (3 Credits): In this course, students will learn to engage with large data sets to gain insights into business operations. The course covers managerial, strategic and technical issues. Students will learn to deploy and capitalize on business intelligence and analytics solutions. Students will learn to focus on KPIs and other models of metrics using dashboards and report cards to communicate insights and progress.

ANA 562 – Practicum in Data Analytics (1-3 credit): The practicum course is designed to help students transition their knowledge and skills from the classroom to their professional setting. Assignments parallel and support core classes in the data analytics program. Students are required to complete 3 credit hours for the MS in Data Analytics program. This variable credit course can be assigned 1, 2, or 3 credits and can be repeated to complete the 3-credit requirement.

ANA 530 – Predictive Modeling (3 Credits): This advanced statistical modeling course is designed to help students uncover patterns in data, determine variables that have predictive capacity, and develop robust models for predicting business and operational trends. Topics include regression, ensemble models, genetic algorithms and best practices for selecting and building predictive models.

ANA 535 – Time Series Analysis (3 Credits): Based in econometrics, this course addresses the theory and application of time series methods. Students will learn univariate, stationary, and non-stationary models, auto regressions, models for estimation and inference and structural breaks. Students will analyze their own data and interpret reports from other settings.

ANA 5xx – Data Collecting and Cleaning (3 Credits): This course focuses on the process of collecting data and preparing it for analysis. Students will learn computational processes to automatically correct errors in large data sets when possible, identifying short-comings in these approaches and manual approaches when necessary. Students will also learn techniques for error detection using readily available data sets.

2. Describe the educational objectives and intended student learning outcomes.

Upon completion of the program, students will be prepared to identify data needs and develop plans to collect data to make business decisions. Operating in data-rich environments, students will be able to combine their knowledge of business and operations, with skills in analytics and information technology to develop new solutions to address business needs today, and to predict the business needs of tomorrow.

1. Integrate information technology with data science to create meaning and drive decisions.

2. Think critically about business needs, using data to further understanding and assess implications.
 3. Recognize opportunity to increase the use of data analytics to address current needs and to predict future needs.
 4. Develop proficiency in a variety of data tools, with an ability to select tools based on specific need and constraints.
 5. Communicate meaning and implications of analysis to a variety of audiences, including internal and external stakeholders, peer data analysts, and the general public.
 6. Function effectively as a leader within one's organization, using leadership theory to address organizational needs and advance strategic goals.
 7. Use SQL to visualize and interpret data sets.
 8. Create predictive models to identify trends, future needs, and advance meaning in data sets.
3. Discuss how general education requirements will be met, if applicable.

Not applicable.

4. Identify any specialized accreditation or graduate certification requirements for this program and its students.

At this time, there is no professional accreditation, certification, or licensure required or sought for this program.

5. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

There are no collaborative agreements in place for this program.

H. Adequacy of articulation

1. If applicable, discuss how the program supports articulation with programs at partner institutions.

There are no articulation agreements in place and none are planned in the near term.

I. Adequacy of faculty resources (as outlined in COMAR 13B.02.03.11).

1. Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach.

At the current time, McDaniel College has no graduate program in the area of data analytics or computer information systems. To manage the program planning process, the College has assembled a team of individuals to provide advice and guidance that represent both academic traditions and employer needs. Table 3 identifies the primary contributors to date. The work of these individuals to date demonstrates the capacity of the College to engage highly qualified and capable individuals to achieve program goals.

Table 3

Name	Education	Current Professional Role	Teaching Experience
Stu Rabinowitz, M.S., M.B.A.	University of Illinois-Chicago; Masters of Science, Health Care Informatics	Division Director, Data Analysis and Information Technology; Strategic Health Solutions	Howard Community College

	Masters of Business Administration; Lehigh University		
Jason Scott, M.S., M.B.A., Ph.D.	Ph.D., Biomedical Informatics; Rutgers University M.S. Pharmacy; University of Florida M.B.A., Texas A&M University	Area Vice President; Complex Care Solutions	University of Florida; University of Illinois
Michael Fenick, M.S.	M.S. Information Technology, American Intercontinental University M.S. Economics; West Texas A&M University	Program Manager, Business Analytics, Broward College	Broward College

McDaniel College has highly regarded departments in Computer Science and Business and Economics. Table 4 provides an overview of some faculty in these areas. Based on enrollments at both the undergraduate and graduate level, full-time undergraduate faculty will be offered the opportunity to contribute to the proposed program in their area of specialization. If each faculty member chooses to teach 1 course in the program, a maximum of 4 of the 11 courses would be covered by these full-time faculty members.

