APPROVAL FORM FOR

DEGREE PROGRAMS

MISSISSIPPI STATE UNIVERSITY

NOTE: This form is a cover sheet that must accompany the degree program change proposal. The actual proposal should be prepared in accordance with format requirements provided in the *Guide and Format for Curriculum Proposals* published by the UCCC. Both cover sheet and proposal should be submitted to UCCC Mail Stop 9702 (281 Garner Hall), Phone: 325-9410.

College: Academic Affairs **Department:** Data Science

Contact Person: Mimmo Parisi **Mail Stop:** 9545 **E-mail:** parisi@datascience.msstate.edu

Nature of Change: Addition **Date Initiated:** 12/4/2023

Current Degree Program Name:

Current Major:

Current Concentration(s):

Current Campus(es): Starkville

New Degree Program Name: Master of Applied Data Science **Effective Date:** 08/01/20

Semester Fall **Year** 2024

Proposed Major: Data Science

Proposed Concentration(s):

Proposed Campus(es): Distance

Summary of Proposed Changes:

Approved: **Date:**

Domenco Parisi Digitally signed by Domenco Parisi Date: 2024.01.04 14:16:45 -06'00'

Department Head

Dana Pomykal Franz Digitally signed by Dana Pomykal Franz Date: 2024.01.04 15:00:07 -06'00'

Director of Academic Quality

Kimberly R. Hall Digitally signed by Kimberly R. Hall Date: 2024.01.04 15:30:14 -06'00'

Chair, College or School Curriculum Committee

Jamie Dyer Digitally signed by Jamie Dyer Date: 2024.01.05 13:17:59 -06'00'

Dean of College or School

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

Summary of Proposed Changes:

The Office of Academic Affairs requests that the new Master of Applied Data Science distance program be offered. Coursework for the 30-hour Master of Applied Data Science may be broken down into foundational data science courses; courses that teach programming, data wrangling, and visualization skills; methods courses that consider statistical, machine learning, and deep learning methods; and final courses related to an applied student capstone project. Throughout the coursework students will build a literature review to gain familiarity with the important discussions within the field of data science. The final literature review evaluation will occur in tandem with the final project review. Syllabi for each of the following courses provide greater detail on course content.

NEW GRADUATE DEGREE OUTLINE FORM

Use the chart below to indicate your new degree outline. Please list required College and Major Required Courses and if appropriate Concentration Courses. Graduate programs that wish to specialize beyond the Major must have at least two concentrations. Add additional rows as needed for programs with more than two concentrations. Expand rows as needed

PROPOSED New Degree	
Degree: Master of Applied Data Science Major: Data Science	
Degree Description: The fully online Master of Applied Data Science (MADS) provides an applied approach to data science and is oriented towards working professionals. In the current economic environment, as every industry and sector of the economy transitions to digital models of operation, data science knowledge and expertise is in great demand. Many working professionals must acquire an understanding of data science methods to contribute to digital transformation projects and the ongoing operation of digitally transformed organizations. These professionals seek a practical approach to data science, focusing on the skills for responsible use of data science methods and tools. Because data science tools are used in every aspect of the modern organization, these professionals have a variety of educational backgrounds and may lack traditional preparation in subjects like computer science and statistics that form a significant part of data science. In response to this need, the MADS degree innovatively combines concepts and skills from many disciplines to enable learners to gain a mastery of data science concepts along with practical, hands-on experience in using data science methods. To address the needs of working professionals, the degree is designed to be offered fully online. To ensure the accessibility of the program, the degree has been designed to obviate the need for prerequisite courses that add demotivating friction to a learner's ability to commence the program. Coursework provides deep engagement with data modeling, collection, analysis (including statistical, machine learning, and deep learning AI approaches), computation, and integration. Students learn how to present data-driven discoveries and craft data-intensive solutions to real-world problems while understanding the legal and ethical context of their work. A capstone practicum class provides experience in the complete data science lifecycle applied to a real-world problem in the student's field of choice.	
Proposed Curriculum Outline	Required Hours
Major Required Courses: Courses are approved for Campus 5. DSCI 8133 Foundations of Applied Data Science I DSCI 6113 Programming for Applied Data Science DSCI 8143 Foundations of Applied Data Science II DSCI 6122 R Lab for Applied Data Science DSCI 6204 Applied Statistical Methods for Data Science DSCI 6301 Data Science Project Management DSCI 6214 Applied Machine Learning for Data Science DSCI 6133 Applied Data Visualization DSCI 8224 Applied Neural Networks and Deep Learning for Data Science DSCI 8413 Applied Graduate Data Science Practicum	30
Total Hours	30

