### PROPOSAL – 1

### NEW DEGREE PROGRAM

1. **PROPOSED PROGRAM TITLE:** Master of Applied Business Analytics

2. **CIP CODE REQUESTED:** 52.1301

Link for CIP Codes:  <http://nces.ed.gov/ipeds/cipcode/resources.aspx?y=55>.

3. **PROPOSED STARTING DATE:** Fall 2020

4. **CONTACT PERSON**

Name (Provost/Academic Affairs Officer): Dr. Terry Martin

Title: Senior Vice Provost for Academic Affairs

Name of Institution: University of Arkansas

E-mail Address: tmartin@uark.edu

Phone Number: 479-575-2151

Name (Program Contact Person): Paul Cronan

Title: Professor, Information Systems

E-mail Address: cronan@uark.edu

Phone Number: 479-575-6130

5. **PROGRAM SUMMARY**

The Master of Applied Business Analytics degree focuses on applied analytics for business. This degree is designed to provide professional preparation for positions in business, government, and public service. It provides sufficient flexibility to meet the needs of students with various backgrounds and foster lifelong learning and innovation. Students may choose from a variety of elective analytics courses in Business; Economic Analytics; Statistics; and Educational Statistics and Research Methods.

List degree programs or emphasis areas currently offered at the institution that support the proposed program.

Enterprise Systems Graduate Certificate

Master of Science in Statistics and Analytics

Master of Information Systems

6. **NEED FOR THE PROGRAM**

(Submit Employer Needs Survey Forms)

Provide survey data. Submit numbers that show job availability, corporate demands and employment/wage projections, not student interest and anticipated enrollment. Focus mostly on state needs and less on regional and national needs, unless applicable to the program.

Survey data can be obtained by telephone, letters of interest, student inquiry, etc. Focus mostly on state needs for undergraduate programs; for graduate programs, focus on state, regional and national needs.

Provide names and types of organizations/businesses surveyed.

The employer needs survey form was sent to several individuals working in prominent positions in the corporate sector. The individuals who responded come from firms such as Visa, Amazon, IRI, and Toyota, among others.

Letters of support should address the following when relevant: the number of current/anticipated job vacancies, whether the degree is desired or required for advancement, the increase in wages projected based on additional education, etc.

Please see attached Summary of Letters of Support and Employer Needs Survey as Appendix A.

Indicate if employer tuition assistance is provided or if there are other enrollment incentives.

Not currently. Some firms have employer tuition assistance programs, on a case-by-case basis.

Describe what need the proposed program will address and how the institution became aware of this need.

The digital revolution ignited an explosion of data. The availability of data is no longer a constraint to answering important questions. The critical constraint is now the ability to analyze, digest, visualize, and ultimately harness the data to drive decision making in business, science, and society. The Master of Applied Business Analytics program will guide students through application modeling to practice using cutting-edge tools and providing a thorough training in descriptive, predictive, and prescriptive analytics. Students will be armed with a solid knowledge of business analytics and machine learning methods, optimization, and computing. These “big-data” skills, combined with knowledge of business application modeling, will enable them to identify, assess, and seize the opportunity for data-driven value creation in the private and public sector.

Alumni from the current Master of Information Systems and Business Analytics Graduate Certificate in Enterprise Systems currently work in data analytics in the corporate sector have communicated the need for the skills and training this program will provide. In addition, we have had meetings with executives from a number of firms, such as Dillard’s, J. B. Hunt, Arkansas Blue Cross Blue Shield, Wal-Mart, Tyson Foods, etc. who have an urgent need for employees with this training.

Indicate which employers contacted the institution about offering the proposed program.

Arkansas Blue Cross Blue Shield, Tyson Foods, Wal-Mart, Dillard’s, ArcBest

Indicate the composition of the program advisory committee, including the number of members, professional background of members, topics to be considered by the members, meeting schedule (annually, bi-annually, quarterly), institutional representative, etc.

We will to utilize the Information Systems Advisory Board to provide ongoing feedback and suggestions on the content of the program and student placement. The advisory committee will meet bi-annually.

Indicate the projected number of program enrollments for Years 1 - 3.

15 students

Indicate the projected number of program graduates in 3-5 years.

We expect enrollment to grow to 25 students in 3-5 years.

The Workforce Analysis Request Form has also been included as Appendix B.