Table 4

Faculty Member	Role at McDaniel	Education	Specialty Area
Paul (Chia-En) Lin, Ph.D.	Assistant Professor (FT)	University of North Texas	Programming Languages
Italo Simonelli, Ph.D.	Professor (FT)	Temple University	Statistics
Ting Zhang, Ph.D.	Assistant Professor (FT)	University of Massachusetts	Storage and Search Applications
Kevin McIntyre, Ph.D.	Professor (FT)	University of Virginia	Statistics

In addition, McDaniel College has included in budgets for a full time hire. Planning documents include an additional hire in year 2 and another by year 5. Because the program will start with only 5 classes during the first year, a single full-time faculty member in coordination with existing faculty may provide more than 50% of the classes offered in this program. However, based on specific program enrollment, McDaniel College may rely on part-time faculty members to teach over 50% of the classes in this single program in some semesters. Additionally, enrollment patterns between the PBC and the MS program as well as undergraduate needs at the institution may result in more than 50% of the courses in a student's educational program being taught by part-time faculty. The use of highly qualified industry professionals will ensure that our students are developing cutting-edge knowledge and skills that are in high demand among employers- the very institutions from which we draw our part-time instructors.

As a professional graduate program, the key to success for students is immediate application of knowledge and skills necessary in industry. Data analytics is a broad field and the demands of industry are not highly coalesced. As an example, in the area of data visualization, there are a number of competing tools. Each of these well-developed software packages offers advantages, and within specific industrial areas each has become dominant. Creating a small program that is primarily staffed by a few individuals will limit the range of software products and languages that can be taught. Relying on industry professionals, McDaniel College can offer a broader array of courses that are quite specific, taught by industry leaders that use these tools every day. As a result, rather than teaching all students in a single language or software tool, McDaniel College envisions a broader array of small classes developed across time that will allow students to focus on the specific tools within their organization. While McDaniel College will initially offer statistics courses with a focus on SAS, the College desires the flexibility to expand to SPSS, Minitab, and R. Utilizing leading industry professionals, McDaniel College will be able to maintain smaller class size focused on skill sets that our students will be able to implement immediately in their professional environment without relearning processes unique to in-house tools.

J. Adequacy of library resources (as outlined in COMAR 13B.02.03.12).

1. Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program. **If the program is to be implemented within existing institutional resources, include a supportive statement by the President for library resources to meet the program's needs.**

Attachment A is a letter from the Director of Hoover Library, the McDaniel College library. The letter notes that the College is prepared to meet the needs of this new program through existing resources. The letter further notes that the College will add a new budget line to maintain a collection specific for Data Analytics. A portion of that budget will be funded by Graduate and Professional Studies as seen in the attached financial documents.

K. Adequacy of physical facilities, infrastructure and instructional equipment (as outlined in COMAR 13B.02.03.13)

1. Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences. **If the program is to be implemented within existing institutional resources, include a supportive statement by the President for adequate equipment and facilities to meet the program's needs.**

The proposed program does not require specialized facilities, labs or additional equipment. Graduate and Professional Studies is located in Merritt Hall, formerly named Academic Hall which includes 44 offices, 11 classrooms, 23 laboratories and workrooms, 11 seminar or conference rooms, and several storage spaces for a total of 46,036 square feet. At this time, the building contains vacant offices and equipment necessary to meet the needs of new faculty. The addition of online sections will not require new capacity as current infrastructure has access capacity available. Attachment B is a letter from Dr. Casey, President, in support of these plans.

L. Adequacy of financial resources with documentation

Table 1: Resources

TABLE 1: RESOURCES:					
Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5

1. Reallocated Funds	\$0	\$0	\$0	\$0	\$0
2. Tuition/Fee Revenue (c + g below)	108,900	204,600	283,500	435,375	491,250
a. Number of F/T Students	0	0	0	0	0
b. Annual Tuition/Fee Rate	\$590	\$605	\$615	\$630	\$640
c. Total F/T Revenue (a x b)	\$0	\$0	\$0	\$0	\$0
d. Number of P/T Students	12	22	30	45	50
e. Credit Hour Rate	\$590	\$605	\$615	\$630	\$640
f. Annual Credit Hour Rate	15	15	15	15	15
g. Administrative Fees	\$2,700	\$4,950	\$6,750	\$10,125	\$11,250
h. Total P/T Revenue (d x e x f) + h	\$108,900	\$204,600	\$283,500	\$435,375	\$491,250
3. Grants, Contracts & Other External Sources	\$0	\$0	\$0	\$0	\$0
4. Other Sources	\$0	\$0	\$0	\$0	\$0
TOTAL (Add 1 – 4)	\$108,900	\$204,600	\$283,500	\$435,375	\$491,250