Target Audience:

Working professionals who must acquire an understanding of data science methods to contribute to digital transformation projects and the ongoing operation of digitally transformed organizations.

The Master of Applied Data Science incorporates the following learning objectives:

1. **Digital Transformation Mindset:** Create a culture and leadership environment for innovation that puts the practice of data science at the core source of the economic and cultural vitality of an organization to ensure success in the process of digital transformation.
2. **Data Modeling and Datafication:** Apply fundamental data modeling concepts, manage massive data sets, and use both structured and unstructured data and database management systems.
3. **Data Governance:** Clearly define the purpose of data and how it should be used ethically to advance the mission of an organization.
4. **Ethics:** Apply ethical and legal constraints in the use of data. Guard against bias and ensure fairness and reproducibility in the context of the data science lifecycle.
5. **Privacy and Security:** Ensure privacy, confidentiality, data security, and network security within the lifecycle of data.
6. **Communication and Visualization:** Formulate insights from data analytic results and communicate these insights effectively (both individually and in teams) with a range of stake holders using suitable visualization methods and tools.
7. **Exploratory Analysis:** Analyze and visualize data to generate insights that improve business processes and outcomes.
8. **Modeling and Prediction:** Construct, evaluate, and choose data-enabled predictive models using state-of-the-art artificial intelligence, machine learning, statistical modeling, and model evaluation methods.
9. **Computer Science:** Demonstrate competency in programming to support data analysis and data-intensive application development. Use languages such as R, Python, and common machine-learning libraries such as TensorFlow.
10. **Integration of Domain Knowledge:** Identify, construct, and incorporate domain knowledge (of n application discipline) into datafication, problem formulation, and the design of predictive modeling.

Procedure for evaluation of the program and its effectiveness in the first five years of the program:

The program success will be built on championing program evaluation as means to promote a culture of continued quality improvement as part of the overall effort to achieve the learning objectives set forth by the program effectively. This will create an environment where assessment and evaluation are embedded in the regular discourse surrounding quality improvement for curriculum and student experience. This will be accomplished by developing an evaluation plan that will provide key indicators to gauge student learning outcomes, quality of instruction, and quality of the overall strategy for the delivery of the program. Data for measuring student learning outcomes will come from assessments such as exams, quizzes, homework, and laboratory assignments. Data for measuring quality of instruction will come from student faculty evaluations. The overall quality of the programs will be assessed by looking at completion rates or the number of students who completed the program in 4, 5 and 6 years. It will also include placement or advancement rates (the number of students who find a job or are promoted within 3 months, 6 months, and a year of graduation). Graduates will also be surveyed to learn about the strengths and weaknesses of the program and how the program is helping them in their professional careers. External reviewers will also be identified to conduct periodic self-studies, and when possible, to seek accreditation through appropriate accreditation bodies relevant to establishing the overall quality of the program.

Support: 2 Letters of Support - Data Science Program and the University Data Science Committee
Proposed 4-Letter Degree Code: MADS
Proposed 4-Letter Major Code: DSCI
Effective Date: Fall 2024
CIP Number: 30.7001

NEW ACADEMIC DEGREE PROGRAM PROPOSAL

Institutional Request Form – Appendix 8
(Submit in PDF format with signatures.)