7. **CURRICULUM**

# Provide curriculum outline by semester (include course number and title).

# (For bachelor’s degree program, submit the 8-semester degree plan.)

Required Courses (18 hours)

ISYS 5213 ERP Fundamentals

ISYS 5103 Data Analytics Fundamentals  
ISYS 5503 Decision Support and Analytics  
ISYS 5833 Data Management Systems  
ISYS 5843 Seminar in Business Intelligence and Knowledge Management  
ISYS 599V Practicum Seminar

Applied Analytics Electives (9 hours)

General Elective (3 hours)

Give total number of semester credit hours required for the program, including prerequisite courses.

30 hours

Identify new courses *(in italics)* and provide course descriptions.

No new courses

Identify required general education courses, core courses and major courses.

None

For each program major/specialty area course, list the faculty member assigned to teach the course.



Identify courses currently offered by distance technology (with an asterisk\*) and endnote at the end of the document. None.

All required courses are also offered in the blended format.

Indicate the number of contact hours for internship/clinical courses.

None.

State the program admission requirements.

Students whose previous studies have fulfilled requirements of the common body of knowledge in business and analytics will be required to complete a minimum of 30 hours of graduate work. The required common body of knowledge for the Applied Business Analytics degree includes fundamental business and economics concepts as well as fundamental knowledge of statistics. The program considers work experience an integral part of the curriculum and recommends that students work/intern for up to one year in a position (or positions) which allow for the practical application of the theoretical principles taught in courses.

Students who hold non-immigrant status in the United States in the F-1 or J-1 categories are responsible for coordinating any necessary authorization for employment with the Office of International Students and Scholars (ISS). F-1 and J-1 students are strongly advised to discuss training options with the Master of Applied Business Analytics Program Director and the ISS office early in their program, and to make themselves aware of limitations and restrictions related to F-1 or J-1 employment authorization benefits.

Describe specified learning outcomes and course examination procedures.

Students will have the ability to apply business analytics, machine learning methods, database, and computing to identify, assess, and seize the opportunity for data-driven value creation in the private and public sectors.

Examinations will involve application development, visualization, problem-solving and practicum-style data-analysis, depending upon the course.

Include a copy of the course evaluation to be completed by the student.

The Standard Purdue Course Evaluation form will be used. An example copy is attached as Appendix D.

Include information received from potential employers about course content.

Potential employers expressed the need for strong business application oriented analytics skills, especially in database, machine learning and other skills for analyzing data. These are an important part of the program.

Provide institutional curriculum committee review/approval date for proposed program.

December 11, 2019

8. **FACULTY**

List the names and credentials of all faculty teaching courses for the proposed program. Include college/university awarding degree; degree level; degree field; subject area of courses faculty currently teaching and/or will teach. (For associate degrees and above: A minimum of one full-time faculty member with appropriate academic credentials is required.)

|  |  |  |
| --- | --- | --- |
| **Faculty Member** | **Degree, Subject** | **Institution** |
| Anand Abhijith | PhD, Information Systems | University of Waikato |
| Bristow Susan | EdD, Human Resource and Workforce Development Education | University of Arkansas |
| Conway, Daniel | PhD, Decision Sciences | Indiana University |
| Cronan Paul | DBA, IS/Quantitative Analysis/CS | Louisiana Tech University |
| Freeze Ronald | PhD, Information Systems | Arizona State University |
| Grover Varun | PhD, MIS | University of Pittsburgh |
| Keiffer Elizabeth | PhD, Educational Statistics and Research Methods | University of Arkansas |
| Lacity Mary | PhD, Business Administration-Management Information Systems | University of Houston |
| Mullins Jeffrey | MS, Information Systems | University of Arkansas |
| Sabherwal Rajiv | PhD, Information Systems | University of Pittsburgh |
| Schuetz Sebastian | PhD, Information Systems | City University of Hong Kong |
| Setia Pankaj | PhD, Information Technology Management | Michigan State University |
| Carole Shook | MBA, Business Administration | University of Arkansas |
| Steelman Zachary | PhD, Information Systems | University of Arkansas |
| Sykes Tracy | PhD, Information Systems | University of Arkansas |
| Syler Rhonda | PhD, MIS/Management of Information Technology & Innovation | Auburn University |
| Venkatesh Viswanath | PhD, Information and Decision Sciences | University of Minnesota |
| Weng Qin | PhD, Information Systems | University of Pittsburgh |

Indicate lead faculty member or program coordinator for the proposed program.

Paul Cronan, Professor, Information Systems (ISYS) Department

Total number of faculty required for program implementation, including the number of existing faculty and number of new faculty. For new faculty, provide the expected credentials/experience and expected hire date.