Table 2: Expenditures

TABLE 2: EXPENDITURES:					
Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1. Faculty (b + c below)	\$42,394	\$100,896	\$117,617	\$119,969	\$183,552
a. # FTE	0.375	0.875	1	1	1.5
b. Total Salary	\$31,875	\$75,862	\$88,434	\$90,202	\$138,009

c. Total Benefits	\$10,519	\$25,034	\$29,183	\$29,767	\$45,543
2. Admin. Staff (b + c below)	\$14,131	\$14,413	\$14,702	\$14,996	\$15,295
a. # FTE	0.125	0.125	0.125	0.125	0.125
b. Total Salary	\$10,625	\$10,837	\$11,054	\$11,275	\$11,500
c. Total Benefits	\$3,506	\$3,576	\$3,648	\$3,721	\$3,795
3. Support Staff (b + c below)	\$3,147	\$4,013	\$4,132	\$4,215	\$4,797
a. # FTE	0.1	0.125	0.125	0.125	0.125
b. Total Salary	\$2,366	\$3,017	\$3,107	\$3,169	\$3,607
c. Total Benefits	\$781	\$996	\$1,025	\$1,046	\$1,190
4. Equipment	\$1,500	\$1,500	\$1,500	\$1,500	\$0
5. Library	\$2,000	\$1,000	\$1,000	\$500	\$300
6. New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7. Other Expenses	\$2,000	\$2,000	\$1,500	\$1,500	\$1,000
TOTAL (Add 1 – 7)	\$65,172	\$123,822	\$140,451	\$142,679	\$204,944

[Complete Table 1 and Table 2 for the first five years of program implementation, and totaled across time. See Finance Data PDF for further explanation]

1. Provide a narrative rationale for each of the resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

No funds are being reallocated from other areas to launch the proposed program.

Resources

1) Tuition and Fees: The proposed program will be entirely tuition driven. The proposed tuition is in line with other programs in the state and consistent with other offerings at McDaniel College. In addition to tuition, students will be required to pay a \$75 administrative fee during each term of registration. This fee is consistent with McDaniel practice. The tuition modeling that has been done is based on a part time program with small initial enrollments and limited growth. Some attrition has been modeled to achieve a conservative estimate of revenue. All revenue has been calculated on a part-time basis as the program does not intend to operate with enough classes to allow for full-time registration. A small increase in annual tuition has been calculated into the formula.

- 2) **Credit Hour Rate:** The program is intended to be operated as a cohort program, admitting students 1x per year and maintaining the class as a cohort group. Based on the current McDaniel 8-week schedule, 5 classes (15 credit hours) will be offered each year.
- 3) **Grants, Contracts, Endowment Income:** No additional revenue is anticipated for the program at this time.
- 4) **Total Revenue:** Total revenue is reflected on the Resources Table. Total revenue is sufficient to cover all expenses that will be incurred for program launch and maintenance.

Expenses

- 1) **Faculty:** Faculty expenses reflect partial assignment of faculty to this program as well as other programs in Graduate and Professional Studies. The formula includes small salary increases across time building to 1.5 faculty FTE assigned to this program. Note that additional faculty FTE will be assigned to the PBC program in Data Analytics where students will be completing the same core courses. As a result, the program will have expertise beyond the 1.5 FTE assigned financially.
- 2) **Administrative Staff:** McDaniel practice is to assign a full-time faculty member to perform the duties of Program Coordinator when possible. The calculations for administrative staff assume that a portion of a regular faculty member's salary will be assigned to this task. Small salary increases are included.
- 3) **Support Staff:** The Data Analytics programs will be assigned to a support staff. The financial calculations assume that this individual will dedicate a portion of their time to the data analytics program, and that time will be split equally between the MS in Data Analytics and the PBC in Data Analytics. This is consistent with other staffing based on anticipated enrollments.
- 4) **Equipment:** The equipment budget will cover the cost of specialty needs in the area. Additional support for the Data Analytics program is included in the budget for the PBC.
- 5) **Library:** Library resources are increased to allow for additional purchases at start up. The budget decreases across time to a maintenance phase consistent with other programs at the College.
- 6) **Other Expenses:** Additional expenses related to the advisory board and outreach activities are planned and included.

M. Adequacy of provisions for evaluation of program (as outlined in COMAR 13B.02.03.15).

Discuss procedures for evaluating courses, faculty and student learning outcomes.