Institution:	Mississippi State University
Date of anticipated implementation:	August 2024
Program title as it will appear on Academic Program Inventory, Diploma, and Transcript:	Master of Applied Data Science
Name of degree(s) to be awarded:	Master of Applied Data Science
Six-digit CIP code:	30.7001
Total credit-hour requirement to earn the degree:	30
Responsible academic unit:	Division of Academic Affairs Office of the Provost and Executive Vice President
Institutional contact:	Mimmo Parisi
Phone:	662-325-3168
Email:	parisi@datascience.msstate.edu
SACSCOC Substantive Change:	☐ Program proposed **IS NOT** a substantive change. ☒ Program proposed **IS** a substantive change.
Incremental, five-year cost of implementation:	2,702,134
Incremental, five-year per student cost of implementation:	4,659
Potential five-year, new revenue:	4,402,200
Potential new, five-year revenue per student:	7,590
Will it attract new students to the university?	☒ Yes ☐ No
List any institutions within the State offering similar programs:	N/A

Number of students expected to enroll in first 5 years:		Number of students expected to graduate in first 5 years:	
Year 1	20	Year 1	0
Year 2	40	Year 2	0
Year 3	80	Year 3	20
Year 4	100	Year 4	40
Year 5	100	Year 5	80
Total	340	Total	140

Program summary (include second majors completed, if applicable):

There is a growing demand for a graduate degree program that provides an applied approach to data science and is oriented towards working professionals. At the present time, Mississippi State University (MSU) offers a Master of Science in Data Science that is geared toward traditional academic goals for those more interested in learning the principles and basic knowledge of the fields that support data science. MSU currently does not offer a graduate degree program that focuses more on the applied side of data science which is the aspect of data science in highest demand by working professionals.

In the current economic environment, as every industry and sector of the economy transitions to digital models of operation, data science knowledge and expertise is in great demand. Many working professionals must acquire an understanding of data science methods to contribute to digital transformation projects and the ongoing operation of digitally transformed organizations. These professionals seek a practical approach to

data science, focusing on the skills for responsible use of data science methods and tools in many domains. Because data science tools are used in every aspect of the modern organization, these professionals have a variety of educational backgrounds, making it difficult to anticipate whether learners will have traditional preparation in subjects like computer science and statistics that form a significant part of data science. In response to this need, a growing number of universities in the United States are offering a Master of Applied Data Science (MADS) degree.

MSU's proposed Master of Applied Data Science (MADS) innovatively combines concepts and skills from many disciplines to enable learners to gain a mastery of data science concepts along with practical, hands-on experience in using data science methods with real-world datasets in many application domains (e.g., agriculture, finance, manufacturing, athletics, social science, health, etc.). To address the needs of working professionals, the degree is designed to be offered fully online. To address uncertainty about learner preparation and improve the accessibility of the program, the degree has been designed to obviate the need for prerequisite courses that add demotivating friction to a learner's ability to commence the program.

The audit of recently approved academic programs ensures that the program outcomes are congruent with the Board-approved proposal.

Please respond to the questions on the following pages to aid the institution and IHL staff in making recommendations to the IHL Board of Trustees.

Chief Academic Officer Signature – Date

Institutional Executive Officer Signature – Date

NEW ACADEMIC DEGREE PROGRAM PROPOSAL

Institutional Request Form – Appendix 8
(Submit in PDF format with signatures.)

New Academic Degree Program Questions:

1 Describe how the degree program will be administered including the name and title of person(s) who will be responsible for curriculum development and ongoing program review.

The program will be administered through the Office of the Provost and Executive Vice President, by a program director, a program coordinator, and a student program advisor. The program will be governed under the general direction of the university-wide Data Science Program Advisory Committee of the Faculty (hereafter, committee) with the Program Director as a member of the committee. The committee's general responsibility will be to provide oversight for the overall management of the program and to provide continuous review of the program to keep it current and relevant. The committee is comprised of full-time or tenure-track faculty from each of the colleges on campus. Members serve a three-year term. The committee elects its own chair for a one-year term.

The Program Coordinator, responsible for curriculum development and ongoing program review, is Jonathan Barlow, Ph.D., the Associate Director of the MSU Data Science Program.