16 existing faculty plus 1 Clinical/Teaching Faculty member to be supported by differential tuition and program revenue in Walton. The ISYS department recently hired a teaching Assistant Professor who will teach in the program. The expected qualification would be a PhD (in information systems, analytics, or a related field), evidence of teaching ability, prior academic or industry experience in business analytics.

For proposed graduate programs: Provide the curriculum vita for faculty teaching in the program, and the expected credentials for new faculty and expected hire date. Also, provide the projected startup costs for faculty research laboratories, and the projected number of and costs for graduate teaching and research assistants.

Faculty CV’s attached as Appendix C.

9. **DESCRIPTION OF RESOURCES**

Current library resources in the field

Current instructional facilities including classrooms, instructional equipment and technology, laboratories (if applicable)

New instructional resources required, including costs and acquisition plan

Existing resources on campus will be used.

10. **NEW PROGRAM COSTS – Expenditures for the first 3 years**

New administrative costs (number and position titles of new administrators) - None

Number of new faculty (full-time and part-time) and costs –

1 Clinical/Teaching Faculty member to be supported by differential tuition and program revenue in Walton. The ISYS department recently hired a teaching Assistant Professor who will teach in the program.

New library resources and costs - None

New/renovated facilities and costs - None

New instructional equipment and costs - None

Distance delivery costs (if applicable) – None additional

Other new costs (graduate assistants, secretarial support, supplies, faculty development, faculty/students research, program accreditation, etc.) - None

**If no new costs required for program implementation, provide explanation.**

Existing faculty and funding will be used as much as possible

11. **SOURCE OF PROGRAM FUNDING – Income for the first 3 years of program operation**

If there will be a reallocation of funds, indicate from which department, program, etc.

Provide the projected annual student enrollment, the amount of student tuition per  
credit hour, and the total cost of the program that includes tuition and fees.

Expected student enrollment for the first 3 years is 15/year.

Tuition and Fees based on current rates for Master of Information Systems and Graduate Certificate in Enterprise Systems – 30 hours

Full-time Program

In-State Tuition & Fees: $642.10/hour, Total=$19,263

Out-of-State Tuition & Fees: $1620.61/hour, Total=$48,618.30

International Tuition & Fees: $1694.48/hour, Total=$50,834.30

Part-time Program Professional Program Fees - $975/hour; Total $29,250

Indicate the projected annual state general revenues for the proposed program (Provide  
the amount of state general revenue per student).

Other (grants [list grant source & amount of grant], employers, special tuition rates,  
mandatory technology fees, program specific fees, etc.).

Part-time Program Professional Program Fees - $975/hour; Total $29,250

12. **ORGANIZATIONAL CHART REFLECTING NEW PROGRAM**

Proposed program will be housed in (department/college): Department of Information Systems

13. **SPECIALIZED REQUIREMENTS**

If specialized accreditation is required for program, list the name of accrediting agency.   
 AACSB International

Indicate the licensure/certification requirements for student entry into the field. N/A

Enterprise Systems Graduate Certificate (Business Analytics)

# Provide documentation of Agency/Board review/approvals (education, nursing--initial approval required, health-professions, counseling, etc.)

14. **BOARD OF TRUSTEES APPROVAL**

Provide the date that the Board approved (or will consider) the proposed program.

March 19, 2020

Provide a copy of the Board meeting agenda that lists the proposed program, and written documentation of program/unit approval by the Board of Trustees prior to the Coordinating Board meeting that the proposal will be considered.

15. **SIMILAR PROGRAMS**

# List institutions offering program:

North Carolina State University

Arizona State University

MIT

Carnegie Mellon

UC-Irvine

Ohio State University

## Proposed undergraduate program – list institutions in Arkansas

Proposed master’s program – list institutions in Arkansas and region

University of Arkansas at Little Rock – Graduate Certificate in Data Science

Proposed doctoral program – list institutions in Arkansas, region, and nation

State why proposed program needed if offered at other institutions in Arkansas or   
 region.

List institution(s) offering a similar program that the institution used as a model to   
 develop the proposed program.

North Carolina State University

Arizona State University

Provide a copy of the e-mail notification to other institutions in the state notifying them of the proposed program. Please inform institutions not to send the response to **“Reply All”**. If you receive an objection/concern(s) from an institution, reply to the institution and copy ADHE on the email. That institution should respond and copy ADHE. If the objection/concern(s) cannot be resolved, ADHE may intervene.