McDaniel College will use a process of data triangulation to ensure the adequacy of courses, faculty, and student learning outcomes. The process is mirrored in programs at the institution and is an outgrowth of both Middle States expectations and the requirements of external accreditors including CAEP (formerly NCATE).

McDaniel College will maintain an advisory board for the program. An advisory board has already been established and includes faculty from other institutions and representatives of industry and is overseen by the Dean of Graduate and Professional Studies. Once the program is established and permanent faculty in place, oversight of the advisory board will be delegated to the program coordinator. The purpose of the advisory board is to review curriculum and outcomes from the perspective of industry need, external bodies that provide oversight, certification, or accreditation, and to compare the McDaniel curriculum and outcomes with industry standards as used at other institutions, both peer groups and aspirational groups. While the advisory board may meet quarterly,

one meeting annually will be specifically set to review the curriculum and data related to student learning success.

Both direct and indirect measures of student learning will be used to assess learning outcomes. Direct measures of learning outcomes include standardized assessment materials that are embedded into classes within the program. All students complete these materials as part of the course. A variety of standardized assessments are used. When possible, assessment materials are designed to mimic activities from the professional environment creating authentic assessment tools. Additionally, indirect measures of student learning are used. The indirect measures include surveys of student learning in every class, a survey at the time of graduation, and follow-up surveys post-graduation. These indirect measures allow students to provide valuable feedback not only on their level of learning, but on curricular, programmatic, and policy issues. These indirect measures are combined with periodic surveys provided to employers of graduates that provide comparative data on McDaniel graduates related to employees from other institutions. The data becomes part of the program assessment and is used to assist in the compilation on an annual assessment report required of all programs at the institution.

The Annual Assessment Report is provided to the Graduate Assessment Committee for review. The Assessment Committee provides feedback on the structure and veracity of the report, offers formative feedback for improvements, and holds programs accountable for acting upon insights developed in the report through follow-up activities. The Annual Assessment Report is also provided to the Advisory Board for review and input.

The process is similar to the process followed by all education programs with Graduate and Professional Studies that must compile and submit data for external accreditation through CAEP. McDaniel College has been identified through this process as an institution that has strong assessment processes in place, and a robust data system that drives quality.

N. Consistency with the State's minority student achievement goals (as outlined in COMAR 13B.02.03.05 and in the State Plan for Postsecondary Education).

Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

McDaniel College has a well-deserved reputation for creating pathways to higher education for minority group members, first-generation students, and individuals that struggle with financial means. Approximately 1/3 of the undergraduate population are members of minority groups. At the graduate level, access to the McDaniel campus is difficult for many individuals in the state because unlike undergraduates that relocate, graduate students tend to seek education while remaining in place. Through a strong online education model, and fully online programs, McDaniel College has been able to increase access to higher education for students across the state of Maryland. Further, with a constant drive to maintain costs, the College continues to provide graduate education at a cost equal to many state schools and lower than many of our private school peers. This results in large groups of students having access to unique McDaniel graduate programs that reflect our liberal arts heritage, without needing to commute to our Westminster campus.

The proposed program will be available 100% online. This delivery will increase access for all individuals living in the state of Maryland by providing affordable, high-quality graduate education in a flexible manner. The online learning approach removes geographic barriers to higher education by allowing individuals to access an in-state school without needing to physically commute. The online approach also removes temporal barriers, allowing individuals to participate in education when their schedule allows. This is important for individuals that are working but may not have worktime flexibility. It is also beneficial to individuals that have responsibilities that may limit their opportunity to leave their house during typical course hours.

O. Relationship to low productivity programs identified by the Commission:

If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

This program is not associated with a low productivity program identified by the commission.

P. If proposing a distance education program, please provide evidence of the Principles of Good Practice (as outlined in COMAR 13B.02.03.22C).

(a) Curriculum and Instruction.

(i) A distance education program shall be established and overseen by qualified faculty

The program was designed in conjunction with a group of qualified faculty and industry representatives meeting the qualifications expected by all faculty at McDaniel College. The program will be overseen by a faculty member that meets all quality expectations established by the College and all faculty that teach courses in the program will meet the standards established by the College. In all cases, faculty will possess a minimum of a master's degree in the field and substantial industry experience demonstrating currency and expertise in the field. Preference will be given to individuals that hold a doctorate and have demonstrated professional experience.

(ii) A program's curriculum shall be coherent, cohesive, and comparable in academic rigor to programs offered in traditional instructional formats.