2 Describe the educational objectives of the degree program including the specific objectives of any concentrations, emphases, options, specializations, tracks, etc.

The Master of Applied Data Science incorporates the following learning objectives:

1. Digital Transformation Mindset: Create a culture and leadership environment for innovation that puts the practice of data science at the core source of the economic and cultural vitality of an organization to ensure success in the process of digital transformation.
2. Data Modeling and Datafication: Apply fundamental data modeling concepts, manage massive data sets, and use both structured and unstructured data and database management systems.
3. Data Governance: Clearly define the purpose of data and how it should be used ethically to advance the mission of an organization.
4. Ethics: Apply ethical and legal constraints in the use of data. Guard against bias and ensure fairness and reproducibility in the context of the data science lifecycle.
5. Privacy and Security: Ensure privacy, confidentiality, data security, and network security within the lifecycle of data.
6. Communication and Visualization - Formulate insights from data analytic results and communicate these insights effectively (both individually and in teams) with a range of stake holders using suitable visualization methods and tools.
7. Exploratory Analysis - Analyze and visualize data to generate insights that improve business processes and outcomes.
8. Modeling and Prediction - Construct, evaluate, and choose data-enabled predictive models using state-of-the-art artificial intelligence, machine learning, statistical modeling, and model evaluation methods.
9. Computer Science - Demonstrate competency in programming to support data analysis and data-intensive application development. Use languages such as R, Python, and common machine-learning libraries such as TensorFlow.
10. Integration of Domain Knowledge: Identify, construct, and incorporate domain knowledge (of an application discipline) into datafication, problem formulation, and the design of predictive modeling.

3 Describe any special admission requirements for the degree program including any articulation agreements that have been negotiated or planned.

Admitted applicants to the Master of Applied Data Science program at MSU will meet the University's Graduate School Admissions requirements. The degree has been designed to obviate the need for any

prerequisites beyond a Bachelor of Arts or Bachelor of Science degree, though students should be aware that the program will require engagement with mathematical concepts and techniques from calculus, linear algebra, and statistics along with computer programming. We also recommend, but do not require, that students have at least two years of professional experience after their undergraduate degree.

4 Describe the professional accreditation that will be sought for this degree program. If a SACSCOC visit for substantive change will be necessary, please note.

As an applied degree in a nascent field, there are currently no professional accreditation standards in view. Because this degree program is at a higher level than the bachelor's degree, it will require a substantive change prospectus for SACSCOC, but it will not require a substantive change visit

5 Describe the curriculum for this degree program including the recommended course of study (appending course descriptions for all courses) and any special requirements such as clinical, field experience, community service, internships, practicum, a thesis, etc.

All students will be required to complete 30 hours of coursework that includes the following categories: data science foundations (6 hours), programming, data wrangling, and visualization (8 h ours), a data science methods course sequence (12 hours), and the management and practice of data science (4 hours) which includes a culminating research component (the practicum). Throughout their coursework, students will build a literature review to gain familiarity with the important discussions within the field of data science. The final literature review evaluation will occur in tandem with the final project review.

Syllabi for each of the following courses provide greater detail on course content:

Data Science Foundations (6 hours)
DSCI 8133 - Foundations of Applied Data Science I
DSCI 8143 – Foundations of Applied Data Science II

Programming, Data Wrangling, and Visualization (8 hours)
DSCI 6113 Programming for Applied Data Science
DSCI 6122 R Lab for Applied Data Science
DSCI 6133 Applied Data Visualization

Data Science Methods: Statistical Analysis and Artificial Intelligence (12 hours)
DSCI 6204 Applied Statistical Methods for Data Science
DSCI 6214 Applied Machine Learning for Data Science
DSCI 8224 Applied Neural Networks and Deep Learning for Data Science

The Management and Practice of Data Science (4 hours)
DSCI 6301 Data Science Project Management
DSCI 8413 Applied Graduate Data Science Practicum

6 Describe the faculty who will deliver this degree program including the members' names, ranks, disciplines, current workloads, and specific courses they will teach within the program. If it will be necessary to add faculty in order to begin the program, give the desired qualifications of the persons to be added.

