LETTER OF INTENT – 1

(New Certificate or Degree Program)

1. Institution submitting request: University of Arkansas Fayetteville
2. Education Program Contact person/title: Dr. Terry Martin, Senior Vice Provost for Academic Affairs
3. Telephone number/e-mail address: (479) 575-2151/tmartin@uark.edu
4. Proposed Name of Certificate or Degree Program: Bachelor of Science in Data Science
5. Proposed Effective Date: Fall 2020
6. Requested CIP Code: 30.3001 – Computational Science
7. Program Description:

The University of Arkansas Bachelor of Science in Data Science (DASCBS) Program came from the recognized need, in Arkansas (and nationally and internationally) for a workforce of trained data scientists for technical, business, social, and operational success. This Program is a collaboration of the College of Engineering, the Sam M. Walton College of Business, and the J. William Fulbright College of Arts & Sciences as a multi-college interdisciplinary program for a *rigorous* undergraduate degree (major) in Data Science.

The major is defined with a *core curriculum* (“hub”) that all students must take and a set of *concentrations* (“spokes”) the provide knowledge, proficiency and expertise in specific areas. The “hub and spoke” model was chosen to ensure that all graduates had the rigorous core and then as new concentration needs were identified, they could be integrated into the program in a straight-forward manner. The total degree is 120 credit hours including 20 or 21 hours of concentration and a two-semester, mandatory, multi-college interdisciplinary Practicum with industry partners for a real-life experience. The initial concentrations are: Bioinformatics, Biomedical and Healthcare Informatics, Business Data Analytics, Computational Analytics, Data Science Statistics, Geospatial Data Analytics, Operations Analytics, Social Data Analytics, Supply Chain Analytics. And, specifically, this is a *Data Science degree with specializations (the concentrations)* for domain knowledge and experience – not a degree of the concentrations with some data science included. It is first and foremost a *rigorous* Data Science degree.

The UAF B.S. Data Science major will prepare students for a successful career in data science with an amalgamation of capabilities:

* an ability to use information systems, statistics, and computer science principles and apply state-of-the-art technologies for data representation, data retrieval, data manipulation, data storage, data governance, data security, machine learning, computational analytics, and data analysis and visualization;
* an ability to develop descriptive, predictive, and prescriptive mathematical and statistical models to provide abstractions of complex systems and organizational problems and to apply computational methods to draw conclusions supported by data;
* an ability to use foundational knowledge and apply critical thinking skills to problem identification, problem solving, decision making, visualization, and an awareness of societal and ethical impacts;
* an ability to adapt analytics concepts to interpret and communicate findings and implications to senior decision makers;
* an ability to work effectively in multidisciplinary teams and transfer findings from one knowledge domain to another; and,
* an ability to communicate in written, verbal, technical, and non-technical forms.

The proposal is for an official offering in Fall 2020 with an opportunity to start earlier if funding and support are available.

1. Mode of Delivery (mark all that apply):

**\_\_X\_\_On-Campus**

**\_\_\_\_\_Off-Campus Location**

Provide address of off-campus location\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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.

Submit copy of written notification to Higher Learning Commission (HLC) if notification required by HLC for a program offered at an off-campus location.

\_N/A\_\_\_\_\_Indicate distance of proposed site from main campus.

**\_N/A\_\_\_\_\_Distance Technology** (50% of program offered by distance technology)

Submit copy of written notification to HLC if notification is required by HLC for a program offered by distance technology.

1. List existing certificate or degree programs that support the proposed program: N/A
2. President/Chancellor Approval Date: July 5, 2019
3. Academic Affairs Officer: James S. Coleman Date: June 25, 2019