McDaniel College develops all graduate programs with an eye to providing flexibility in offerings. This results in all classes being developed in a consistent manner that allows for some sections to be taught online, while other sections can be offered in a face-to-face format. This approach to development ensures that all courses are grounded in the same rigorous development process, and all students receive the same quality education experience, regardless of the format in which a course is delivered. In every case, the course outcomes are identical, and the assessment materials used to assess the course remain the same.

(iii) A program shall result in learning outcomes appropriate to the rigor and breadth of the program.

Learning outcomes for the proposed program were developed independently of delivery method. Working with an advisory team, program outcomes were developed based on industry need, comparable programs elsewhere, and best practice identified in the literature. The outcomes are compared to both peer and aspirational institutions and reviewed by industry representatives to ensure that students are receiving the professional education required. Additionally, all learning outcomes at both program and course level are subjected to review by internal committees and the full faculty of McDaniel College.

(iv) A program shall provide for appropriate real time or delayed interaction between faculty and students.

McDaniel's established structure for online instruction details the following instructional and interaction expectations. In terms of time and commitment, online courses are based on the traditional, 3-(graduate)-credit-hour semester. It is expected and that each participant sign on to Blackboard at least three times a week and participate in any prescribed learning experiences (discussion forums, synchronous or asynchronous Adobe Connect sessions, video viewing, etc.). Candidates are advised that in order to succeed in an online course, they should expect to spend approximately 115 hours in the course, roughly divided as follows:

- 40 hours participating in online discussions/activities
- 30 hours reading
- 25 hours working on individual projects/papers/reflections
- 20 hours working on collaborative projects/papers

(v) Faculty members in appropriate disciplines in collaboration with other institutional personnel shall participate in the design of courses offered through a distance education program.

All courses at McDaniel College are developed by faculty that meet or exceed qualifications established by the College for faculty. No distinction is made in qualifications between on-ground and on-line faculty, with the exception that on-line faculty are required to participate in a rigorous process of education and mentoring to prepare to teach online. In all cases, McDaniel College faculty directly develop courses including descriptions, outcomes, assignments, and choosing support material. Courses developed are subject to review through the faculty governance process, including review and approval by the Graduate Curriculum Committee and the faculty as a whole.

McDaniel's Director of the Office of Instructional Technology works with faculty to design online course components to ensure the use of best practices in online instruction. McDaniel College Graduate and Professional Studies provide an outstanding online delivery course format. All course templates are designed by the Director of Instructional Technology, Steve Kerby, who also is an associate adjunct professor at the University of Maryland University College graduate program in distance education. Prior to coming to McDaniel, Steve Kerby was an Assistant Dean of Distance Education at UMUC where he designed and wrote courses in the program.

(b) Role and Mission.

- (i) A distance education program shall be consistent with the institution's mission.

"The mission of Graduate and Professional Studies is to prepare culturally competent professionals committed to leadership in their field." Providing access to high quality graduate courses, in both certificate programs and masters of science programs, is the manner in which the College seeks to fulfill this mission. For years, the College implemented this mission through satellite sites and partnership agreements where students completed McDaniel coursework in their community, throughout the state of Maryland. As technology has improved and models of distance education have become increasingly accepted, the College has shifted focus from providing face-to-face courses in communities throughout the state to providing access in these same communities through distance education. As a result, the College has not increased its footprint as much as it has altered the impression made.

- (ii) Review and approval processes shall ensure the appropriateness of the technology being used to meet a program's objectives.

This program, including online aspects of the program, was reviewed and approved by the Graduate Curriculum and Planning Committee and the full McDaniel Faculty. All online coursework is reviewed and approved by The Director of Instructional Technology (for federal Section 508 compliance, media appropriate material, and online instructional design standards).

(c) Faculty Support.

- (i) An institution shall provide for training for faculty who teach with the use of technology in a distance education format, including training in the learning management system and the pedagogy of distance education.

All McDaniel instructors who teach and/or participate in the design of online courses participate in a multi-step process designed to teach the pedagogy and technical skills necessary for success in an online environment. The first step in the process is completion of a 4-week online class in Best Practices in Online Education which was designed by and is delivered by our Director of Instructional Technology. The class emphasizes the Community of Inquiry model and the importance of social presence, cognitive presence, and teaching presence. Once this course has been successfully completed, instructors are assigned a shadow role.

Instructors in the shadow role are assigned to an online course, when possible the course they will eventually teach. In the shadow role, the individual lurks in the background observing the behavior of the instructor. Specific assignments are provided to help the individual in the shadow role improve their knowledge and skill of online instruction. Over the course of the 8-week class, the person in the shadow role becomes familiar with all aspects of the class, the technology, and begins to learn about the student experience in the class.