The faculty necessary to teach the program courses are already present at MSU. Mississippi State has an ongoing, strong focus on data science. More than 350 faculty and research scientists in a recent survey conducted by the Office of the Provost and Executive Vice President reported active

involvement in data science research, teaching, and service and rated their expertise as either experts in data science theoretical frameworks, methods, and tools or as users of data science methods and tools. These faculty and research scientists are expected to provide the foundational intellectual capacity for the successful delivery of the program, especially in the concentration areas. Below find lists of faculty members who will be involved in the teaching of the coursework for this program.

DATA SCIENCE FOUNDATIONS:

DSCI 8133 Foundations of Applied Data Science I
Instructors: Jonathan Barlow, Joe Crumpton, Mimmo Parisi

DSCI 8143 Foundations of Applied Data Science II
Instructors: Jonathan Barlow, Joe Crumpton

PROGRAMMING, DATA WRANGLING, AND VISUALIZATION:

DSCI 6113 Programming for Applied Data Science
Instructors: Katherine Shi, Mahdi Ghafoori, Jonathan Barlow

DSCI 6122 R Lab for Applied Data Science
Instructors: Katherine Shi, Shane Miller, Carolina Siniscalchi

DSCI 6133 Applied Data Visualization
Instructors: Xueyan Shan, Bimal Balakrishnan, Katherine Shi

DATA SCIENCE METHODS:

DSCI 6204 Applied Statistical Methods for Data Science
Instructors: Katherine Shi, Mahdi Ghafoori, Mimmo Parisi

DSCI 6214 Applied Machine Learning for Data Science
Instructors: Katherine Shi, Mahdi Ghafoori

DSCI 8224 Applied Neural Networks and Deep Learning for Data Science
Instructors: Mahdi Ghafoori

THE MANAGEMENT AND PRACTICE OF DATA SCIENCE:

DSCI 6301 Data Science Project Management
Instructors: John Cartwright, Joe Crumpton, Jonathan Barlow

DSCI 8413 Applied Graduate Data Science Practicum
Instructors: Faculty per Subject Area Concentration

7 Describe the library holdings relevant to the proposed program, noting strengths and weaknesses. If there are guidelines for the discipline, do current holdings meet or exceed standards?

The Mississippi State library has adequate holding for the proposed program. In the field of data science, students and faculty can generally rely on open-source resources that include software, data, and tutorials. They can also rely on open access journals and books. Additionally, MSU has access to additional resources through

the SEC Library Consortium agreement. The Mississippi State library holds the following databases that are specifically relevant to the data science program. These databases host a variety of journals, conferences, and workshops:

- Academic Search Complete
- ACM Digital Library
- ASTM Digital Library

The MSU Library has also added several positions dedicated to data and the use of data in scholarship and research including a new Data Science Coordinator. The MSU Library also works in partnership with the MSU High Performance Computing Center to make necessary computational and data resources available to MSU students.

8 Describe the procedures for evaluation of the program and its effectiveness in the first five years of the program, including admission and retention rates, program outcome assessments, placement of graduates, changes in job market need/demand, ex-student/graduate surveys, or other procedures.

The program success will be built on championing program evaluation as means to promote a culture of continued quality improvement as part of the overall effort to achieve the learning objectives set forth by the program effectively. This will create an environment where assessment and evaluation are embedded in the regular discourse surrounding quality improvement for curriculum and student experience. This will be accomplished by developing an evaluation plan that will provide key indicators to gauge student learning outcomes, quality of instruction, and quality of the overall strategy for the delivery of the program. Data for measuring student learning outcomes will come from assessments such as exams, quizzes, homework, and laboratory assignments. Data for measuring quality of instruction will come from student faculty evaluations. The overall quality of the programs will be assessed by looking at completion rates or the number of students who completed the program in 4, 5 and 6 years. It will also include placement or advancement rates (the number of students who find a job or are promoted within 3 months, 6 months, and a year of graduation). Graduates will also be surveyed to learn about the strengths and weaknesses of the program and how the program is helping them in their professional careers. External reviewers will also be identified to conduct periodic self-studies, and when possible, to seek accreditation through appropriate accreditation bodies relevant to establishing the overall quality of the program.

