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:

Contact Person: Drs. Shahram Rahimi & Mohsen Razzaghi
Mail Stop: x7450 and x7132
E-mail: rahimi@cse.msstate.edu; razzaghi@math.msstate.edu

Nature of Change: Add Graduate Minor in DSCI **Date Initiated:** 4/23
Effective Date: 8/23

New Degree Program Name: Data Science (Starkville and Distance Campus)
Major: Graduate Minor

Summary of Proposed Changes:

Introduce Graduate Minor to the DSCI program.

Approved: **Date:**

4/11/2023

Department Head

Mohsen Razzaghi

Digitally signed by Mohsen Razzaghi
DN: cn=Mohsen Razzaghi, o=Mississippi State University, ou=Mathematics and Statistics, email=razzaghi@math.msstate.edu, c=US
Date: 2023.04.12 14:57:54 -05'00'

4/12/23

Department Head

4/18/23

Director of Academic Quality

T.J. Jankun-Kelly

Digitally signed by T.J. Jankun-Kelly
Date: 2023.04.21 13:59:18 -05'00'

Chair, College or School Curriculum Committee

Chair, College or School Curriculum Committee

Kari Babski-Reeves for Jason Ketih

Digitally signed by Kari Babski-Reeves for Jason Ketih
Date: 2023.04.21 14:04:19 -05'00'

Dean of College or School

Dean of College or School

Chair, University Committee on Courses and Curricula

Chair, Graduate Council (if applicable)

Chair, Deans Council

1. Catalog Description

The interdisciplinary Graduate Minor in Data Science degree program will provide students with a broad training in managing, processing, and extracting value from a giant and diverse data sets and allow them to communicate their findings. This minor will allow graduate students in other programs to think critically about data and utilize data science tools to manage and leverage data to their advantage.

2. Graduate Degree Curriculum Outline

Degree: Graduate Minor Major: Data Science	
The interdisciplinary Graduate Minor in Data Science degree program will provide students with a broad training in managing, processing, and extracting value from a giant and diverse data sets and allow them to communicate their findings. This minor will allow graduate students in other programs to think critically about data and utilize data science tools to manage and leverage data to their advantage.	
CURRENT CURRICULUM OUTLINE	Required Hours
CSE 8423 Data Science Concepts and Practice ST 8123 Statistical Thinking: Probability Models and Theory of Statistics ST 8133 Statistical Modeling CSE 6503 Database Management Systems	3 3 3 3
Total Hours	12

3. Justification and Student Learning Outcomes

In spring of 2021, the joint Master of Science in Data Science degree was proposed by the Department of Mathematics & Statistics in the College of Arts & Sciences and the Department of Computer Science in the Bagley College of Engineering. This program was approved by the UCCC and IHL to be jointly administered by the two departments (although the official home of the department is in Academic Affairs, because both colleges could not be listed in Banner). The original proposal established the committee overseeing the degree: the Graduate Coordinating Committee of the Data Science Program (GCCDS), and it is this committee that is proposing to now modify the preliminary curriculum approved in 2021.

The Graduate Minor in Data Science serves to give students studying other domains the tools and understanding to best leverage and understand their data while still progressing in their chosen program. It is not as focused on data analytics in a domain as the MS DSCI concentrations are, but is more flexible for those that want best use their data.

It is unclear if minors require learning outcomes, but they are the same as the MS:

- Students will be able to apply data science principles and practices relevant to their application. This will be evaluated by their examinations in related courses and their capstone project.
- Students will be able to communicate effectively in a variety of professional contexts. This will be evaluated by their capstone project and comprehensive exam defense.
- Graduates will be prepared to serve in data science development and leadership roles in academia, industry, and government, including possible doctoral studies. This will be evaluated by exit interviews and follow-ups with alumni.

4. Effective Date

Fall 2023

5. Four-Letter Abbreviation

DSCI

6. Letters of Support

See attached.

7. CIP Code

30.7001

MISSISSIPPI STATE UNIVERSITY
JAMES WORTH BAGLEY COLLEGE OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Dr.T.J. Jankun-Kelly
Associate Professor & Graduate Coordinator
tjk@cse.msstate.edu

April 11, 2023

To whom it may concern,

On March 27th, 2023, the Graduate Coordinating Committee of the Data Science Program (GCCDS), in accordance to its charter, met to discuss modifications to the Masters in Data Science program (DSCI MS). The committee voted to approve three matters:

- To add concentrations to the MS DSCI program in cooperating with ABE, ISE, and GEO
- To add a Graduate Minor in DSCI
- To add an Thrive-in-Five program for students interested in MS DSCI

Those signed below attended said meeting and approve of these modifications.

Sincerely yours,

T.J. Jankun-Kelly Digitally signed by T.J. Jankun-Kelly
Date: 2023.04.11 13:48:41 -05'00'

T.J. Jankun-Kelly
Graduate Coordinator, DSCI

Mohammad Sepehrifar
Co-Graduate Coordinator, DSCI

Mohammad Sepehrifar Digitally signed by Mohammad Sepehrifar
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Jon Woody
Member, GCCDS

Andy Perkins
Member, GCCDS

MISSISSIPPI STATE UNIVERSITY™

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April 21, 2023

Dear Dr. Perkins and Members of the UCCC,

I write in support of the proposed modifications to the Master of Science in Data Science degree program.

As a graduate program jointly administered by the College of Arts & Sciences and the Bagley College of Engineering, the Master of Science in Data science helps students develop interdisciplinary expertise in data science theory and concepts. The proposed concentrations allow students to specialize further, improving their academic and career preparation in the program, and these additions are fully supported by the College of Arts & Sciences.

Sincerely,

Rick Travis, PhD
Dean, College of Arts & Sciences