Finally, new instructors are placed into their own class where a mentor is assigned. During the instructors first teaching experience, the mentor lurks in the class to offer suggestions and assistance, although never directly to students. Once placed into a class, the new instructor remains wholly responsible for the students and the course although the mentor is a valuable resource from which to gain guidance and support.

(ii) Principles of best practice for teaching in a distance education format shall be developed and maintained by the faculty.

A committee of McDaniel faculty who teach online contributed to the document “Expectations of Faculty Teaching Online Classes” for GPS (attached at end of section G.).

(iii) An institution shall provide faculty support services specifically related to teaching through a distance education format.

The Office of Instructional Technology (InTech) has three full time staff to support faculty, each with experience and training in media and technology support. One of the InTech team has a Master’s Degree in Online Instructional Design and Distance Education Management.

(d) An institution shall ensure that appropriate learning resources are available to students including appropriate and adequate library services and resources.

McDaniel College has been supporting off-campus program students for years. Students from across Maryland have been successfully supported. McDaniel’s Hoover Library resources (including streaming video from Films on Demand) are available to off campus users. Specific individuals within the library are assigned to support distance students. Materials that are not available electronically can be sent directly to a student’s home.

(e) Students and Student Services.

(i) A distance education program shall provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

Ongoing support is supplied through faculty advising, the Office of Instructional Technology, and the Writing Center. Information about academic expectations, financial aid resources, and costs and

payment information are likewise articulated.

All online courses include this statement about technical help and support:

You need a computer (PC or Mac) with a connection to the internet. It is best if the computer is relatively recent (last 3-4 years) and keeps up-to-date in programs and OS. It is also best if you have Microsoft Office Suite, but it is not required for this class.

The preferred browser is Firefox for PC and Safari for Mac. IE often has problems running scripts, and Chrome occasionally has problems playing videos.

It is the student's responsibility to make sure the technological equipment being used is up to date and compatible.

Technical Help: In many cases, the instructor can help you, especially if it concerns logging into Blackboard or the use of Blackboard's features.

McDaniel has a HelpDesk. You can call them at 410-871-3390 or email help@mcdaniel.edu

(ii) Enrolled students shall have reasonable and adequate access to the range of student services to support their distance education activities.

All distance students have access to the same range of services as our on-campus students. Support offices provide support via telephone or internet chat. The writing center uses a combination of synchronous and asynchronous technologies- students submit writing samples and schedule telephone conferences to review materials with a writing tutor. Graduate and Professional Studies maintains evening hours where professional staff are available by phone to help students with specific needs outside of normal business hours.

(iii) Accepted students shall have the background, knowledge, and technical skills needed to undertake a distance education program.

Prior to enrolling in this program, students will be provided with information concerning minimum expectations for prior learning. Students that cannot demonstrate knowledge and skills in specific areas may be required to complete additional courses. All students are provided access to a distance learning introduction where they can watch video, read program specific material, and review course expectations. Enrolled students have access to McDaniel's HelpDesk and InTech staff. Additionally, program faculty are provided specific information on how to support distance students during the online faculty development process described earlier.

(iv) Advertising, recruiting, and admissions materials shall clearly and accurately represent the program and the services available.

All aspects of the program are fully disclosed to students during any recruitment event prior to the start of the program. Upon acceptance into the program, the Graduate Admissions Office informs new students in writing on the procedures to set up online accounts and create passwords to access online services and email. All recruitment materials are reviewed to ensure accuracy, clarity, and currency. All online materials are designed to be fully ADA compliant, ensuring all students have access to information.

(f) Commitment to Support.

(i) Policies for faculty evaluation shall include appropriate consideration of teaching and scholarly

activities related to distance education programs.

Course evaluations are collected for each of the courses in this program. The online course evaluation form specifically asks about the value of online forums for the mastery of course content, the ability of the online components to allow students to work at a pace that is appropriate for their schedules, and the students' ability to use the technology presented in and used by the course to meet their learning goals. The quality of student-student and faculty-student interaction, which are expectations of online forums and reflections, are also queried. The Program Coordinator is responsible for reviewing instructors' course evaluations to make determinations about the quality of their instruction. Online courses are treated the same as face-to-face courses for the purposes of faculty promotion and tenure.

(ii) An institution shall demonstrate a commitment to ongoing support, both financial and technical, and to continuation of a program for a period sufficient to enable students to complete a degree or certificate.