9 What is the specific basis for determining the number of graduates expected in the first five years?

Based on patterns of enrollment in the MSU Bachelor of Science in Data Science, inquiries we have received directly from MSU alumni in the workforce, and media reports about the demand for such programs, the following estimates for enrollment and graduation were created. The numbers are intentionally conservative and we expect to see higher enrollment than these.

Year	Number to Enroll	Number to Graduate
1	20	0
2	40	0
3	80	20
4	100	40
5	100	80
Totals	340	140

10 Using expected enrollment, provide the total anticipated budget for the program including implementation and 4 subsequent years (total of 5 years) of operation; any anticipated direct, indirect, and incremental costs necessary to start the program; anticipated, incremental annual revenue based on student enrollment; and other sources of funding.

Please explain what has been included in the costs and revenues.

Start-Up Costs:

NEW ACADEMIC DEGREE PROGRAM PROPOSAL

Institutional Request Form – Appendix 8
(Submit in PDF format with signatures.)

Direct, Incremental Costs: additional annual costs to the university as a result of offering this program

Incremental Revenue: additional annual revenue assuming that this program will bring in new students paying full tuition

Non-Tuition Revenue: external funds, grants, contracts or other revenues attributable to the addition of this program

Differential: all revenues minus all costs

Year	Incoming Students	Total Enrollment	Start-Up Costs	A Additional Annual Costs	B Additional Annual Revenue	C Non-Tuition Revenue	(B+C)-A Differential
2024-25	20	20	$0.00	150.000	151.800	$0.00	1.800
2025-26	40	60	$0.00	396.358	455.400	$0.00	59.042
2026-27	80	120	$0.00	718.592	910.800	$0.00	192.208
2027-28	100	180	$0.00	718.592	1.366.200	$0.00	647.608
2028-29	100	200	$0.00	718.592	1.518.000	$0.00	799.408
TOTAL	340	580	$0.00	2.702.134	4.402.200	$0.00	1.700.066

No startup costs are anticipated.

For the first year, the initial cost will primarily include a half-time program coordinator, a quarter-time program advisor, a portion of four instructors, and two teaching assistants' salaries. The second year the cost will also include the hiring of four instructors and six teaching assistants. For the third year, depending upon enrollment, the plan is to hire two teaching professors and six teaching assistants. The university will leverage existing resources for the setup of the online learning platform, computing resources, and other technologies.

11 Program Demand: Select one or both of the following to address student demand:

☐ Survey of Student Interest

Number of surveys administered: Click or tap here to enter text.
Number of completed surveys returned: Click or tap here to enter text.
Percentage of students interested in program: Click or tap here to enter text.

Include a brief statement that provides additional information to explain the survey.
Click or tap here to enter text.

☒ Market Analysis or Evidence of Labor Market Need

Data Science experts are currently among the most sought professionals in the labor market because they allow businesses and organizations to place data at the center of their solutions. Demand for data science experts is and has been increasing since AI and Big Data have come to dominate how the private and public sectors operate to meet the demand for goods and services effectively. According to LinkedIn, since 2012 the demand for data science experts has grown by 650%. According to the U.S. Bureau of Labor Statistics, the rise of demand for data science expertise will create roughly 11.5 million new jobs by 2026. The World Economic Forum indicates that data science experts will become the number one emerging role in the world. Harvard Business Review refers to data science occupations as the "sexiest jobs of the 21st century." A recent study conducted by LinkedIn reports that data science experts earn an average annual salary between $78,000 and $150,000. The recent success of generative AI has sparked an additional round of demand for further education and training in the area of data science. Microsoft, for example, reports that its generative AI coursework has already served 1.5M learners within the year after the launch of OpenAI's ChatGPT in November of 2022. MIT

Sloan reports that 25,000 working professionals have completed its new online offerings in this area.