**Note: A written institutional objection/concern(s) to the proposed program/unit may delay Arkansas Higher Education Coordinating Board (AHECB) consideration of the proposal until the next quarterly AHECB meeting.**

16. **DESEGREGATION**

State the total number of students, number of black students, and number of other minority students enrolled in related degree programs, if applicable.

N/A

1. **INSTITUTIONAL AGREEMENTS/MEMORANDUM OF UNDERSTANDING (MOU)**

If the courses or academic support services will be provided by other institutions or organizations, include a copy of the signed MOU that outlines the responsibilities of each party and the effective dates of the agreement.

1. **ACADEMIC PROGRAM REVIEW**

Provide scheduled program review date (within 10 years of program implementation date).

2021-2022

1. **PROVIDE ADDITIONAL INFORMATION IF REQUESTED BY ADHE** **STAFF**
2. **INSTRUCTION BY DISTANCE TECHNOLOGY**

If the proposed program will be offered by distance technology, provide the following information:

Summarize institutional policies on the establishment, organization, funding and management of distance courses/degrees.

An academic department intending to propose new distance programs are required to identify the program’s anticipated costs, funding sources, demand, and need for library resources, and to present plans to address the increased workload. The proposal needs to be approved by Vice Provost for Distance Education, Academic College, University Course and Programs Committee, Graduate Council (if at the graduate level), Faculty Senate, Provost, Board of Trustees, and Arkansas Department of Higher Education. Change requests for existing distance courses and programs follow similar approval processes. Global Campus assists programs during the conceptualization, market research, and planning stage. Once programs are approved, it provides start-up capital and course development funds as well as in-kind support by Global Campus’s instructional designers, academic technologists, and marketing and recruitment teams. Global Campus also supports compliance with interstate regulatory requirements. All distance courses are certified to be complete only when they meet appropriate quality standards.

Describe the internal organizational structure that coordinates (development, technical support, oversight) distances courses/degrees.

Global Campus is a supporting unit that provides assistance in course development and maintenance, technical support for both faculty and students, quality assurance, and compliance to all online programs across the campus.

Summarize the policies and procedures to keep the technology infrastructure current.

Summarize the procedures that assure the security of personal information.

Provide a list of services that will be outsourced to other organizations (course materials, course management and delivery, technical services, online payment, student privacy, etc.).

IT Services maintains the technology infrastructure to ensure the security and compatibility of enterprise systems as guided by the [Computer and Network Security Policy](https://its.uark.edu/policies/network-security/), [Data Management Use and Protection Policy](https://vcfa.uark.edu/policies/fayetteville/uits/3095.php), and [Acquisition of Enterprise Systems Policy](https://vcfa.uark.edu/policies/fayetteville/uits/3096.php). The [Computer Activities Council](https://provost.uark.edu/committees/cac.php) (CAC), the information technology governance structure at the University, facilitates participation of students, faculty, staff, and administrators in long-range planning and setting of priorities for IT Services.

Updates to applications (learning management system, video conferencing software, web conferencing software, etc.) are reviewed by application administrators and stakeholder representatives on a regular basis to ensure continuity of operation, security, and high levels of performance and support.

The Global Campus Instructional Design and Support Services team, along with the IT Services Director of Academic Technology and Innovation, work with faculty to identify, evaluate, pilot, and deploy emerging technology solutions that will enhance teaching and learning.

Summarize the procedures that assure the security of personal information.

Procedures are in accordance with the [Computer and Network Security Policy](https://its.uark.edu/policies/network-security/), [Code of Computing Practices](https://its.uark.edu/policies/code/), and [Privacy Policy](https://its.uark.edu/policies/privacy/). The IT Security group monitors university systems and performs security audits of resources. IT Services also provides security services such as security information, anti-virus software, and security alerts.

University systems (student information system, learning management system, etc.) require authentication. Privileged supervisory accounts are limited and managed by system administrators.

Users must agree to the Code of Computing Practices and take a security quiz when setting up their UARK accounts. Users agree to comply with security mechanisms and to keep login credentials private.

Links to the [privacy policies of third-party tools used in online instruction](https://tips.uark.edu/privacy-policy-links/) are provided in the information section of online courses and support sites.

Provide a list of services that will be outsourced to other organizations (course materials, course management and delivery, technical services, online payment, student privacy, etc.).

The only service outsourced is online proctoring service. The University of Arkansas partners with ProctorU for online test proctoring services for some online exams.