McDaniel has a 150 year history of meeting student needs. In the event that a program is determined to be unsustainable, a teach-out plan will be developed that ensures protection of all students. However, the program has been developed with very modest financial expectations and enrollment does not need to be large to sustain the program. Faculty hired to support the program will have expertise that supports other programs within the College's portfolio, ensuring that faculty will remain to teach out students that have started a program. The administration has made a multi-year commitment, ensuring a minimum of 5 years for the program to develop.

(g) Evaluation and Assessment.

(i) An institution shall evaluate a distance education program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost effectiveness.

The college requires an annual assessment plan, developed by the Academic Assessment Committee, for each program. This assessment plan evaluates each program in five categories: (1) student learning outcomes, (2) assessment measures, (3) assessment timeline, (4) assessment results, and (5) use of assessment results for program improvement. McDaniel's Office of Institutional Research collects and distributes data on a regular basis throughout each semester to evaluate student retention and cost effectiveness. Course evaluations contribute to assessing and documenting student satisfaction. Ongoing collaboration between program faculty and the Program Coordinator assess faculty satisfaction and support faculty development.

(ii) An institution shall demonstrate an evidence-based approach to best online teaching practices.

McDaniel's Best Practices Online course required of faculty teaching online is informed by the Community of Inquiry Model, an instructional design model for distance learning, by Garrison, Anderson, and Archer.

(iii) An institution shall provide for assessment and documentation of student achievement of learning outcomes in a distance education program.

This program is assessed through the same procedures as all McDaniel graduate programs. We collect direct and indirect measures of student learning, as well as measures of student, graduate and employer satisfaction. Program outcomes are benchmarked against peer institutions. The college's program assessment plan, as described in section (g)(1) above further adds to the assessment and documentation of student achievement.

Attachment A: Letter of Library Support



2 College Hill
Westminster, MD 21157-4390

410/848-7000 • 410/876-2033
www.mcdaniel.edu

February 20, 2018

McDaniel College's Hoover Library contains approximately 208,921 book volumes (of which 180,724 are unique titles) 14,214 audiovisual volumes, 260 print journals, and 65,808 electronic journals. Of these materials, approximately 6,459 book titles (print and electronic) and 1,559 journals (print and electronic) relate to the Master of Science in Data Analytics. Relevant subscription databases include:

arXiv.org
Business Source Premier
Business Source Premier: Business Search Interface
EconLit with Full Text
GVRL - Gale Virtual Reference Library
IOPscience
LexisNexis Academic
LISTA - Library, Information Science & Technology Abstracts
MathSciNet
ScienceDirect
SciFinder
Statista

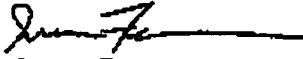
Titles from the Library's print collection (with the exception of reference materials) are available for loan to all McDaniel College student, faculty, staff and other community members. No fee interlibrary loans from other institutions supplement the collection to support research and classroom projects.

The Hoover Library facility is open over 100 hours per week to meet the needs of the College community, with extended hours during exam periods. Hours are posted on the Library website and advertised via announcements in electronic and print format. Electronic resources are available 24/7 to students, faculty and staff.

As part of the Carroll Library Partnership, Hoover Library shares an online catalog with Carroll County Public Library and Carroll Community College. Student, faculty and staff may use, request, and check out titles from any of the three collections. This arrangement makes an additional 739,377 volumes available to the McDaniel College community. McDaniel College students and faculty also have reciprocal borrowing privileges at participating library members of the following consortia: Maryland Independent Colleges and Universities Association (MICUA), Baltimore Area Library Consortium (BALC).

A Master of Science in Data Analytics fund will be created in the Library's materials budget when the program is created. Additional investigation is underway to determine resource coverage for course-specific subjects. It is anticipated that some areas will require budgetary support, particularly for a full-text database relevant to computer science. This will allow for further collection development in this subject area.

Sincerely,



Jessamine Ferguson
Director of Hoover Library
McDaniel College

JF:dg

Attachment B: Administrative Support for Space and Finance



MCDANIEL
COLLEGE

Office of the President
2 College Hill
Westminster, MD 21157-0350
410-857-2222 (office)
410-857-2411 (fax)
www.mcdaniel.edu

February 22, 2018

Dr. James D. Fielder, Secretary
Maryland Higher Education Commission
6 North Liberty Street, 10th Floor
Baltimore, MD 21201

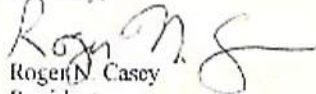
Dear Secretary Fielder:

On behalf of McDaniel College, I am pleased to have this opportunity to express support for the addition of new graduate programs within our Graduate and Professional Studies division. After thorough review by appropriate committees, the College administration and the Board of Trustees, McDaniel College is proposing four new programs in two discipline areas.