12 Employment Opportunities for Graduates (state, region, nation):

Digital transformation is a global phenomenon creating the need for data science experts at local, regional, national, and international levels. Many businesses in Mississippi are going through the process of introducing AI and Big Data in their operations. The survival of many of these businesses will depend on their ability to find a qualified workforce to support, sustain, and expand the use of AI and Big Data in their operations. State government also is going through the same digital transformation. The shortage of data science experts in the southern region of the US threatens the economic competitiveness of the region. To address this challenge, the major research institutions in the Southeastern Conference (SEC) formed a consortium to leverage their educational resources toward increasing the production of graduates with data science and AI backgrounds. At the national level, congress is proposing an investment of over $100M to increase the competitiveness of the US economy. We have seen similar trends at the international level. As organizations and businesses in the state and around the world turn to data solutions and AI strategies, they are also increasingly creating new economic opportunities for our graduates. Cisco Systems' AI readiness survey (of 8,161 business leaders) discovered that nearly all feel pressure to deploy AI-powered technologies that rely on business data; two-thirds reported a need for further preparation. We anticipate that this program will fill a much-needed niche, especially for working professionals in roles that deal significantly with business data. Because of these trends, the Master of Applied Data Science is a key program to promote economic development in the state.

MISSISSIPPI STATE UNIVERSITY

DATA SCIENCE
133 Etheredge Hall
Mississippi State, MS 39762
P. 662.325.3168

December 7, 2023

Andy Perkins
University Committee on Courses and Curricula
PO Box 5268
Mississippi State, MS 39762

Dear Dr. Perkins:

The members of the University Committee on Data Science provide this letter to express support for the addition of the Master of Applied Data Science degree. The proposed degree is 30 graduate credit hours designed by the committee. The Office of the Provost and the Executive Vice President established the committee and charged it to provide oversight for the development of the curriculum of the new program. Committee membership includes two representatives from each college present on our campus.

The addition of this new degree program to our existing offerings will require the creation of 10 new graduate courses.

1. DSCI 8133 Foundations of Applied Data Science I
2. DSCI 8143 Foundations of Applied Data Science II
3. DSCI 6113 Programming for Applied Data Science
4. DSCI 6122 R Lab for Applied Data Science
5. DSCI 6133 Applied Data Visualization
6. DSCI 6204 Applied Statistical Methods for Data Science
7. DSCI 6214 Applied Machine Learning for Data Science
8. DSCI 8224 Applied Neural Networks and Deep Learning for Data Science
9. DSCI 6301 Data Science Project Management
10. DSCI 8413 Applied Graduate Data Science Practicum

With the additional faculty resources included in the Appendix 8 application, the addition of these new classes should not place an undue burden on existing university faculty. The committee approved the application for the new degree program in addition to the new proposed courses during the November 2023 meeting.

Sincerely,
The following undersigned members of the University Committee on Data Science

Dan Gadke, UDSC Chair
Approve X Disapprove

Kari Babski-Reeves
Approve Disapprove

Bimal Balakrishnan
Approve X Disapprove

Jonathan Barlow
Approve X Disapprove

David Buys
Approve X Disapprove

Will Davis
Approve X Disapprove

Stephen France
Approve X Disapprove

Deborah Lee
Approve X Disapprove

Melanie Loehwing
Approve Disapprove

Duane McLemore
Approve Disapprove

Bindu Nanduri
Approve Disapprove

Kimberly Hall, Curriculum Subcommittee Chair
Approve X Disapprove

Sean Owen
Approve X Disapprove

Mimmo Parisi
Approve X Disapprove

Andy Perkins
Approve Disapprove

Mohammad Sepehrifar
Approve X Disapprove

Carolina Siniscalchi
Approve X Disapprove

David Smith
Approve Disapprove

Jason Street
Approve X Disapprove

Ryan Walker
Approve X Disapprove

Guiming Wang
Approve X Disapprove

Merrill Warkentin
Approve X Disapprove

Xin Zhang
Approve X Disapprove