- Masters of Science in Data Analytics
- Post-Baccalaureate Certificate in Data Analytics
- Masters of Science in Disability Support Services in Higher Education
- Post-Baccalaureate Certificate in Disability Support Services in Higher Education

The College has reviewed the facilities requirements for these programs and has determined that there is no need for additional facilities or renovation of any existing facilities for these programs to be launched and successfully meet the needs of students. In addition, the College has determined that the current information technology resources are appropriate to meet the needs. Library resources will be allowed to grow to accommodate need as noted in supporting documents by the Director of Hoover Library, Jessamine Ferguson.

Sincerely,


Roger N. Casey
President



Expectations of Faculty Teaching Online Classes for GPS

This document outlines expectations for all faculty teaching online classes for Graduate and Professional Studies (GPS), including instructors' use of Blackboard. In addition to observing the expectations listed below, faculty should work closely with their program coordinators to comply with program expectations and practices.

I. Prior to teaching a GPS online class for the first time:

- All faculty members are required to earn certification by taking **BPO 100**, Best Practices in Online Teaching and Learning. Information about this 4-week, online class is available at: http://www2.mcdaniel.edu/its/BPO_register

II. One week prior to the first day of class, all faculty members who teach online are expected to:

- Make their online classes in Blackboard available.
- Send an email to students, informing them that the class is open and will begin in one week.
- Make certain the following is available in the Blackboard class:
 - A Welcoming Announcement
 - The Read Me First (or syllabus)
 - The Course Guide (or schedule)
 - All assignment setups, including due dates, weights, and rubrics
 - A "Café" type Discussion Forum that includes an Introductions thread, where students introduce themselves to the class and interact with one other informally.

III. Throughout the semester, all faculty members who teach online are expected to:

- Be "visible" in the classroom several times a week (almost every day) to let students know they are involved and "listening."
- Post a class announcement at least once a week.
- Treat the Discussion Forum area as the heart of the Blackboard class by:
 - Creating at least one content-focused conference for each module of the course.
 - Providing clear guidelines for conference participation.
 - Starting initial Discussion topic threads, interjecting as appropriate during the week, and providing summary comments as needed.
 - Organizing class activities so that they take place primarily in the online classroom, rather than by e-mail, phone, or mail.
- Pay attention to the activity level of all students and, as needed, privately contact individual students who are not participating actively.
- Respond to student inquiries promptly, even if it is just to let students know that the instructor is working on the inquiry and will reply fully as soon as possible.
- Use rubrics to manage student expectations regarding grading of all course requirements, including assignments, projects, and class participation.
- Provide adequate feedback on all assignments that acknowledges strengths and offers suggestions for improvement and growth.
- Post all grades promptly in the Grade Center (within a week is best practice for an 8-week online class).

IV. At the end of the semester, faculty must submit final grades online according to the McDaniel grade submission policies within 72 hours of the last day of class.

BB&T

Branch Banking and Trust Company
WESTMINSTER, MARYLAND

McDANIEL COLLEGE

Westminster, Maryland 21157

335292

65-330/550
24301

DATE
02/16/18

AMOUNT
** *****\$850.00

PAY **EXACTLY** **850 Dollars 00 Cents**
eight five zero dollars zero zero cents

VOID AFTER 90 DAYS

TO THE ORDER OF Maryland Higher Education Comm
Office of Academic Affairs
6 N. Liberty Street, 10TH FLOOR
Baltimore MD 21201

Arthur J. Wilson
TREASURER



THE BACK OF THIS DOCUMENT CONTAINS CHECK SECURITY WATERMARK AND COIN REACTIVE INK

⑈ 335292 ⑈ ⑆ 055003308 ⑆ 5150416878 ⑈

McDANIEL COLLEGE / Westminster, Maryland 21157

335292

INVOICE DATE	INVOICE NUMBER	ITEM DESCRIPTION	ACCT. CODE	PURCHASE ORDER NO.	INVOICE AMOUNT	DISCOUNT TAKEN	OTHER DEDUCTIONS
02/06/18		NEWGRADP/mcdaniel colleg MS Data Analy'			850.00		
DETACH THIS VOUCHER BEFORE DEPOSITING CHECK				SUBTOTALS ▶	850.00	0.00	
VENDOR NO. 0558453		DATE ISSUED: 02/16/18		NET AMOUNT OF VOUCHER ▶		850.00	

Security Features Included Details on back

